Deutsche Bundesbank

The monetary policy of the Bundesbank

October 1995
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### Abbreviations and symbols

- **p** Provisional
- **...** Figure available at a later date
- **-** Nil

Discrepancies in the totals are due to rounding.
Over the long term, prices have risen less steeply in Germany than in most other industrial countries. At the same time, the Deutsche Mark has appreciated strongly in the foreign exchange markets and developed into the anchor currency of the European Monetary System. The stability of the Deutsche Mark owes a great deal to the monetary policy of the Bundesbank, which has been based on a clear statutory mandate, its independent status and its convincing monetary policy stance. Pursuant to the Bundesbank Act, the Bundesbank’s primary function is to “safeguard the currency”. To ensure that the Bundesbank is able to pursue this target without hindrance, it is independent of instructions from the government. These cornerstones of the German central bank’s constitution have meanwhile come to serve as a kind of model for the future European Central Bank.

As, in the long run, an inflation cannot occur without an undue expansion of the money stock, control of monetary growth is a key factor in maintaining monetary stability. The monetary targeting strategy which the Bundesbank has been pursuing since the middle of the seventies is based on this perception.

The role of the central bank in Germany

The place of the Bundesbank in Germany’s economic policy system, its monetary policy stance and, in particular, the concrete formulation of its policies are shaped to a major extent by past experience and by the structural features of the economy and the financial system in Germany. The aim of the present booklet is to make the elements of the Bundesbank’s policy comprehensible against this backdrop. To this end, the first section outlines the history of the central bank system in Germany and the institutional background of the Bundesbank, and explains its duties and functions. The second section describes the major structural features of the German financial system, which provide the primary starting point for monetary policy measures. The third section focuses on an account of the monetary targeting strategy of German monetary policy. The fourth and final section is devoted to the implementation of monetary policy by the deployment of the individual monetary policy instruments.
I. The development of the central bank system in Germany

The history of a nation-wide German central banking system began with the creation of a uniform German currency and the establishment of the Reichsbank on January 1, 1876. In the course of the more than one hundred years of its history, the German central banking system has seen a number of severe disruptions. Twice, wartime inflation attributable to the state has led to the complete collapse of the German currency. The Mark, established as a gold-based circulating currency under the Kaisereich and stable until the First World War, was virtually worthless by the end of 1923; it was stabilised in that year with the aid of the Rentenmark, and succeeded by the Reichsmark in 1924. The development of the new currency was at first satisfactory. During the “Third Reich”, however, monetary policy was increasingly forced into the service of armaments financing, and later of the war economy. Although rigorous price controls helped to keep prices stable, the value of the currency was eroded from within (“pent-up inflation”). The currency reform of 1948, when the Deutsche Mark was introduced, laid the foundations of a healthy monetary system. After all these upheavals, it is hardly surprising that the Germans fear inflation, and that relations between the government and the central bank occupy a special place in economic policy discussions in Germany.

1. From the establishment of the Reichsbank to the currency reform of 1948

The Reichsbank was required by law “to regulate the amount of money in circulation throughout the Reich territory, to facilitate the settlement of payments and to ensure that available capital is duly utilised”. Its capital was in private hands, but the shareholders had few powers. The ultimate control was the responsibility of the Reich Chancellor, and below him of the Reichsbank Directorate. State supervision was exercised by a five-man Board of Trustees, likewise headed by the Reich Chancellor. This arrangement gave the state a decisive influence. “Private central banks” also operated in the German monetary area in addition to the Reichsbank, which meant that the Reichsbank did not have a complete monopoly of the issue of banknotes; nevertheless, the pre-eminent influence it was able to exert did endow it with the position of a central bank. Its banknotes were not legal tender until 1909, but they could be exchanged on demand for current German money — gold and silver coins. In practice, the Reichsbank exchanged its notes for gold at a fixed rate (gold convertibility). In keeping with the mechanisms of the gold standard, the Reichsbank was also required to buy gold bullion at a fixed price. The issue of notes was restricted by cover provisions and an indirect quota system. At least one-third of the amount of banknotes in circulation had to be covered by a stock of current German money, Reich Treasury notes or gold (the “cash cover”). The Reich Treasury notes, for their part, could be exchanged for current German money. The remainder of the notes in circulation had to be backed by “bank cover”, which consisted first and foremost of fine trade bills. For that part of the banknotes in circulation which exceeded the cash stock plus a tax-free quota, a banknote tax of 5% had to be paid to the Reich.

On the outbreak of the First World War, both gold convertibility and the banknote tax were repealed. The cover provisions were not abolished altogether, but they were significantly relaxed. Government loan agency notes were now also accepted as “cash cover”, and Reich Treasury bills and short-term Reich Treasury notes as “bank cover”. That left the door open to financing the war economy with the aid of the central bank, and paved the way to hyperinflation, culminating in an inflation rate of over one billion per cent in 1923.

When the German monetary system was restructured after the First World War, major conclusions were drawn from these fateful developments. As a refinement of the Autonomy Act of 1922, the Banking Act of 1924 expressly provided that the Reichsbank was independent of the Reich Government. The Directorate of the Reichsbank alone was now responsible for the Bank’s management, as well as for monetary policy. Moreover, supervision by the Reich, which had been a feature of the years from 1922 to 1924, was dropped. And lending to the Reich by the central bank was severely curtailed. The governing bodies of the Reichsbank, besides the Directorate, were the shareholders’ representative body and the General Council. Until 1930, half the members of the General Council were foreigners, in order to safeguard the repayment payments which the German Reich was to make to the victorious powers. The Council also appointed a foreigner to be commissioner for the issue of banknotes. For notes in circulation, the Banking Act prescribed a cover of at least 40% in gold and foreign exchange. The Reichsbank was also required — though not until 1930 — to exchange its notes for gold and foreign exchange. Even before that date, it had to buy gold bullion at a fixed price in exchange for its notes. As gold coins were no longer in circulation, the system was called a “gold bullion standard”, as distinct from the “gold coin standard” in effect before 1914.
Following the seizure of power by the National Socialists, the General Council was abolished by the 1933 Amendment of the Banking Act. Its powers to appoint the President of the Reichsbank and the Members of the Directorate passed to the President of the Reich (from 1934: Hitler). For the first time, the Reichsbank was given the right to engage in open market operations, although it made little use of it. To finance "job creation" by the new government, the Reichsbank discounted what were known as "job-creation bills", which were renewable for years at a time and which were made eligible for discount at the Reichsbank via intermediary companies. This financing system was bound to fall into disrepute when it was also used increasingly to finance preparations for war. The Reichsbank was unable to prevent the inflationary expansion of the money stock which this ushered in. The stronger its opposition grew to recourse to the central bank for the sake of financing rearmament, the more its independence was eroded. In 1937 the Reichsbank Directorate was made directly responsible for the "Führer und Reichskanzler". At the beginning of 1939 the Reichsbank Directorate was dissolved, after (under the direction of Hjalmar Schacht) it had sent Hitler a confidential memorandum drawing attention to the inflationary threat posed by unbridled expenditure by the state. The 1939 Reichsbank Act then resulted in the definitive legal and economic nationalisation of the central bank. Provisions on the exchange of banknotes were repealed. Instead of the 40% banknote cover in gold and foreign exchange, general cover was now permitted in the form of bills of exchange, cheques, Reich Treasury bills, Reich Treasury notes and the like. Lending to the Reich by the central bank was ultimately a matter for the "Führer und Reichskanzler" to decide.

2. From the central bank system of 1948 to the Deutsche Bundesbank

Given the complete collapse of the German currency after the Second World War, a currency reform was imperative. In the western occupied zones, including West Berlin, the Deutsche Mark replaced the Reichsmark, which had become virtually worthless, on June 18, 1948. The currency reform was based on laws passed by the military government. In preparation for the change, the Allies set up a new two-tier central bank system in western Germany, modelled on the strictly federative pattern of the Federal Reserve System in the United States. This system consisted of the legally independent Land Central Banks, which operated in the individual Länder of the western occupied zones, and the Bank deutscher Länder, which was established on March 1, 1948 in Frankfurt am Main. In their areas, the Land Central Banks acted as central banks. The Bank deutscher Länder, whose capital was held by the Land Central Banks, was responsible for the issue of banknotes, the coordination of policy and certain central functions, among which was exchange control. The supreme policy-making body of the two-tier central bank system was the Board of Directors of the Bank deutscher Länder. This Board was composed of the President of that Bank, the Presidents of the Land Central Banks and the President of the Board of Managers of the Bank deutscher Länder. One of the main tasks of the Board of Directors was to manage discount policy and minimum reserve policy, which was a new feature. It also laid down guidelines for open market policy and lending.

After the disastrous past experience of a central bank subject to instructions from the government, there was no doubt at all after the Second World War that the central bank must be independent. Right from the start, the Bank deutscher Länder was independent of German political bodies, including the Federal Government, which took up its duties in September 1949. It achieved full autonomy vis-à-vis the Allies in 1951. The issue of banknotes and coins was originally subject to a limit of DM 10 billion, but this limit did not have to be complied with very strictly. No cover or redemption commitments for the notes were envisaged. Hence, from the very outset, the Deutsche Mark was a pure paper currency. This arrangement was based on the perception, which is generally accepted in the meantime, that to maintain the value of a currency, it is neither necessary nor sufficient to back the banknotes issued by gold or foreign exchange; instead, what ultimately matters is a tight money supply geared to the growth of production potential.

In response to the setting-up of the Bank deutscher Länder in the western zones of occupation, the Soviet occupying power established the Deutsche Emissions- und Girobank in its zone on May 21, 1948, which was converted into the Deutsche Notenbank on July 20, 1948 (after the currency reform there), and into the Staatsbank der DDR in 1968. As part of the "monobank" system, it served the party and government by implementing monetary policy within the socialist planned economy. The currency reform in the west was paralleled from June 24, 1948 by the issue of a new monetary unit in the Soviet zone, which was designated Deutsche Mark der Deutschen Notenbank in July 1948 and renamed Mark der DDR in 1968.

Article 88 of the Basic Law (the Constitution of the Federal Republic of Germany) required the Federal Government to establish a central bank, and thus replace the legislation of the occupying powers, which had been in effect until then, by German law.
Basic Law, article 88:

The Federation shall establish a currency bank and bank of issue in the form of a federal bank (Bundesbank).

The legislature complied with this requirement in 1957. Under the Bundesbank Act of July 26, 1957, the two-tier central bank system was abolished and a unified central bank, the Deutsche Bundesbank, set up instead. The Land Central Banks, along with the Berlin Central Bank, were amalgamated with the Bank deutscher Länder, which then became the Deutsche Bundesbank. The Land Central Banks, legally no longer independent, became part of the Bundesbank as Main Offices. However, they retained the name of “Land Central Bank”.[1]

When the State Treaty between the Federal Republic of Germany and the German Democratic Republic Establishing a Monetary, Economic and Social Union came into force on July 1, 1990, the Deutsche Mark became the sole legal tender in the two German states.

Treaty between the Federal Republic of Germany and the German Democratic Republic Establishing a Monetary, Economic and Social Union

Article 3:

Legal basis

The establishment of monetary union and the currency conversion shall be governed by the agreed provisions specified in Annex I.

Annex I

Provisions governing the monetary union and the currency conversion, part 1

Provisions governing the introduction of the Deutsche Mark in the German Democratic Republic

Article 1:

Introduction of the Deutsche Mark

(1) With effect from July 1, 1990, the Deutsche Mark shall be introduced as currency in the German Democratic Republic. (…)

(2) The banknotes issued by the Deutsche Bundesbank and denominated in Deutsche Mark, and the Federal coins issued by the Federal Republic of Germany and denominated in Deutsche Mark or Pfennig, shall be the sole legal tender from July 1,1990 onwards. (…)

At the same time, the responsibility for domestic and external monetary policy in the extended area of validity of the Deutsche Mark was assigned to the Deutsche Bundesbank. For that purpose, in implementation of the State Treaty of May 18, 1990, the Provisional Administrative Office (of the Bundesbank) was set up in Berlin, and continued to operate, even after the unification of the two German states on October 3, 1990, until October 31, 1992.[1]

3. Outlook: European monetary integration

A turning point in German monetary and central banking history is in prospect as a result of the “Treaty on European Union”[2] which was signed in Maastricht (Netherlands) in December 1991. That Treaty provides for the Community to be developed, in accordance with a set timetable, into an economic and monetary

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1 Since the entry into force on November 1, 1992 of the Fourth Act Amending the Bundesbank Act, their administrative areas have not necessarily coincided with the territory of a Land (see also page 201).


union in a three-stage process, with the aim of completing the single European market.

Treaty establishing the European Community (EC) in the wording of February 7, 1992, Article 4a [European System of Central Banks]:

A European System of Central Banks (hereinafter referred to as "ESCB") and a European Central Bank (hereinafter referred to as "ECB") shall be established in accordance with the procedures laid down in this Treaty; they shall act within the limits of the powers conferred upon them by this Treaty and by the Statute of the ESCB and of the ECB (…) annexed thereto.

The first stage began back on July 1, 1990. During that period of monetary integration, the primary objective was to bring national economic and monetary policies in the Community more closely into line with the requirements of monetary stability and budget discipline, and to develop the European Community into a community of stability. At the start of the second stage, on January 1, 1994, the European Monetary Institute (EMI), which is engaged in the technical and procedural preparation of the monetary union, was set up; it is domiciled in Frankfurt am Main. During this second stage, external and domestic monetary policy will remain the responsibility of the member states alone. Upon the transition to the third stage – under the Treaty, not later than at the beginning of 1999 – those countries which, after undergoing an examination procedure based on economic criteria, qualify for entry into the third stage of economic and monetary union will lose their monetary sovereignty. At that point in time, such sovereignty will be transferred from the respective national central banks to the European System of Central Banks (ESCB), then to be set up. The latter will comprise, as integral parts, a European Central Bank (ECB) and the national central banks of the participating countries.

The above-mentioned examination procedure is intended to provide a solid foundation for the final stage of monetary integration by ensuring a high degree of economic convergence among the participating countries in the areas of monetary and exchange rate stability and soundness in the field of public finance. This can be assured only if the existing scope for interpreting the applicable convergence criteria is utilised in a very stringent way. It is during this final stage of monetary integration (at a later date, still to be set) that a single European currency will take the place of the national currencies, whose exchange rates are to be fixed irrevocably at the beginning of the final stage.

The Treaty, and especially the Statute of the ESCB, reflects some major features of the German central bank constitution. For instance, the future common monetary policy will be geared primarily to the objective of price stability, and will be committed to market economy principles.

EC Treaty, article 105 [objectives and duties of the ESCB]:

(1) The primary objective of the ESCB shall be to maintain price stability. Without prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Community (…). The ESCB shall act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources (…).

The decision-making bodies of the ESCB are not subject to instructions from any Community bodies or entities or from governments of member states. In the field of exchange rate policy, the provisions of the Treaty go beyond the regulations included in the Bundesbank Act, and the provisions prohibiting the central bank financing of public sector deficits are even stricter than those of the Bundesbank Act prior to its amendment in 1994. The success of European monetary integration will hinge on the stability-oriented stance of the ESCB being endorsed by the general public. The history of German central banking shows that it is only on the basis of a "stability culture" backed by all sections of society that the value of money can be durably safeguarded.

II. The institutional framework of the Deutsche Bundesbank

1. Legal basis and relations with the Federal Cabinet

The Deutsche Bundesbank is a Federal corporation under public law. It is domiciled in Frankfurt am Main. The capital of the Bundesbank (which is held by the Federal Government, as the body in which monetary sovereignty is vested) amounts to DM 290 million. Any profits arising from the operations of the Bundesbank likewise accrue to the Federal Government, unless they have to be used, under the statutory regulations, to accumulate reserves or to purchase equalisation claims deriving from the 1948 currency reform (until the discontinuance of such trans-
actions in mid-1995). However, the Federal Government cannot infer from this circumstance any rights which might affect the independence of the Bundesbank. Although the Bundesbank is required to support the general economic policy of the Federal Cabinet, it has to do so only insofar as this is possible without prejudice to the performance of its duties. In exercising the powers conferred on it by the Bundesbank Act, the Bank is independent of instructions from the Federal Government.

Bundesbank Act, section 12, relations between the Bank and the Federal Cabinet:

Without prejudice to the performance of its duties, the Deutsche Bundesbank is required to support the general economic policy of the Federal Cabinet. In exercising the powers conferred on it by this Act, the Bank is independent of instructions from the Federal Cabinet.

The Act contains no provisions for the eventuality of serious disagreements and tensions arising between the Federal Cabinet and the Bundesbank, but it does include regulations urging both sides to cooperate with, and to consult, one another. For example, the Bundesbank is required to advise the Federal Cabinet in monetary policy matters of major importance, and to furnish it with information at its request. The Federal Cabinet, for its part, should invite the President of the Bundesbank to attend its deliberations on important monetary policy issues. Similarly, members of the Federal Cabinet are entitled to attend the meetings of the Central Bank Council. They have no right to vote at such meetings, but they may propose motions. At their request, a decision must be deferred for up to two weeks. (Conversely, participation by the Bundesbank at the meetings of the Financial Planning Council and the Business Cycle Council for the Public Sector is regulated in a similar way; the Bundesbank has the right to attend, but no right to vote.) For the rest, the Federal Cabinet's powers vis-à-vis the Bundesbank are virtually confined to having a say in the appointment of members of the Directorate.

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2. The organisational structure of the Bundesbank

The governing bodies of the Bundesbank are the Central Bank Council, the Directorate and the Executive Boards of the Land Central Banks. The Central Bank Council and the Directorate have the status of Supreme Federal Authorities, i.e. are equated with a Federal Ministry. The Land Central Banks have the status of Federal Authorities. The Central Bank Council, the supreme policy-making body of the Bundesbank, is composed of the President and Vice-President of the Deutsche Bundesbank, the other members of the Directorate and the Presidents of the Land Central Banks.
Central Banks (see Chart 1). Its meetings are chaired by the President of the Bundesbank or, in his absence, by the Vice-President. The Central Bank Council generally meets every two weeks and takes its decisions by simple majority vote. It determines the external and domestic monetary policy of the Bundesbank. It also issues guidelines on the conduct of the Bank’s business and administration and defines the responsibilities of the other governing bodies, insofar as this is not already done by the Bundesbank Act. In specific cases it may also give instructions to those bodies. The Directorate is the central executive organ of the Bank, and as such is responsible for implementing the decisions taken by the Central Bank Council. It directs and administers the Bank; the following transactions, in particular, are reserved for the Directorate:

- transactions with the Federal Government and its special funds,

- transactions with credit institutions that perform central functions throughout Germany,

- foreign exchange transactions and external transactions, and

- open market operations.

The Directorate of the Deutsche Bundesbank is composed of the President and Vice-President of the Bank and not more than six other members, as at present. Hence the President, or the Vice-President in his absence, takes the chair at meetings of both the Central Bank Council and the Directorate. Members of the Directorate must have special professional qualifications. They are nominated by the Federal Cabinet and, after consultation with the Central Bank Council, appointed by the President of the Federal Republic for a period of normally eight, but not less than two, years. They cannot be removed from office before the end of their term, except for reasons which relate to their persons and if the initiative proceeds from themselves or the Central Bank Council.

Since the Amendment of the Bundesbank Act which came into effect on November 1, 1992, streamlining the organisational structure of the Bundesbank and bringing it into line with the changed situation in Germany following German unification, there have been nine Land Central Banks in all. They are based on Main Office areas of roughly equal size, sometimes encompassing more than one Land (see Chart 2); before that amendment there used to be a Land Central Bank in each of the eleven old Länder. These nine Land Central Banks, five of which are responsible for two or three Länder each, carry out the transactions and perform the administrative tasks occurring in their areas on their own responsibility. The Bundesbank Act expressly reserves for Land Central Banks transactions with public authorities and administrations and transactions with credit institutions in their areas, other than those with banks performing central functions throughout Germany. The Land Central Banks are also responsible for the branch offices that the Bundesbank maintains in larger towns and cities (which are known as “Bank places”). At the end of 1994 there were 182 such branch offices, including 18 in the new Länder. This branch network has a long-standing tradition in the German central banking system. However, for reasons of cost-effectiveness, the Bundesbank is currently being compelled to close smaller offices, so that the number of
branch offices will continue to fall. The branch network serves particularly to facilitate the supply of banknotes and coins and the handling of cashless payments. Unlike the Reichsbank, the Bundesbank does not engage in direct lending to business and industry.

Each Land Central Bank is headed by an Executive Board, which is made up of the President, the Vice-President and, in the larger Land Central Banks (as well as in the two Land Central Banks responsible for three Länder), one further member. The Board members, like the members of the Directorate, must have special professional qualifications. The Presidents, who are at the same time ex officio members of the Central Bank Council, are appointed by a procedure similar to that for members of the Directorate. However, it is not the Federal Cabinet which has the right of nomination, but the Bundesrat (the Chamber of Parliament representing the Länder). The Bundesrat in turn is bound by the proposals made by the appropriate authority under the legislation of the Land concerned, which is generally the Land Government. Hence the Bundesbank Act prevents the Federal Cabinet from acquiring a dominant position in the appointment of the members of the Central Bank Council. This is a reflection of the federative element in the Bundesbank constitution. Vice-Presidents and the other members of the Executive Boards of Land Central Banks are nominated by the Central Bank Council and appointed by the President of the Bundesbank; they may attend meetings of the Central Bank Council, deputising for their presidents, but they do not have a right to vote.

Each Land Central Bank has an Advisory Board, which is composed of representatives of the banking industry, of other lines of business and agriculture and of employees (wage and salary earners). Its function is to confer with the President of the Land Central Bank on monetary policy issues and with the Executive Board on the performance of that Board's duties. The Advisory Board is not one of the governing bodies of the Bundesbank, but a consultative body which enables the Bundesbank to maintain contact with the banking industry and the business community in the various Länder. The members of the Advisory Board are nominated by the Land Government concerned and appointed by the President of the Bundesbank.

III. The tasks of monetary policy

The legislature has assigned to the Deutsche Bundesbank the task of regulating the amount of money in circulation and of credit supplied to the economy, with the aim of safeguarding the currency. In addition, it is to arrange for the execution of domestic and international payments.

Bundesbank Act, section 3, duties:

The Deutsche Bundesbank shall regulate the amount of money in circulation and of credit supplied to the economy, using the monetary powers conferred on it by this Act, with the aim of safeguarding the currency, and shall arrange for the execution of domestic and international payments.

In addition to defining the traditional task of a central bank, namely that of maintaining a properly functioning payment system, the Bundesbank Act thus lays particular emphasis on the responsibility borne by the Bundesbank for monetary stability. In the interplay between the various economic policy decision-makers – Parliament, the Federal Cabinet, the central bank, both sides of industry – the Bundesbank must always regard its function of being the guardian of the currency, as spelled out in the Act, as being its primary task. That is why the Bundesbank Act has made the central bank independent of instructions from the Federal Cabinet. As a logical consequence, the basic obligation incumbent on the Bundesbank under the Act to support the general economic policy of the Federal Cabinet is explicitly subject to the condition that this does not bring monetary policy makers into insoluble conflict with their primary objective (see the text of the Act on page 18).

The Bundesbank has never left any doubt that it not only wholeheartedly accepts the special responsibility for combating inflation which the legislature has assigned to it but also regards this as an economically meaningful role for an up-to-date central bank to play. During the seventies, if not before, economic developments in western industrial countries refuted the assumption (which was very popular for a while) that growth and the level of employment in an economy could be durably raised through the stimulus of more or less rapidly accelerating inflation. Quite the contrary is the case: over the longer term, price stability is a major prerequisite of the smooth functioning of the market economy, and hence of vigorous economic growth and a high level of employment (see Chart 3 on page 25).
In the modern view, this perception at the same time points to specific conclusions regarding the central bank’s responsibility for shaping the monetary foundations of a stable currency. It can hardly be contested that, over the longer term, a general rise in prices is not possible without an undue expansion of the money stock (see page 78f.). This applies irrespective of whether it is wartime inflation that is being financed or inflationary processes in peacetime. An excessive increase in the money supply does not in itself necessarily constitute the primary cause of a rise in prices. But invariably it is monetary policy, by marking out the “monetary cloak” for the economy, that ultimately sets limits to any rise in the price level, since – at least over the somewhat longer term – the money stock determines the monetary leeway for spending in an economy.

The objective of a stable currency, and hence of economic growth with as few disruptions as possible, can therefore be achieved only if the supply of money in the economy is kept sufficiently tight. Under older monetary constitutions (e.g., under the Banking Acts of 1875 and 1924), this need was met by special cover provisions for banknotes in circulation. In modern money economies, which no longer operate with any such cover requirements, central banks, on their own responsibility, have the task of devising standards and monitoring procedures with the aid of which the growth of the money stock can be measured accurately, curbed effectively and regulated in accordance with the objectives.

1. Interpreting monetary stability

In principle, the interpretation of the concept of stability is hardly in dispute. Monetary stability can in general be equated with stability of the price level, from which a constant purchasing power of money follows. Conversely, inflation is generally understood to mean a sustained process of rises in the price level. Inflationary processes are characterised by a general erosion of the purchasing power of money; by contrast, changes in the prices of individual goods, which are of key significance for well-functioning markets, cannot be equated with inflation. In practice, therefore, the problem arises of how the change in purchasing power can be measured on the broadest and most representative basis. Inflation measurement in Germany is usually based on the cost-of-living index for all households. That index is made up of a wide-ranging basket of goods and services, mirroring the average expenditure pattern of all households.

Furthermore, monetary stability has an external dimension, namely the purchasing power of money in foreign currency, which is reflected in the foreign exchange
rate. Hence the central bank, in its policies, cannot disregard the movement of the external value of its own currency. For instance, a depreciation of the national currency may cause inflationary stimuli to spread to the domestic economy. Under a system of floating exchange rates, it can be assumed that diverging inflation rates in different monetary areas will be reflected in the longer run in corresponding exchange rate changes (in line with the theory of relative purchasing power parities). Viewed in these terms, exchange rate movements are a reflection of domestic economic stability (see Chart 4), and protect the superior domestic stability record from external pressure if the pace of inflation is higher abroad. Under the conditions of a monetary system with fixed, albeit adjustable, exchange rates, such as the former Bretton Woods system or the present European Monetary System (EMS), by contrast, the Bundesbank's anti-inflation policy is dependent on parity changes for this purpose, and thus on the cooperation of the Federal Cabinet, which is responsible for determining the exchange rate regime.

2. Prerequisites of and limits to an effective monetary policy

An essential prerequisite of a central bank's ability to keep the growth of the money stock within limits that are acceptable in terms of anti-inflation policy is its capacity to keep its own money creation under control. This rules out pressure of any kind on the central bank to engage in specific types of lending operations, and thus to increase the liquidity of the banking system in an uncontrolled way. Traditionally, the most important gateway leading to uncontrolled liquidity creation is lending to the public sector. In Germany, after 1948, when the granting of central bank credit to the public sector was cut to a minimum by law, the central bank's obligation to intervene in the foreign exchange markets in unlimited amounts was for a long time a major obstacle to effective control of money creation. The Bundesbank had this obligation to intervene under the system of fixed exchange rates vis-à-vis the US dollar. At that time, the central bank periodically had to buy extremely large amounts of US dollars to prevent the exchange rate from falling in terms of the dollar. The associated creation of central bank balances often went far beyond what was acceptable in monetary policy terms. The global transition to a system of floating exchange rates in March 1973 in principle removed this obstacle to effective stability-oriented monetary policy. However, the obligation incumbent on the Bundesbank to intervene in favour of foreign currencies was not completely eliminated thereby. Up to 1979, the central bank remained obliged to intervene in the context of the European narrower margins arrangement (the "snake"), and since that date it has had to intervene within the EMS; however, the widening of the fluctuation margins in the EMS in

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* Weighted against the currencies of 18 industrial countries. — 1 Ratio of price movements in Germany to those in 18 other industrial countries (in national currencies). A descending curve shows that prices in Germany rose at a slower pace than those abroad.

Deutsche Bundesbank
August 1993 enlarged the room for manoeuvre available to monetary policy makers.

Even under conditions of floating exchange rates, however, the Bundesbank's monetary policy has never been completely insulated from external influences affecting the exchange rate in terms of the dollar. Thus experience has shown that it is not impossible that, over extended periods, the exchange rate, as determined by the market, not only reflects major economic fundamentals (such as the inflation differential vis-à-vis other countries, or the current account position) but also is overstated owing to speculation. Hence a tendency towards an excessive appreciation or depreciation of the Deutsche Mark may emerge at times in the foreign exchange market, and monetary policy makers cannot simply disregard such trends.

And even with a favourable external position, it is not enough for the central bank merely to set the underlying monetary framework for non-inflationary economic growth. If both a stable currency and a high level of employment are to be maintained at the same time, it is imperative for all economic agents to act in a way that is compatible with stability and to adjust their demands to the performance of the economy. Breaches of this requirement mark the limits to effective monetary policy. If public sector spending, private sector consumption wishes, corporate capital expenditure and non-residents' demands on GNP together exceed the economy's potential output, adjustment crises (with unwelcome after-effects on price movements, employment and economic growth) are inescapable sooner or later.

IV. The functions of the Deutsche Bundesbank

The Bundesbank performs a number of typical central bank functions which have evolved over the years and are more or less closely bound up with its special responsibility for fighting inflation. Its monopoly of the issue of currency is the cornerstone of the Bundesbank's monetary policy powers and constitutes the real basis of its effective control of the expansion of the entire money stock, including deposit money. The fact that the Bundesbank at the same time has to discharge other functions, such as that of being the "bankers' bank", the "state's bank" or the "guardian of the national monetary reserves", is not incompatible with this. As long as the Bundesbank can subordinate all its activities to monetary policy requirements, its diverse and apparently disparate functions will ultimately be serving the same aims, and it can perform these duties in such a way as always to meet its primary responsibility for maintaining monetary stability.

1. The bank of issue

Only the Bundesbank is entitled to issue banknotes denominated in Deutsche Mark (monopoly of the issue of banknotes). These banknotes are the only legal tender for any amount in Germany. Any person to whom money is owed must accept them in unlimited amounts in settlement of his claim. Coins, by contrast, are legal tender only to a limited extent. Under the terms of the Coinage Act of 1950, for instance, a creditor is not required to accept more than DM 20 in coins denominated in Deutsche Mark, or more than DM 5 in coins denominated in plennige.

Bundesbank Act, section 14, note issue:

(1) The Deutsche Bundesbank has the sole right to issue banknotes in the area in which this Act is law. Its notes are denominated in Deutsche Mark. They alone are legal tender for any amount. Notes in denominations smaller than ten Deutsche Mark may be issued only by agreement with the Federal Cabinet. (…)

The banknotes issued by the Bundesbank therefore constitute the foundation of the German monetary system. They are used by all economic agents for the smooth and often cost-effective settlement of payments. Commercial banks, which offer their customers "cash substitutes" in the form of giro balances that the customers can draw upon by, say, cheque or credit transfer, are likewise ultimately dependent on the notes provided by the central bank since their customers may withdraw cash from their accounts at any time. The Bundesbank's monopoly position with respect to the overall circulation of money thus enables it to exercise indirect control over the money in circulation in the economy at the secondary level of giro or deposit money as well.

Producing banknotes for use in payments is a technically complicated process, and extends from the planning of banknote series to the destruction of notes which are no longer fit for use. In planning and producing banknotes, the main concern is the prevention of forgery. In addition to the conventional security features identifiable by anyone (such as the type of paper, the watermark, the windowed
security thread and the see-through register), the banknotes incorporate certain invisible features which can only be identified by machine. Not least in response to the development of new reproduction techniques and the widespread use of sophisticated reproduction equipment, the Bundesbank, after having waited for almost 30 years, introduced a new banknote series as from the autumn of 1990. The banknotes of the previous series have now been called in, and are being withdrawn from circulation by the Bundesbank. However, even after their withdrawal from circulation, they have not become worthless, since the Bundesbank is continuing to redeem them at their face value. That applies to all Deutsche Mark notes issued since 1948.

At present the Bundesbank is issuing eight different denominations of banknotes: DM 5, DM 10, DM 20, DM 50, DM 100, DM 200, DM 500 and DM 1,000. As a protection against mix-ups or forgeries, the individual denominations differ in size, colour and design. At the end of 1994, banknotes to the value of DM 236 billion were in circulation overall. The commonest denomination is DM 100. In terms of the number of notes, that denomination accounts for over one-third of the banknotes in circulation. By contrast, the share of the medium and large-denomination banknotes (viz. DM 200, DM 500 and DM 1,000) in the total number of banknotes in circulation is small, although the circulation of large-denomination banknotes has increased sharply in recent years. The banknotes issued by the Bundesbank flow back to it on average three times a year. When they return, the notes (and the coins) are examined as to their authenticity and physical condition, and notes or coins no longer fit for circulation are withdrawn.

In addition to the banknotes, the Bundesbank puts coins denominated in Deutsche Mark or pfennige into circulation. However, in this case it is the Federal Government, rather than the Bundesbank, which holds the issue rights (what is known as the “coining prerogative”), and the Bundesbank puts the coins into circulation on behalf of the government. To prevent the “seignorage” — i.e. the difference between the face value and the production cost of a coin, which accrues to the Federal budget — from conflicting with the central bank’s monetary policy obligations, the approval of the Bundesbank is required for the minting of coins when the amount in circulation exceeds the limits laid down in the Coinage Act. This has been the case for some considerable time.

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Banknotes and coins together constitute currency in circulation. At the end of 1994 the amount of currency in circulation outside the banking system came to DM 226 billion; at the same date, the currency held by banks totalled DM 26 billion. Hence the amount of currency in circulation outside the banking system has increased more than elevenfold since the beginning of 1960. Over the same period the national product has gone up in nominal terms — if the extension of the monetary area in 1990 is taken into account — nearly twelfeifold. The "cash ratio", i.e. currency in circulation as a percentage of the national product, has therefore hardly changed at all throughout the period under review (see Chart 5, page 31).

Up to the mid-seventies the cash ratio tended to decline. Ultimately, however, this did not reflect an effective increase in the transaction velocity of a particular sum of money; on the contrary, it chiefly mirrored the growing importance of cashless payments (in other words, a decline in the demand for currency). This owed something to the introduction of cashless wage and salary payments and the innovations this generated in bank payments, as well as to the heavy investments credit institutions had to make in order to enlarge their branch networks. But the factors which led to a drop in the demand for currency would appear to have run their course during the seventies. The cash ratio has been rising again since the mid-seventies; this has owed something to the increasing amount of Deutsche Mark notes held abroad. In the second half of the eighties, and again towards the end of the period under review, trend growth was likewise overstated by special factors — arising, for instance, in connection with the debate on the taxation of interest income. However, it is still true to say that the currency provided by the central bank can be replaced to a certain extent by short-term bank deposits, and especially by sight deposits on giro accounts (deposit money or giro money), and in future presumably also by electronic payment media. Macroeconomically speaking, therefore, only part of the money which the economy needs is made up of currency.1 Hence the Bundesbank also has to bear the ultimate responsibility for keeping deposit money tight.

2. The bankers’ bank

The Bundesbank's special status as the "bankers' bank" derives from the fact that credit institutions are to a certain extent dependent on a supply of central bank balances (in other words, sight deposits with the central bank which can be exchanged for currency at any time). Only by means of recourse to central bank money can the solvency of the entire banking system be ensured. This is partly because — as mentioned earlier — bank customers generally ask for some of the credits granted to them or some of their sight deposits with banks to be paid out in Bundesbank notes, which commercial banks, in turn, can obtain only from the central bank. Credit institutions also keep balances at the Bundesbank for the settlement of cashless interbank payments. In addition, banks in Germany are required to hold a certain percentage of their short and medium-term liabilities to domestic non-banks and non-residents in the form of non-interest-bearing balances with the Bundesbank; these are known as "minimum reserves".1 The minimum reserve requirements, for which, under the Bundesbank Act, certain ceilings are set for the various types of liabilities, make the business operations of banks more dependent on the provision of central bank money by the Bundesbank. They would also enable any decrease in the dependence of credit institutions on the central bank (such as might result, in particular, from a decline in the cash ratio) to be offset by raising the "minimum reserve ratios" applying to bank deposits.

However, not every single bank is directly dependent on the provision of central bank money. After all, the individual credit institution can obtain the central bank balances it needs not only through transactions with the Bundesbank but also by borrowing from other credit institutions which have liquidity to spare. This process of balancing out the individual banks' surpluses and shortages of central bank money is effected through the money market (see page 45 ff.). But, viewed as a whole, that market has at its disposal no more central bank balances than have ultimately been created by the central bank. It is thus by systematically managing the availability of funds in the money market that the Bundesbank indirectly controls monetary and credit expansion in the banking system as a whole (see page 88 ff.).

As the "bankers' bank", the Bundesbank in normal circumstances smooths out fluctuations in the banking system's demand for central bank money that result from ongoing inpayments to and outpayments from credit institutions' giro accounts with the Bundesbank. In addition, the banks themselves can even out very short-term fluctuations to a certain extent since the minimum reserve requirements do not have to be complied with on a day-to-day basis, but only as an average of the month. Bolstered by the ongoing refinancing operations of the central bank and the viability of the money market, which these operations

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1 For a more detailed definition of the various monetary aggregates, see page 70 ff.

1 For a more detailed discussion of the German minimum reserve system, see page 119 ff.
ensure, credit institutions, for their part, are able to offer their banking customers comparatively generous short-term credit lines. Together with the money supply, these constitute a flexible source of liquidity for the business community and facilitate its short-term financial planning.

Moreover, the Bundesbank provides credit institutions and public authorities with pure banking services for the technical handling of their cashless payments. The banks take advantage of these facilities primarily for the purpose of payments (credit transfers, collections and clearing operations) between individual credit institutions and between the giro systems of different categories of banks. By providing these facilities, the Bundesbank is discharging the duty of arranging for the execution of domestic and international payments stipulated by the Bundesbank Act. Credit institutions make heavy use of the payment facilities offered by the Bundesbank. In 1994, for instance, 2.8 billion credit transfers, cheques and direct debits were channelled through the central bank. Credit institutions make more use of the Bundesbank's facilities for collecting cheques and direct debits than of those for passing on credit transfers. The heavy recourse to its giro system has prompted the Bundesbank to press ahead with the automated processing of payments. Since mid-1991 the Bundesbank has been charging fees for the use of its payment services in order to recoup some of the costs incurred in this connection, to encourage paperless procedures by charging lower fees and to reduce the Bank's share in retail payments (in particular, in the collection of cheques and direct debits) to more appropriate proportions.

Finally, the Bundesbank is involved in banking supervision. The Banking Act provides for close cooperation in this field between the Federal Banking Supervisory Office and the Bundesbank.

**Banking Act, section 7, cooperation with the Deutsche Bundesbank:**

(1) The Federal Banking Supervisory Office and the Deutsche Bundesbank cooperate as provided in this Act. The Deutsche Bundesbank and the Federal Banking Supervisory Office shall communicate to each other any observations and findings which may be of significance for the performance of their respective functions. (...)

The Supervisory Office, which has no branches of its own, takes advantage of the Bundesbank's familiarity with local conditions and its relevant expertise. There is a mutual exchange of information, which may be significant for the discharge of the duties each institution has to perform. When the Federal Banking Supervisory Office wishes to issue general regulations, it must confer with the Bundesbank. The degree to which the Bundesbank is entitled to participate is graduated according to the extent to which the regulations affect its functions. Thus, when issuing principles concerning capital and liquidity, the Federal Banking Supervisory Office is required to reach agreement with the Bundesbank, whereas in other cases the Bundesbank merely has to be consulted. In addition, the Bundesbank carries out ongoing supervision through the Land Central Banks on the basis of the reports, monthly returns and annual accounts which credit institutions have to submit. It passes these records on, along with its comments, to the Federal Banking Supervisory Office, which takes whatever further measures may be necessary.

3. The state's bank

As a banking institution, the Bundesbank acts in some measure as the "principal banker" of the Federal Government and to a lesser extent of the Länder Governments. However, the legislature, in the light of past experience, has closely circumscribed this field of operations, so as to rule out any erosion of the Bundesbank's monetary policy autonomy right from the start.

Upon the entry into force of the second stage of European economic and monetary union at the beginning of 1994, central bank lending to the public sector was prohibited all round. This was intended to improve budget discipline in the participating countries and at the same time to seal off a major potential source of inflation. In addition, the ban on central bank lending to the government is a significant factor in terms of protecting the independence of national central banks and of the future European System of Central Banks.

Even prior to 1994, Bundesbank lending to the public sector – the traditional source of involuntary central bank money creation – was strictly limited in terms of maturity and amount (section 20 of the Bundesbank Act, in the wording in force until July 15, 1994). The credit ceiling for the Federal Government, for instance, was DM 6 billion, and that for the Länder Governments (including the new ones)

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1 See Deutsche Bundesbank, Banking Act, Banking regulations (2), September 1994.
latterly DM 3.3 billion in all; low ceilings were likewise in effect for the Federal special funds (Federal Railways, Federal Post Office, Equalisation of Burdens Fund, ERP Special Fund). It must be stressed that these ceilings did not represent a right on the part of these bodies to credits of this amount from the central bank; they only constituted the maximum level up to which the Bundesbank was entitled to go in granting credit to these various public authorities. Moreover, these credit lines could be used only for cash advances, i.e. to bridge such short-term cash shortages as may arise in the course of the implementation of the budget, but not to finance actual budget deficits. Since August 1990, the rate charged for such cash advances had been the Lombard rate. What is more, the Bundesbank may not acquire debt securities issued by public authorities direct from the issuer, but only in the open market on the terms ruling there. The Bundesbank is expressly permitted to buy such paper only in order to regulate the money market (Bundesbank Act, section 21), i.e. only so as to influence bank liquidity and interest rates in that market (cf. page 108ff.). It would therefore be an infringement of the Bundesbank Act if the Bundesbank were to engage in open market purchases contrary to the objectives of money market policy.

As already mentioned in a different context, the Bundesbank also puts coins into circulation as part of its function of being the state's "principal banker"; where coins are concerned, it is the Federal Government that holds the issue rights. Finally, the Bundesbank handles the bulk of the Federal and Länder Governments' cashless payments and carries the relevant giro accounts. Up to the end of 1993 the Federal Government (including the Equalisation of Burdens Fund and the ERP Special Fund) and the Länder Governments were required to deposit all their liquid funds on giro accounts with the Bundesbank. Only with the approval of the Bundesbank could public cash balances be deposited in the banking system (deposit policy pursuant to section 17 of the Bundesbank Act, see page 133ff.). Since the abolition of the deposit requirement, public authorities have mostly deposited their liquid funds with commercial banks, while they have kept at the Bundesbank only the working balances they need for settling payments.

A focal point of the Bundesbank's activities as the state's "principal banker" remains its participation in borrowing in the market by the Federal Government (including its special funds) and the Länder Governments. Debt securities and Treasury bills should be issued primarily through the Bundesbank; failing this, the Bundesbank must be consulted (Bundesbank Act, section 20). In this context, the Bundesbank mainly performs an advisory, intermediary and co-ordinating function, for which its knowledge of market conditions makes it especially fitted. The Bundesbank acts as the fiscal agent for most of the debt instruments issued by the

![Chart 6: Exchange rate movements and external position of the Bundesbank](chart6.png)

- External value of the Deutsche Mark...
- gegen den US dollar
- gegen die Währungen...
- of 15 industrial countries

1 Calculated as a weighted geometric mean of the bilateral external values.

Deutsche Bundesbank
Federal Government (see page 59 f.). For instance, it sells Treasury financing paper, Federal savings bonds and five-year special Federal bonds in the form of tap issues for the account of the Federal Government, and it arranges the tendering and placement of Treasury discount paper. As lead-manager of the Federal Bond Consortium, through which all Federal debt securities (including those of the Federal Government’s special funds) are issued, the Bundesbank confers with the other syndicate banks, which agree to take up a certain percentage of each issue, regarding the terms of the offering. When Federal debt securities and, more recently, five-year special Federal bonds are issued by tender at three-monthly intervals, the Bundesbank sees to the auction and settlement. Finally, the Bundesbank also takes charge of the price management of listed Federal securities. The associated purchases and sales are intended, on the one hand, to cancel out erratic price movements and, on the other, to ensure that the paper in question can be traded on the stock exchange at any time, in small and large quantities alike. These transactions are carried out by the Bundesbank on behalf of the issuers, and in principle for their account. The law does not require the Bundesbank to participate in the raising of loans against borrowers’ notes for public authorities; such loans, as well as securities issues, are an important instrument of public borrowing. To enable the Bundesbank to keep track of market developments and of public sector borrowing, the Federal Government and its special funds regularly inform it of the amount of borrowers’ note loans taken up.

4. The guardian of the monetary reserves

The strong position of the Deutsche Mark, which has shaped monetary conditions in Germany for decades, is reflected in the large monetary reserves which the Bundesbank has accumulated since the currency reform of 1948 (see Chart 6 on page 37). Particularly towards the end of the sixties and in the early seventies, the Bundesbank had to buy large amounts of foreign exchange under the rules of the Bretton Woods agreement in order to defend the exchange rate of the Deutsche Mark. That is why central bank money was created in Germany at that time largely through the “monetisation” of external assets.

The Bundesbank is the only body in Germany which holds official monetary reserves; it therefore manages the "national monetary reserves". The gold holding, which amounted to DM 13.7 billion at the end of 1994 (valued at the original purchase price, see Table 1), constitutes a considerable part of these reserves. The most important single item, however, is the dollar holding, which came to around DM 80 billion at the end of 1994. The great significance of this item is justified by the predominant position the US dollar holds as an international intervention and reserve currency. Germany is a member of the European Monetary System (EMS), and this accounts for the Bundesbank’s claims on the European Monetary Institute (up to the end of 1993: on the European Monetary Cooperation Fund – EMCF), to which 20% of the gold and dollar reserves were transferred on a revolving basis. Finally, the reserve position in the International Monetary Fund is likewise a major constituent. This item includes the special drawing rights resulting from Germany’s membership of the International Monetary Fund.¹

Within the European Monetary System, the participating central banks have undertaken to defend the agreed central rates of partner currencies, when these reach the “intervention points”, by effecting the appropriate purchases or sales of foreign exchange. In the wake of the EMS crises of autumn 1992 and summer

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¹ See also Deutsche Bundesbank, The monetary reserves of the Bundesbank, Monthly Report, November 1988, pages 28–35.
1993, in particular, the Bundesbank had to buy partner currencies on a massive scale. On the other hand, the Bundesbank has not been under any obligation to intervene against the US dollar since the spring of 1973. However, the Bundesbank has intervened in the dollar market even since the dollar rate was floated, mainly to cancel out erratic day-to-day exchange rate fluctuations, thus helping to maintain orderly market conditions. In addition, the Bundesbank has on occasion intervened heavily in the foreign exchange markets in an attempt to mitigate undue exchange rate movements, and thus to alleviate the adjustment pressure on the economy.

But ultimately there are limits to what can be achieved by a pure intervention policy. Both the monetary upheavals under the Bretton Woods system and the crises in the EMS in 1992 and 1993 demonstrated that underlying market trends cannot be suppressed by exchange market intervention on the part of central banks. At the most, it seems to be possible, if exchange rate movements show sharp deviations from the trend over the shorter term, to contain speculative exaggerations by means of corrective intervention. In the long run, exchange rate stability can be achieved only if marked and persistent disequilibria in the world economy can be avoided, economic performance in individual countries better harmonised and undesirable developments remedied. The efforts to coordinate their economic and monetary policies more effectively made and intensified in recent years by the seven major western industrial countries (the "G-7") serve this purpose, too.
I. The basic features of the German financial system

In both structure and mode of operation, the financial system in Germany, which has historical roots stretching back to the nineteenth century, is closely bound up with the monetary policy of the Bundesbank. On the one hand, the underlying conditions in the financial sector define the scope for and the limits to monetary policy action by the central bank. On the other hand, the characteristics of the central bank constitution and the Bundesbank’s monetary policy, for their part, set basic conditions for the functioning and the longer-term trend of the financial markets. Only if there is a thorough understanding of these interrelationships will the specific features of the German financial system and the actual stance of the Bundesbank’s monetary policy be comprehensible.

Since the introduction of the Deutsche Mark in 1948, the German financial system has been marked by conspicuous stability in spite of constant changes in the instruments, techniques and institutions involved. This consistency is reflected particularly clearly, on the one hand, in the fact that credit institutions continue to play the dominant role in the German financial system and, on the other, in the marked long-term orientation of financial operations in the German economy.

The institutional structure of the German financial system has been shaped by the key part played by credit institutions, which operate mainly as universal (i.e. all-purpose) banks, and which (unlike the conditions in various other countries with a system of single-purpose banks) may conduct all types of banking business – in particular, lending and securities business – under one roof. The paramount importance of universal banks as financial intermediaries is reflected in the fact that at the end of 1994 about 80% of the outside funds raised in the market by producing enterprises came from credit institutions, and that over 40% of the financial assets acquired by the domestic non-financial sectors was accounted for by funds deposited with credit institutions. For a long time these ratios have changed only in degree, although in the past two decades institutional saving through insurance enterprises and investment funds has increased.

At the same time, the German securities markets – in particular, the debt securities market – have grown strongly since the beginning of the eighties, together with a rapid expansion of the internationalisation of investment operations. The outstanding amount of debt securities issued by residents more than doubled between the end of 1989 and the end of 1994, to just under DM 2.7 trillion, with about one-quarter of that paper being held by foreign investors. The German share market, too, has increasingly been used for raising funds since the mid-eighties; by international standards, however, it has so far failed to gain a significance comparable to that of the debt securities market. Yet the growing importance of financing through the issuing of securities was not synonymous with a weakening of the position of credit institutions, since banks also play a major role in the securities markets as issuers of debt securities, investors and suppliers of services in securities business. As a whole, the German financial system therefore coincides to a large extent in its most important structural and functional features with the banking system (see also Chart 7). Owing to their pre-eminent position, credit institutions play a key part in the transmission of monetary
stimuli, and provide the most important starting point for central bank policy measures.

Another salient feature of financial relations in Germany is their pronounced long-term orientation, both with regard to credit maturities and borrowing and with regard to interest rate lock-in periods. At the end of 1994 77% of the loans and advances not evidenced by certificates to non-banks and over 85% of the debt securities outstanding had an original maturity of four years or more. Accordingly, interest rates locked in for long periods are comparatively more important in financing operations with trade and industry, particularly in the case of private housing construction, and also in the case of corporate capital formation; however, the available data do not allow more precise quantification. As a mirror image of the long-term orientation of financial relations, short-term borrowing via the money market – particularly securitised borrowing – has been of no great significance in Germany to date.

The German financial system developed within a regulatory framework that created favourable underlying conditions for competition in the financial sector by means of timely deregulation. Starting with the full convertibility of the Deutsche Mark at the end of 1958 and the liberalisation of cross-border capital movements, up to the complete decontrol of bank interest rates in 1967, the most important steps towards liberalising and deregulating the German financial system had mostly been taken by the early seventies. At that time, in most western industrial countries various systems of exchange control and restrictions on capital movements were still in operation, and at the same time credit institutions' interest rates in those countries were subject to regulation. Monetary policy in Germany fostered the long-term orientation of the financial system, by means of a stance consistently oriented towards stability, and largely prevented the weakening of the banking system by inflationary shocks accompanied by high and highly volatile interest rates. In other countries, such undesirable developments have contributed materially to the shifting of financial operations from banks to the securities markets.

In this comparatively liberal and stable environment, credit institutions were able to deploy their specific advantages in the financing of German trade and industry. For enterprises, such advantages reside in particular in the constant availability of bank lending, which benefits from long-term business relationships between banks and their customers. This is all the more important since, for most firms, recourse to the securities markets is not very attractive owing to the size of the enterprise or on account of the associated requirement to provide or disclose data. With regard to investments, the wide range of bank deposit facilities offered was, by tradition, an important vehicle for the accumulation of individual savings. In view of the comparatively high degree of competition in the banking sector, it is safe to assume that banking services are mostly offered to investors and borrowers on market terms.

Against this background, many new financing instruments which have recorded tempestuous rates of growth in other countries in the course of the far-reaching process of innovation have rather led a shadowy existence in Germany. Deutsche Mark commercial paper, which, after a period of quite rapid market expansion, has for some time been used by domestic issuers only on a comparatively limited scale, as well as what are known as “asset-backed securities”, are examples of this. Such instruments have so far failed to gain a firm foothold, since their functions can sometimes be performed to a fairly large extent by the more traditional instruments, and also because they have been viewed with a rather sceptical eye on banking supervisory grounds. As long as these instruments only cater for the specific requirements of a relatively small group of investors and borrowers, this situation is unlikely to change. The lack of acceptance shown vis-à-vis various new financial products must not, however, be misconstrued as opposition to innovation on the part of the German market-place. For instance, besides state-of-the-art trading facilities and new markets (see page 60), derivative financing instruments have been integrated in the domestic financial system relatively unobtrusively. The process of innovation in the German financial markets is chiefly characterised by its high degree of continuity.

II. The money market

Interbank dealings in central bank balances, also known as the “money market” in the narrower sense, are of particular significance for the Bundesbank’s monetary policy. They provide for the central bank, in its function as the “holder of the supply monopoly” of central bank money, the starting point for exercising a selective influence on the banks’ refinancing conditions and, in the final analysis, on the control of the money stock (see page 88ff.). The money market in its broader sense additionally includes dealings in money market paper. Besides credit institutions, non-banks – not excluding the Federal Government – also act to a certain extent as borrowers and lenders in the money market, following the abolition of the deposit requirement pursuant to section 17 of the Bundesbank Act (see page 133ff.), as well as institutional investors and large industrial enterprises.
1. Dealings in central bank balances

Through their interbank dealings in central bank balances, domestic credit institutions make their excess central bank balances available to other banks. Money market transactions are mainly for the purpose of horizontal liquidity adjustment within the banking system. The banks need liquidity in the form of central bank balances to obtain currency for withdrawals by their customers, to execute cashless payments and to comply with their minimum reserve requirements vis-à-vis the Bundesbank. The interbank money market not only serves to offset unforeseen fluctuations from day to day in individual banks' liquidity requirements, it also enables liquidity bottlenecks and surplus positions foreseeable or expected in the future to be bridged. The asynchronous movement of liquidity within the banking system is due partly to the differing business structures of the various categories of banks and of individual institutions.

A distinction must be made between money market transactions between commercial banks and the Bundesbank’s activities in the money market, which aim at changing the total amount of central bank balances available in the market. By deploying its monetary policy instruments, the Bundesbank exercises an influence on market conditions as a whole; liquidity adjustment between individual banks takes place through interbank dealings. From an individual credit institution’s point of view, such money market dealings are in a way in competition with the taking-up and repayment of refinancing credit at the Bundesbank. Hence the conditions on which the Bundesbank makes short-term central bank balances available to credit institutions or offers interim investment facilities for excess liquidity provide major benchmark figures for interest rates in the money market.

In money market dealings, distinctions are drawn between the market for day-to-day money, that for one-month funds, that for three-month funds and the mostly less attractive markets for even longer maturities. The market for day-to-day money plays a key role in the interbank money market. It mainly serves to regulate the individual minimum reserve positions of particular banks within a calendar month (see page 88ff.). In the context of indirect monetary targeting, the day-to-day money market rate is the key variable for the Bundesbank, which it influences directly by means of interest rate policy measures. Holding the supply monopoly of central bank money, the Bundesbank controls prices at the short end of the money market. By contrast, the longer the maturities in the long-term interbank money market are, the smaller is the direct impact of the central bank.

The longer-term markets – e.g. the markets for one-month or three-month funds – generally serve the banks to redress foreseeable liquidity disequilibria, such as shortages on major tax payment dates or other fluctuations in liquidity requirements that are typical of the business and customer range of the institution concerned. The interest rate trend in the longer-term money markets is in general steadier than that in the day-to-day money market. If the banks had unlimited rediscount lines available (see page 98ff.), the discount rate would presumably always form a kind of ceiling to the one-month and three-month rates, since discount credit is granted for a maximum period of three months. But as credit institutions can draw on rediscount credit at the central bank only within the limits of the rediscount quotas fixed by the Bundesbank, and for the rest are dependent on Lombard loans or other liquidity assistance, the rate for three-month funds likewise moves at a greater or lesser distance above the discount rate. Conversely, the longer-term money market rates cannot as a rule fall very much below the discount rate, since, given such a trend in rates, the banks would otherwise reduce their rediscount indebtedness at the Bundesbank as the bills fell due and take up the funds they needed at lower rates in the money market. Thus the Bundesbank largely controls the availability of funds and rates in the money market by adjusting the unsatisfied demand for central bank balances and the refinancing terms for the funds the banks have to provide, in accordance with its monetary policy objectives.

2. Dealings in money market paper

Besides interbank transactions in central bank balances, the money market in the broader sense also encompasses dealings in money market paper. Such dealings were for a long time mainly confined to money market paper issued by public authorities in the form of Treasury bills and Treasury discount paper and, up to the end of 1991, prime bankers’ acceptances. Both Treasury bills and Treasury discount paper are issued in the form of discounted securities; the two types of paper differ mainly in their maturities, which, in the case of Treasury bills, amount to up to 90 days, whereas Treasury discount paper has maturities of three months and more, up to two years. According to their purpose, a distinction therefore has to be made between financing paper on the one hand and liquidity paper on the other.

Financing paper comprises Treasury bills and Treasury discount paper serving public borrowing requirements. Thus the Federal Government and other public bodies can issue such paper to obtain short-term funds for financing some of the public
sector borrowing requirements. At present, only Treasury discount paper with a maturity of at least one year is being issued, generally by tender. Treasury discount paper with a repurchase commitment of the Bundesbank is virtually non-existent. In previous years, such paper, which was "included in the money market regulating arrangements", was accepted at any time by the Bundesbank in return for central bank balances. In order to prevent commercial banks from having quasi-automatic access to the supply of central bank balances, in principle only paper without such a repurchasing commitment of the Bundesbank has been sold to banks in the past two decades. Such paper, which is not included in the money market regulating arrangements, is also known as "N-paper".

For quite some time, Treasury bills have virtually ceased to circulate. In principle, the Bundesbank is opposed to the public sector issuing securities running for less than one year, since this would foster the tendency towards short-term financing operations, which is not desirable on monetary policy grounds. The long-term orientation of the German financial sector is a major asset for monetary policy makers and for the economic system as a whole. Any increase in the short-term orientation of financial operations exacerbates the uncertainty of planning and heightens the risk of conflicts of interest between monetary and fiscal policy makers, which may hamper the implementation of monetary policy measures.

In addition to the money market paper created as a consequence of public sector borrowing, such paper comes into being on the initiative of the Bundesbank. To enable the Bundesbank to sell Treasury bills and Treasury discount paper for open market policy purposes, and regardless of the public authorities' need for finance, section 42 of the Bundesbank Act (prior to the 1992 amendment of that Act) provided that the Bundesbank could request the Federal Government to convert all or part of the equalisation claim totalling around DM 8 billion which it held on the Federal Government, as a result of the currency reform of 1948, into Treasury bills or Treasury discount paper, thereby "mobilising" it. Paper created in this way was known as mobilisation paper. The Bundesbank was liable to the Federal Government for meeting all obligations arising from mobilisation paper. In reality, therefore, mobilisation paper constituted issues by the Bundesbank, and not by the Federal Government. The Stability and Growth Act of 1968 added a clause to the Bundesbank Act (section 42a of the Bundesbank Act) under which, if mobilisation paper had been put into circulation up to the full amount of the equalisation claim, the Federal Government had to supply the Bundesbank, on request, with further Treasury bills and Treasury discount paper (called "liquidity paper") up to the maximum amount of DM 8 billion. By the amendment of the Bundesbank Act in 1992, this amount was increased to DM 50 billion, whereas the issue of

mobilisation paper is no longer envisaged in the amended section 42 of the Bundesbank Act, which replaces the previous sections 42 and 42a.

**Bundesbank Act, section 42, issue of liquidity paper:**

(1) The Federal Government shall supply the Deutsche Bundesbank on request with Treasury bills or Treasury discount paper in denominations and on terms of the Bank's choice (liquidity paper) up to the maximum amount of fifty billion Deutsche Mark. The liquidity paper is payable at the Bank. The Bank is liable to the Federal Government for meeting all obligations arising from the liquidity paper.

(2) The par value of the liquidity paper issued shall be entered in a special account by the Deutsche Bundesbank. The funds may be used only to redeem liquidity paper that has fallen due or been repurchased by the Bank prior to maturity.

(3) The Federal Ministry of Finance is entitled to issue liquidity paper pursuant to subsection (1) above.

Since such paper is no longer issued by "mobilising" equalisation claims, the term "mobilisation paper" is no longer applicable. On the basis of its monetary policy function, only the term "liquidity paper" is used. The raising of the ceiling up to which the Bundesbank may request the issue of liquidity paper takes account of developments in the money and credit markets. The proceeds may be used only to redeem paper at or before maturity; hence the issuing of liquidity paper does not involve any lending to the Federal Government. Liquidity paper is used primarily for the short-term absorption of surplus funds in the money market. In addition, it has been offered temporarily in the form of Bundesbank liquidity paper running for more than one month (see page 109 f.).

 Compared with the money market paper issued by public borrowers, the market for short-term money market paper issued by borrowers from the corporate sector is relatively new. In the wake of the abolition of the official issue authorisation procedure (pursuant to sections 795 and 808 of the Civil Code) on January 1, 1991, a market for Deutsche Mark commercial paper came into being in Germany. This commercial paper comprises securitised assets which are issued mainly by larger enterprises via credit institutions under an issuing programme, and which are usually sold to institutional investors. In keeping with its comparatively short maturities (of a few days up to less than two years), its rate of interest is geared to
the money market rates for the periods in question. Altogether, securitised borrowing via short-dated debt securities has so far assumed only minor importance in Germany. This owes a great deal – likewise, in the case of commercial paper – to the fact that short-term bank lending is in most cases a more attractive form of financing, if the costs incurred (e.g. rating costs) and the absolute amount of the borrowing requirement are taken into account.¹

The money market paper issued by credit institutions in the form of so-called certificates of deposit (CDs) is of virtually no importance; the Bundesbank has no longer objected to the issuing of such paper by domestic credit institutions since the new provisions governing minimum reserve requirements came into effect in May 1986 (see page 121 ff.).

The money market paper issued by banks also included “prime bankers’ acceptances”. These were Deutsche Mark acceptances of acceptance banks authorised in the prime acceptance market, which were used to finance imports, exports and merchanting transactions, or for cross-border commissission processing deals. The Bundesbank dealt in prime bankers’ acceptances in the money market up to the end of 1991; in this context, however, the Bundesbank only entered into contracts with the Prime Acceptance Company (Privatdiskont AG). The special refinancing facility for the purchase of prime bankers’ acceptances was discontinued at the end of 1991; after that date, no more prime bankers’ acceptances were issued.

III. Credit institutions and institutional investors

As mentioned above, a typical feature of the German banking system is the dominant role of what are known as “universal banks”, which may in principle conduct all types of banking business; pursuant to the legal definition contained in section 1 of the Banking Act, this includes, in particular, deposit and lending business and securities and safe custody business.

Banking Act, section 1, definitions:

(1) Credit institutions are enterprises conducting banking business, if the scale of such business calls for a commercially organised business undertaking. Banking business comprises

1. the acceptance of funds from others as deposits, irrespective of whether or not interest is paid (deposit business);
2. the granting of money loans and acceptance credits (lending business);
3. the purchase of bills of exchange and cheques (discount business);
4. the purchase and sale of securities for the account of others (securities business);
5. the safe custody and administration of securities for the account of others (safe custody business);
6. the business specified in section 1 of the Act on Investment Companies (Gesetz über Kapitalanlagegesellschaften) (investment fund business);
7. the incurrence of the obligation to acquire claims in respect of loans prior to their maturity;
8. the assumption of guarantees and other warranties on behalf of others (guarantee business);
9. the execution of cashless payment and clearing operations (giro business).

The Federal Minister of Finance, after having consulted the Deutsche Bundesbank, may designate other business as banking business by regulation if this is warranted on prudential grounds, and thus may capture new areas of business as well.

Besides short-term sight, time and savings deposits, German universal banks accept longer-term time deposits, savings bonds and bank debt securities, and grant not only short-term advances but also medium-term and long-term loans. They likewise engage in securities business, e.g. in the form of own-account trading, underwriting, issuing and safe custody business and asset management. With financial derivatives making inroads into the German market, off-balance-sheet activities have become increasingly important; in some cases the nominal amount of these actually exceeds the amount of on-balance-sheet activities. Thus credit institutions are increasingly actively managing their own risks, and taking over their customers' risk management.

At the end of 1994 there were in Germany 3,872 credit institutions of independent legal status, with 48,721 branches in all. Of the categories of banks operating in Germany, what are known as commercial banks, savings banks and credit cooperatives are of paramount importance in general banking business. The category of private commercial banks comprises the three big banks, the - fairly heterogeneous - group known as "regional banks and other commercial banks", the branches of foreign credit institutions and private bankers. Big banks and some regional banks have quite dense branch networks in some cases. The category of private bankers includes a few banks operating in the form of sole proprietorships or partnerships.

Over time, what were originally the focal points of the business of the various categories of banks have become blurred, although certain distinctions in the typical range of customers or the transactions of specific categories have remained (for the relative sizes of the various categories of banks, see Table 2). Big banks, unlike regional banks, have been able to more or less maintain their traditionally strong position in short-term lending; however, savings banks, which - rather like credit cooperatives and regional giro institutions - have increased their short-term lending considerably, have caught up in the meantime. Although savings banks traditionally focus on financing for small and medium-sized businesses, local authorities and housing, the larger of the savings banks and the regional institutions of that sector - the regional giro institutions - are now very active in large-scale lending and industrial financing. There have been comparable developments in the credit cooperative sector, where the regional institutions dis-

<table>
<thead>
<tr>
<th>Categories of banks and their volume of business</th>
<th>Table 2</th>
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<tbody>
<tr>
<td>End of 1994</td>
<td>Volume of business</td>
</tr>
<tr>
<td>Category of banks</td>
<td>DM billion</td>
</tr>
<tr>
<td>Commercial banks</td>
<td>1,666.9</td>
</tr>
<tr>
<td>Big banks</td>
<td>624.1</td>
</tr>
<tr>
<td>Regional banks and other commercial banks</td>
<td>883.8</td>
</tr>
<tr>
<td>Branches of foreign banks</td>
<td>89.8</td>
</tr>
<tr>
<td>Private bankers</td>
<td>69.2</td>
</tr>
<tr>
<td>Regional giro institutions (incl. Deutsche Girozentrale)</td>
<td>1,230.5</td>
</tr>
<tr>
<td>Savings banks</td>
<td>1,427.7</td>
</tr>
<tr>
<td>Regional institutions of credit cooperatives (incl. Deutsche Genossenschaftsbank)</td>
<td>230.9</td>
</tr>
<tr>
<td>Credit cooperatives</td>
<td>825.1</td>
</tr>
<tr>
<td>Mortgage banks 2</td>
<td>837.6</td>
</tr>
<tr>
<td>Credit institutions with special functions 3</td>
<td>734.2</td>
</tr>
<tr>
<td>All categories of banks 4</td>
<td>6,952.8</td>
</tr>
</tbody>
</table>

1 Balance sheet total plus endorsement liabilities arising from rediscounted bills. — 2 At the end of 1992 the subdivision of "Mortgage banks" into "Private mortgage banks" and "Public mortgage banks" was discontinued. — 3 Postal giro and postal savings bank offices have been included in the category "Credit institutions with special functions" since January 1992. — 4 All institutions reporting for the banking statistics (other than building and loan associations).

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charge functions similar to those which regional giro institutions perform for savings banks.

In addition to the credit institutions operating as universal banks, there are a number of specialised banks and credit institutions with special fields of business. Mortgage banks (private and public mortgage banks), the market share of which, at 12 %, actually exceeds that of the big banks, finance their lending, which is mainly at long term (mortgage loans secured by residential real estate, industrial mortgage lending and lending to public authorities) very largely by issuing debt securities of their own in the form of mortgage bonds and communal bonds and by taking up long-term loans. But here, too, the dividing lines have become somewhat more blurred. Mortgage bank loan offers with rates locked in for shorter periods or with shorter maturities are mostly taken up at times of high interest rates; the main sources of funds for such lending are accordingly short and medium-term bank debt securities or wholesale deposits.

1 See also Deutsche Bundesbank, Longer-term trends in the banking sector and market position of the individual categories of banks, Monthly Report, April 1989, pages 13-22.
The category of credit institutions with special functions comprises banks in private or public legal forms which, as specialised banks, mainly engage in medium and long-term financing for small and medium-sized enterprises, for regional and municipal infrastructural measures and for the starting-up of businesses. In this context, fostering structurally weak areas and restructuring residential zones, for instance, are important. The Federal and Länder Governments take advantage of the banking services offered by these institutions to implement their regional or sectoral assistance programmes.

In addition to the credit institutions discussed above, building and loan associations – which, like the other credit institutions, have been subject to the Banking Act since the beginning of 1973 – play an important part in the funding of private housing construction within the German financial system. Building and loan associations mainly take in low-interest-rate deposits from savers who have contracted for a future loan, while their lending business consists of building loans to the same range of customers at a correspondingly favourable interest rate, locked in over the entire period. In the post-war period up to the seventies, such associations were among the most rapidly expanding institutions in the German banking industry. This was due partly to the urgent need for housing and partly to the marked encouragement of this type of business by the state. Since then, however, they have fallen back somewhat behind other providers of housing finance.

Private insurance enterprises, too, are major institutional investors. They have strengthened their market position noticeably in recent years, not least owing to the increasing importance of private provision for old age. They extend medium and long-term loans for housing construction, industry, the state and the banking system from the resources which are lodged with them, mainly by households. The investment policy of insurance companies is subject to certain regulations and to insurance supervision, for which the Federal Supervisory Office for Insurance Enterprises is responsible. The social security funds, which finance themselves by a system of adjustable contributions from ongoing contribution payments, have figured as institutional investors only since the mid-seventies, at times when they have recorded surplus contributions.

Savings through investment funds has greatly increased in significance since the beginning of the eighties. Investment funds are set up by investment companies either for a wide range of customers in the form of “investment funds open to the general public” or for a self-contained range of institutional investors in the form of “specialised funds”. As well as the traditional securities-based investment funds (including share-based, bond-based and mixed funds), pure money market funds, which exclusively invest resources in bank deposits and short-dated debt securities, have been permissible in Germany since August 1994. In addition to the above-mentioned greater importance of private provision for old age, the growing demand for investment fund certificates also owes something to an increase in investors’ yield consciousness and their familiarity with a wider range of investment vehicles. Especially since the beginning of the nineties, it has also repeatedly been investment funds’ tax privileges – most recently in the case of money market fund certificates – which have triggered a strong, albeit temporary, demand for such certificates.

The functional and institutional fragmentation of the financial system in Germany has traditionally been less pronounced than in other countries, owing to the predominance of the universal bank system in this country. In recent years, the boundaries between the individual types of activity in the financial services sector have become even less clear-cut. Households’ changed pattern of financial asset formation, the continued keen competition following the establishment of the single European financial area and the exploitation of synergy effects are the main reasons why credit institutions, insurance enterprises, building and loan associations and investment funds are supplementing their traditional range of financial services, in the context of what are known as “one-stop financing strategies”, by adding products offered by the other categories of institutions. The penetration of established market positions, which used to be segregated, by “one-stop” financial groups providing the full range of services ultimately constitutes a consistent further development of the universal bank principle towards a system of “universal financial services institutions”.¹ On the other hand, given the rising marginal cost of such a strategy, there are signs of a revived awareness of one’s own comparative advantages in some areas. At least in the case of financial groups, specialised institutions can offer the financial services required by customers without this always becoming apparent in external relationships.

The German universal bank system not only facilitates the cost-effective provision of banking services to the economy but also ensures a rapid transmission of monetary stimuli throughout the financial sector. This owes much to the combination of a low degree of susceptibility to interference on the part of the banking system as a whole and relatively active competition among banks. The wider dissemination of banking risks which universal banks can afford and the associated

¹ See also Deutsche Bundesbank, Financial conglomerates and their supervision, Monthly Report, April 1994, pages 49–60.
trend towards stabilising their profitability enhance the viability of the banking system. At the same time, this provides a solid overall basis for interbank competition, which, in turn, is a key prerequisite of the immediate transmission of the interest rate stimuli emanating from the central bank through the banking system (see page 62 ff.).

IV. The debt securities and equities markets

In the light of the growing international integration of financial transactions, and of the private and public need for funding resulting from the reconstruction efforts in eastern Germany, the German securities markets have recorded a sharp surge in growth. The longstanding tradition of securitisation, in particular with regard to public and bank borrowing, and also with regard to the raising of enterprises' equity capital by means of share issues, provided a favourable starting point for this growth. Unlike the situation in some other countries, where the trend towards the securitisation of lending operations was greatly reinforced by critical developments in the banking sector and the thus declining capacity of credit institutions to assume risks (which sometimes sharply reduced the significance of the role of banks in the flow of funds), German credit institutions, in their functions of major investors and issuers, as well as of intermediaries in securities business, have so far participated in the growth of the securities markets.  

Access to the German securities markets is in principle unrestricted. However, until the end of 1990 all issues of domestic bearer and order debt securities (other than those by the Federal and Länder Governments, the Federal Railways, the Federal Post Office and the Equalisation of Burdens Fund) were subject to government approval under sections 795 and 808a of the German Civil Code (“issue authorisation procedure”). These provisions were designed not so much to regulate access to the market in quantitative terms as to ensure, on regulatory grounds, that the credit standing of the borrower was duly checked. Over time, the view that effective investor protection can be achieved less by a government authorisation procedure than by regulatory safeguards incorporated in banking, stock market and accounting legislation and by other protective provisions of the Act on Securities-Offering Prospectuses has become generally accepted. That is why the issue authorisation procedure was considered to be dispensable and was abolished as from January 1, 1991. From the same date, the securities transfer tax, which had particularly affected trading in short-dated securities, was abolished as well.

The last few years have seen the remaining – and fairly insignificant – restrictions on external money and financial transactions removed. These included not only legislative but also administrative constraints. After the last few exchange controls had all been abolished in 1981, coupon tax for non-residents was done away with in 1984. In 1985 the German debt securities market was opened up to some new

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1 See also Deutsche Bundesbank, Trends towards securitisation in the German financial system and their implications for monetary policy. Monthly Report, April 1995, pages 19–32.
forms of debt securities current in international markets, such as zero bonds, floating-rate notes, and interest and currency-swap-related debt securities. At the same time, foreign banks domiciled in Germany were admitted to the lead-management of foreign Deutsche Mark debt securities issues. In 1986 new minimum reserve regulations came into force, which improved the competitive position of domestic banks relative to the Euro-markets and permitted the issuing of certificates of deposit denominated in Deutsche Mark. Since 1990 the Bundesbank has not been objecting to debt securities or borrowers’ note loans denominated in foreign currency or ECU’s being issued in Germany or by residents. Since that date, the private use of the special drawing right has been permissible to the same extent as the private use of the ECU. By issuing its “Statement concerning Deutsche Mark issues” of July 1992, the Bundesbank took due account of the requirements of the single European market and of developments in international capital markets. ¹ The primary aim served by the framework set by this statement continues to be that of ensuring the effectiveness of the Bundesbank’s minimum reserve policy, while other demands that are not directly related to this aim are no longer being made. Since August 1994 the Bundesbank has also put aside its reservations regarding the establishment of Deutsche Mark money market funds.

In terms of volume, the most significant market is the German debt securities market, which has gone through a period of exceptionally rapid growth since the end of the eighties and has become the third biggest market for debt securities (after the United States and Japan) world-wide. At just under DM 2.7 trillion (at the end of 1994), bank debt securities – which, in the form of mortgage bonds and communal bonds, have been used by credit institutions for more than a hundred years – and public bonds, for instance in the shape of Federal bonds or five-year special Federal bonds, are the main vehicles used. To date, the new financial instruments have met with a mixed response in the German debt securities market. Zero bonds are hardly traded at all in the German market, whereas floating-rate notes have become quite important. Interest in the medium-term Deutsche Mark notes which have been issued since 1989 under Deutsche Mark medium-term-notes programmes has been comparatively muted so far. However, since August 1992 such Deutsche Mark notes have increasingly been launched under medium-term multi-currency Euro-note facilities.

By international standards, the German share market has not so far assumed the same importance as the debt securities market – at least as regards market capitalisation and the number of listed enterprises. Although the issue volume, at an average of DM 21½ billion a year in the first half of the nineties, compared with DM 10 billion in the eighties, has more than doubled, it is in particular large enterprises which use shares as a means of financing. The relatively narrow base of equity financing (which, however, must not be equated with a general lack of capital on the part of German enterprises) is mainly attributable to the fact that in Germany most enterprises come into the category of small and medium-sized firms.

In the securities markets, credit institutions perform important functions as issuers and investors alike. For instance, at the end of 1994 over one-half of the total amount of debt securities issued by domestic borrowers was accounted for by bank debt securities. At the same time, banks had own holdings of domestic debt securities making up just under two-fifths of the total amount of domestic debt securities outstanding. The heavy exposure of banks as purchasers in the debt securities market results in a particularly close integration of the securities markets in the other credit markets. This trend makes it clear that the increasing dissemination of financing though securities in Germany has so far not led to a shake-out of banks from financing (what is known as “disintermediation”).

The Bundesbank intervenes in the capital market direct mainly in its function as the fiscal agent of the Federal Government (see page 35 ff.). Its activities in that market range from assistance in the issuing of Federal securities to the ongoing price management of exchange-traded Federal debt securities. Issues by the Federal Government and its special funds are floated through the Federal Bond Consortium, which is headed by the Bundesbank and includes, directly or indirectly, all the German credit institutions which are active in securities business. Since 1986 foreign-owned credit institutions have been admitted as well; at the end of 1994 they made up about one-half of the syndicate banks. In negotiations on the amount and terms of an issue, the Federal Bond Consortium is represented by what is called the “Inner Committee”. Since July 1990 Federal debt securities have been issued, as a matter of principle, by a combined syndicate and tender procedure; until then the entire issue (excluding the amount set aside for market-smoothing operations) was underwritten by the individual syndicate banks in accordance with their underwriting shares. The syndicate banks’ underwriting shares are adjusted annually on the basis of their previous share and the allocations under the tender procedure. Issues by the Länder Governments are generally launched by consortia organised on a regional basis; however, such issues are not very frequent.

As part of its market-smoothing operations, the Bundesbank ensures that business in exchange-traded Federal debt securities is possible at all times, also in larger amounts, and at market prices. This may require the selling or taking-up of larger amounts at times. Even in these cases, the market-smoothing operations are not aimed at influencing the market trend by means of interventions, or at envisaging a certain yield level. Price management operations are carried out on behalf and for account of the issuers; there is therefore no question of credit being granted to the Federal Government "insidiously" in this way.

In the past few years, the strong growth of the German securities markets has been accompanied and fostered by a number of legal and organisational measures which have been aimed, in particular, at improving Germany's competitiveness as a financial centre in international markets. One of the most important legal changes is the establishment of the Federal Supervisory Office for Securities Trading. By creating this institution, which is responsible for the supervision of disclosure provisions, the investigation of insider trading offences and international cooperation in matters relating to securities trading supervision, Parliament paid due regard to the paramount importance of efficient and incisive supervision for Germany's international reputation as a financial centre. Major organisational measures in the German stock market have included the opening of the German Financial Futures and Options Exchange (Deutsche Terminbörse - DTB) in 1990, the commissioning of the electronic Integrated Stock Exchange Trading and Information System (IIBIS) in 1991 and the setting-up of the German Stock Exchange plc (Deutsche Börse AG) early in 1993, as the central institution for executing, promoting and settling transactions on German stock exchanges.

V. The foreign exchange market

The foreign exchange market is the interface between the domestic financial market and foreign monetary areas. Generally speaking, the foreign exchange market is understood to mean the market for foreign currencies; for practical purposes, this mostly implies dealing by telephone in foreign currency balances payable abroad. The relationship ruling between supply and demand in the foreign exchange market determines the exchange rate of foreign currencies, which is expressed in Germany in terms of the Deutsche Mark price of one (or a hundred or a thousand) unit(s) of the foreign currency. Depending on the contractually agreed point of time at which a foreign exchange deal is to be performed, a distinction is drawn between spot and forward foreign exchange transactions. Spot transactions are those which have to be performed immediately (i.e. within a period of two days). The rates at which spot and forward transactions are effected are known as spot and forward rates. The difference between the forward and the spot rate is called the swap rate. A positive swap rate, i.e. an addition to the spot rate, is known in foreign exchange dealing as a "premium", while a deduction is a "discount". Because of what is known as interest rate arbitrage, the swap rates of freely tradable currencies are virtually identical to international money market interest rate differentials, and forward rates are therefore ultimately determined by the spot rate and the prevailing interest rate differential. On the Currency Exchanges in Germany (which can be regarded as foreign exchange markets in the stricter sense), on every trading day an official spot rate is fixed for each of the currencies traded, and that rate generally serves as the basis for credit institutions' foreign exchange transactions with their non-bank customers. In all, there are five Currency Exchanges in Germany, Frankfurt being the most important. However, the vast bulk of foreign exchange trading takes place not on the Currency Exchanges but by telephone between banks.

An essential prerequisite of free foreign exchange dealing is the unrestricted convertibility of the Deutsche Mark into other currencies; such a currency is called a convertible currency. The convertibility of the Deutsche Mark was restored in full at the end of 1958, together with that of the currencies of other major European OEEC countries. Until the collapse of the Bretton Woods system, the Deutsche Mark was freely convertible at basically fixed exchange rates. As soon as exchange rates reached their officially fixed intervention points, the Bundesbank had to intervene as necessary to ensure quantitative equilibrium in the foreign exchange market and prevent the intervention points from being overshot.

As the importance of the Deutsche Mark in the foreign exchange markets grew, German credit institutions increasingly engaged in international money market trading and lending. German banks' short-term external assets, for instance, rose from about DM 2 billion at the end of 1958 to DM 15½ billion at the end of 1968. Financial relations between the German banking system and non-residents have grown by leaps and bounds since the system of fixed exchange rates finally collapsed in 1973. At the end of 1994 banks' short-term external assets alone amounted to DM 345 billion.

The Bundesbank did not withdraw completely from the foreign exchange market after 1973. On the contrary, it still pursues a deliberate intervention policy in certain situations (generally in close coordination with other central banks), not-
ably to even out short-term fluctuations in exchange rates in the Deutsche Mark-dollar market, thus contributing to the maintenance of orderly market conditions. Moreover, the Bundesbank was not relieved of all formal intervention requirements after 1973. Until the spring of 1979, for instance, it had to intervene on several occasions and in considerable amounts against the other currencies in the European narrower margins arrangement (the “snake”). Since then, the exchange rate mechanism of the European Monetary System (EMS), which superseded the “snake” in March 1979, has obliged the Bundesbank to defend the maximum or minimum rates of the currencies participating in the exchange rate mechanism, whose exchange rates were allowed, until August 1993, to fluctuate only within margins of ±2.25% (or ±6%) around the agreed bilateral central rates. Under this system, exceptionally heavy intervention was sometimes required – notably during the monetary crisis of September 1992. Following a renewed flare-up in the European foreign exchange markets, the general margins of fluctuation in the EMS were widened to ±15% in August 1993.

VI. The transmission of monetary policy stimuli through the financial system

The Bundesbank’s monetary policy measures, as conceived for the money market, exercise an impact on commercial banks’ lending and deposit rates, on capital market rates and on exchange rates. From the money market, these stimuli affect non-banks’ account management and, in the final analysis, influence their decisions on expenditure and prices. This transmission mechanism of monetary policy stimuli – only roughly sketched in here – is very complex in reality, and knowledge of its details is rudimentary. It is therefore imperative for monetary policy makers to be able to base their decisions on stable financial market structures and on correlations in the financial sector which enable them to gauge with a fair degree of accuracy how monetary stimuli are transmitted and, ultimately, what effects they have. In Germany, this has been facilitated by the continuity of developments in the financial sector and by the key role of universal banks in the German financial markets.

A "smooth" transmission of monetary stimuli is all the more important as, since as long ago as April 1967, there has been no direct link, based on official regulations, in Germany between the discount and Lombard rates set by the Bundesbank and the banks' short-term lending and deposit rates in transactions with their non-bank customers. Before the decontrol of bank interest rates ("deregulation of interest rates"), the maximum rates for the various categories of loans and deposits were automatically reset each time the discount rate was changed, but since deregulation the effective rates have been determined by market or competitive conditions, and these in turn depend heavily on the banks' liquidity position.

The relatively keen interbank competition is the precondition for the rapid transmission, in the manner desired, of monetary policy stimuli through changes in market rates. If the banks do not gear their rates to general money market conditions and to the marginal cost of funds, their profits will inevitably suffer - for instance, owing to customers switching to competitors. Generally, therefore, shorter-term lending and deposit rates largely follow the movements of the Bundesbank's rates (see Chart 9 on page 63), with the effective change in the cost of funds and the signal character of these rates being of significance.

Changes in money market rates often also influence capital market yields. As a consequence, the yield curve will shift. However, the effects of interest rate changes at the short end of the market on long-term rates are by no means clear-cut, since expectations of future economic trends and the monetary policy stance play a key role in interest rate formation in the capital market. Given the global interdependence of financial markets and the great volatility of investment capital, the steadying of the long-term expectations of market players is becoming a more and more important factor in the conduct of monetary policy; it is only in this way that unwelcome, strong interest rate movements in the capital market, accompanied by simultaneous exchange rate fluctuations, can be counteracted. In a setting of financial markets of global scope, there is little room for any attempt to control the interest rate pattern in a quasi-"mechanical" way through changes in money market rates.

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1 See Deutsche Bundesbank, Interest rate movements and the interest rate pattern since the beginning of the eighties, Monthly Report, July 1991, pages 31-42.
I. Overview

According to the Bundesbank Act and the central bank's own perception of its role, the basic aim and thrust of monetary policy are unequivocal: in the interaction among all the entities responsible for economic policy, the Deutsche Bundesbank has the particular task of safeguarding the currency by regulating the amount of money in circulation and of credit supplied to the economy. By keeping purchasing power stable, the central bank in a market economy creates the monetary conditions permitting the maintenance of a high level of employment over the longer term, with steady economic growth.

However, as far as the practical implementation of monetary policy is concerned, this does not answer the question of how the Bundesbank can achieve its statutory final goal of price stability. It is not able to control the inflation rate directly, nor are price movements solely the result of monetary policy actions. There are long and variable time-lags between the deployment of the monetary policy instruments and a change in the price level, and knowledge of the precise operation of the transmission mechanism of monetary policy stimuli is fragmentary to this day. The strategy of monetary management can therefore be simplified and put on a dependable basis by focusing on a variable which lies, so to speak, between the money market, which is the true field of operations of the central bank, and the final goal of monetary policy. This not only facilitates the central bank's task but also enables the general public to gain an idea of the current monetary policy stance. The transparency that results from the possibility of monitoring monetary policy is a major factor contributing to confidence in a country's counter-inflationary policy.

II. Indicators and intermediate targets of monetary policy

To be able to assess the effects of monetary policy measures at an early date, the central bank needs suitable intermediate target and/or indicator variables. Given the length and complexity of the transmission mechanism, it is of paramount importance to be able to assess the monetary policy stance correctly at an early stage; a number of indicators from the financial sphere (such as the volume of money and credit, interest rates and exchange rates) seem appropriate for this purpose. Against the backdrop of the special features of the monetary transmission mechanism as described above, it is obvious that a central bank should gear its monetary policy actions not to its final goal direct, but rather to what is known as an intermediate target variable, which it is in fact able to control, and which gives a relatively early indication of the impact of monetary policy. In the practical implementation of central bank policy, using the same variable as a primary indicator and an intermediate target has often proved to be expedient. In such a case the intermediate target is derived from the desired future value of the variable. In retrospect, the trend of the variable indicates the effects of past monetary policy measures and, by comparing it with the trend considered desirable, provides a guideline for the monetary policy stance.

1. Requirements to be met by monetary indicators and intermediate target variables

The general requirements to be met by indicator and intermediate target variables are virtually undisputed. Indicators must permit reliable conclusions to be drawn as to the effects of monetary stimuli. The requirements to be met by an intermediate target variable go beyond this: firstly, the variable chosen must be controllable with sufficient precision by the central bank with the aid of the instruments at its disposal and, secondly, it must have a stable relationship with the final target variable, i.e. implementation of the intermediate target must, in principle, ensure attainment of the final goal. Clearly, there is some conflict between the requirement of controllability on the one hand and that of a stable relationship with the final target variable on the other: to meet the first requirement as effectively as possible, an indicator close to the operating variables of monetary policy should be chosen. Here one would look mainly to money market conditions (as measured by a money market rate or the liquidity of the banking system), which the Bundesbank can influence directly. Considering the second requirement, on the other hand, the suitable indicator would be expected to lie at a more advanced stage of the monetary transmission process. Attention here would focus primarily on market interest rates, which are of crucial importance in the expenditure decisions of investors and consumers, on the volume of credit or on the money in circulation in the economy.

More recently, the central banks of some countries (e.g. Canada, New Zealand, the United Kingdom, Finland) have abandoned the practice of setting an intermediate target and switched to targeting the final goal direct. However, the transition to such a one-tier strategy of inflation targeting was not effected because such
strategies are inherently superior – say, in terms of the theoretical approach. It was
effected not by choice but rather of necessity, since (particularly in the wake of a
radical change in the financial markets) the traditional monetary relationships had
become unstable, and there was no longer a predictable correlation between the
intermediate target variable and prices. The one-tier strategy would thus appear to
be a "second-best" solution if a suitable intermediate target is no longer available.
The monetary policy of these countries, like all others, is unable to control the
price level direct with the instruments available. The interest rate policy decisions
of central banks are geared to a large number of indicators deemed to be relevant
so as to contain the risk of misdirection resulting from the instability of rela-
tionships between economic variables, the time-lags with which monetary policy
measures take effect and uncertainty about the structure of the economy. The
disadvantages of such a multi-indicator approach lie in a very high degree of
complexity, the associated lack of transparency for the general public and the risk
of a certain disorientation of monetary policy decisions. For these reasons, an
intermediate target strategy is preferable to targeting the final goal direct as long
as monetary policy has at its disposal an intermediate target variable which
basically meets the above-mentioned requirements. However, the question of
which monetary policy strategy is appropriate can be answered only by taking due
account of the specific underlying conditions in a particular country or currency
area.

2. Interest rates and the term structure of interest rates

Among the wide range of possible intermediate target and indicator variables,
interest rates are the weakest link in the chain. Short-term money-market-related
interest rates can be controlled fairly effectively by the central bank, it is true, but
they have only a very indirect correlation with spending patterns and prices. By
contrast, in Germany changes in longer-term market rates have a major impact on
non-banks’ propensity to spend, given the pronounced long-termism of financial
relationships, but the Bundesbank is unable either to interpret them unequivocally
or to manage them with sufficient precision. Cyclical fluctuations in economic
activity, public sector budget deficits and international interest rate linkages fre-
quently obscure and undermine monetary policy influences. For example, a rise in
capital market rates cannot be regarded as a token of a restrictive monetary policy
if it is prompted by higher inflation expectations. A monetary policy geared to
interest rates could in this case not provide an anchor for overall price stability. To
avoid these problems, it has been proposed that inflation-adjusted (real) rates of
interest should be used as a guideline. This poses the problem of the appropriate
measuring of inflation expectations, however. Moreover, the operationality of
such an approach would appear to be hampered by (cyclical) fluctuations in real
interest rates, which might, for example, result from changed expectations of
corporate profits. Interest rate orientation may thus, on account of such inter-
pretation problems, easily lead to procyclical behaviour on the part of monetary
policy makers.

There are also considerable reservations with regard to gearing monetary policy to
the term structure of interest rates or the spread between capital and money
market rates. There is no sound theoretical foundation of the relationship between
the term structure of interest rates on the one hand and price movements on the
other. A particular interest rate pattern may be consistent both with price stability
and with high inflation rates. The term structure of interest rates can therefore
likewise provide no anchor for the price level. Moreover, the direction of economic
causality is not clear. At least part of the term structure of interest rates emerging
in the market tends to reflect expectations about the future stance of monetary
policy, so that gearing it to these interest rate patterns might have undesirable
effects. Hence the term structure of interest rates is suitable neither as an
intermediate target nor as a key indicator of monetary policy.

3. Credit aggregates

The volume of bank lending to enterprises and individuals is a major variable
through which monetary stimuli are passed on in the transmission mechanism.
However, the principal argument against using a credit aggregate as the inter-
mediate target variable of monetary policy is that a close and, in particular, stable
relationship between credit aggregates and price movements cannot be unam-
biguously inferred theoretically, and has not been empirically substantiated for
Germany to date. The implications of changes in the volume of credit for the
money supply and ultimately for prices cannot be assessed without taking changes
in other factors into account. As a rule, domestic credit expansion is only partly
reflected in an increase in the money stock; it is frequently also accompanied by
greater or lesser monetary capital formation by non-banks in the banking system,
as households and enterprises lodge their savings with credit institutions on a
longer-term basis. A growth of bank lending accompanied by an increase in long-
term time and savings deposits, bank savings bonds and bank debt securities in
the hands of non-banks (and hence long-term non-consumption) has implications
for spending decisions and price movements that are different from those of the
simultaneous expansion of the volume of credit and of money balances affecting
demand. Moreover, in Germany it is often the case that the trend of lending tends to follow rather than precede that of economic activity. Hence such a variable is unsuitable as a leading indicator.

4. Monetary aggregates

Monetary aggregates are far less susceptible to these reservations. In particular, the theoretically well-founded and empirically proven relationship which exists over the longer term between the movement of the money stock and that of the overall price level suggests that the intermediate target variable which is relevant to the Bundesbank’s anti-inflationary policy is to be found among the various money stock definitions.¹

In line with international practice, the Bundesbank has defined a number of narrower and broader monetary aggregates (see Table 3):

\[
\begin{align*}
M1 &= \text{currency and the sight deposits held by domestic non-banks with domestic credit institutions;} \\
M2 &= \text{M1 plus the time deposits for less than four years held by domestic non-banks with domestic credit institutions;} \\
M3 &= \text{M2 plus the savings deposits at three months’ notice held by domestic non-banks with domestic credit institutions; and} \\
M3 \text{ extended} &= \text{M3 plus the Euro-deposits, short-term bank debt securities and certificates of domestic and foreign money market funds in the hands of domestic non-banks (less the bank deposits and short-term bank debt securities in the hands of domestic money market funds).}
\end{align*}
\]

The consolidated balance sheet of the banking system as a whole, i.e. of the central bank and (domestic) credit institutions, provides the statistical basis for the computation of the monetary aggregates M1, M2 and M3. For the computation of the money stock M3 extended, additional components are included which are not part of the consolidated balance sheet (see page 76). In the consolidated balance sheet, the figures of the monthly balance sheet statistics, which are collected from credit institutions at the end of each month, and the Bundesbank Weekly Return are consolidated and aggregated to yield macroeconomic variables relevant to monetary policy. For the purposes of the monetary analysis, which is based on these figures, the money stock is isolated on the liabilities side of the consolidated balance sheet of the banking system, so that all other items are shown as counterparts on the assets side (see Table 4 overleaf).

Presented in the form of an equation, this means for M3:

\[
M3 = \text{bank lending to domestic non-banks} + \text{the net external assets of credit institutions and the Bundesbank} - \text{monetary capital formation at credit institutions from domestic sources} - \text{the deposits of the Federal Government in the banking system} - \text{other factors.}
\]

These balance sheet identities facilitate the interpretation of monetary developments.

It is seen that, over the longer term, the principal sources of money creation are lending by the banking system to domestic non-banks and the net acquisition of external assets by the banking system, which reflects inflows of funds to domestic non-banks from current and financial transactions with non-residents.

The money stock and its counterparts

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<tbody>
<tr>
<td>I. Bank lending to domestic non-banks 2</td>
<td>135.8</td>
<td>223.1</td>
<td>286.1</td>
<td>299.9</td>
<td>333.9</td>
<td>318.9</td>
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<tr>
<td>II. Net external assets 2</td>
<td>36.3</td>
<td>48.4</td>
<td>116.3</td>
<td>154.4</td>
<td>160.5</td>
<td>166.8</td>
</tr>
<tr>
<td>III. Monetary capital formation at credit institutions from domestic sources 3</td>
<td>3.3</td>
<td>12.3</td>
<td>35.7</td>
<td>35.1</td>
<td>32.9</td>
<td>31.4</td>
</tr>
<tr>
<td>IV. Deposits of the Federal Government in the banking system 4</td>
<td>7.9</td>
<td>31.1</td>
<td>35.1</td>
<td>35.1</td>
<td>31.4</td>
<td>31.4</td>
</tr>
<tr>
<td>V. Other factors</td>
<td>66.3</td>
<td>66.9</td>
<td>95.7</td>
<td>117.1</td>
<td>186.2</td>
<td>31.9</td>
</tr>
<tr>
<td>VI. Money stock M3 4, 5</td>
<td>24.0</td>
<td>44.5</td>
<td>17.7</td>
<td>63.3</td>
<td>55.2</td>
<td>38.9</td>
</tr>
</tbody>
</table>

| Memo items                                | 24.0   | 44.5   | 17.7   | 63.3   | 55.2   | 38.9   |
| M2 (M3 excluding savings deposits at three months' notice) | 80.8   | 117.6  | 94.8   | 109.7  | 121.2  | 35.5   |
| M1 (currency and sight deposits)          | 24.0   | 44.5   | 17.7   | 63.3   | 55.2   | 38.9   |

1 From July 1990 including the new Länder. — 2 Credit institutions and the Bundesbank. — 3 Excluding time deposits for less than four years and excluding savings deposits at three months' notice. — 4 Currency, sight deposits, time deposits for less than four years and savings deposits at three months' notice held by domestic non-banks with domestic credit institutions. — 5 Balance: I plus II less III less IV less V.

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These expansionary influences are accompanied by simultaneous monetary capital formation, i.e. the accumulation of longer-term funds at banks, which, taken as an isolated factor, has a contractionary impact on monetary growth. Further determinants of movements in the money stock are changes in the deposits of the Federal Government in the banking system (until the end of 1993: central bank deposits of domestic public authorities), which are not counted towards the money stock because there is virtually no causal connection with overall spending behaviour, and "Other factors", which constitute a kind of statistical residual (e.g. cash items in the course of settlement, the banks' profit and loss accounts). However, when these factors exercise a marked influence on monetary developments, they usually do so only for a short period.

The money stock in the narrower definitions M1 and M2 is subject to strong fluctuations in Germany. This is first and foremost a reflection of cyclical movements in short-term interest rates, and of the changes these cause in the interest rate spread between short and longer-term forms of financial asset acquisition. An increase in, say, the rates for three-month time deposits makes it "more expensive" to hold currency, sight deposits or savings deposits at three months' notice because non-banks' opportunity costs, represented by interest earned on other forms of financial assets carrying more market-related rates, rise. In such a situation, money not needed immediately for transactions will flow faster into interest-bearing, near-money short-term time deposits, and these are included in M2. In this way the cash held in the economy is reduced without any noticeable drop in liquidity. Statistically, this development is reflected in a strong cyclical rise in the velocity of circulation of M1, while that of M2 simultaneously declines.

Owing to the high interest elasticity of the demand for sight deposits and currency, M1 tends to exaggerate the effects of the interest rate policy pursued by the central bank in the money market on expenditure flows in the economy as a whole: because M1 measures only the actual cash in hand, the money supply appears to be tighter or easier than the economy's actual liquidity situation. It follows from this that a continuous expansion of the money stock M1 is not necessarily an indication of a steady supply of liquidity to the economy or of a stability-oriented stance on the part of the central bank.

The money stock M2, which includes near-money time deposits 1 as well as currency and sight deposits, distorts the trend of monetary growth in the opposite direction. As short-term interest rates rise, time deposits become more attractive, not only in comparison with non-interest-bearing cash balances but also relative to other forms of investment, especially savings deposits. M2 therefore expands particularly strongly in periods when short-term interest rates are rising sharply, and thus tends to underestimate the restrictive effects of monetary policy, or may even run counter to the thrust of monetary policy.

The shifts between the various components of the money stock caused by movements in short-term interest rates and the fluctuations they trigger reduce the suitability of M1, and in particular of M2, to act as an indicator and intermediate target variable of monetary policy.

The Bundesbank therefore in principle prefers a broader money stock definition – one which is sufficiently comprehensive for shifts between relatively liquid categories of deposits to play little or no role. Not least in view of the signalling effects emanating from the announcement of annual monetary targets, it appears important for the stance of monetary policy to be read off reasonably clearly from the course of the target variable, and for the relationship between the expansion of the money stock and the growth of overall expenditure to be as readily discernible as possible. The money stock M3 meets these requirements.

1 Strictly speaking, M2 also encompasses medium-term time deposits (for one year and over but less than four years), but only a very small proportion of the time deposits included in M2 come into this category (1.1% at the end of 1994).
The broad money stock M3 comprises currency in circulation in the hands of non-banks and the sight deposits, time deposits for less than four years and savings deposits at three months' notice held by domestic non-banks at German credit institutions. Interest-rate-induced shifts between time deposits and the other money stock components, which affect the money stocks M1 and M2, have no impact on M3. The end-of-month figures for this monetary aggregate are derived, as mentioned, from the consolidated balance sheet of the banking system.

In addition, the level of M3 on the three other bank-week return days in a month can be calculated from the reports on the level of minimum-reserve-carrying liabilities which the banks must submit to the Bundesbank. These two statistical sources taken together yield the money stock M3 as a monthly average (calculated from five bank-week return days, with the end-of-month levels being included with a weight of 50%). Here, return date random variations play a less significant role than in the case of end-of-month levels, so that this variable contains more information and its trend is in fact smoother. The Bundesbank has been using the money stock M3 on a monthly average as its key indicator and intermediate target variable since 1988.  

Overall, the growth of the money stock M3 shows a fairly stable positive relationship with the growth of nominal aggregate production potential and a negative relationship with interest rate movements. In the long run, a clear connection between the growth of this monetary aggregate and price movements is evident. The existence of such underlying relationships facilitates the medium-term orientation of monetary policy when deriving the annual monetary target, assessing the macroeconomic implications of current monetary trends and gauging the appropriate monetary policy actions. Moreover, econometric studies have shown that changes in the money stock tend to lead the growth of expenditure, i.e. that they are not merely a reflection of variables such as GNP changes, which are outside the direct control of the monetary authorities or which monetary policy can influence only with long time-lags. In these studies, too, the results obtained for the money stock M3 tend to be more satisfactory than those for the money stock M1. This is because the lead of the narrowly defined money stock can be partly "explained away" by the short-term interest rate influences exerted by the Bundesbank's interest rate policy on non-banks' demand for currency and sight deposits. For the practical implementation of monetary policy, the findings of the econometric studies imply that, by controlling the money stock M3, the Bundesbank can influence the trend

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1 See also Deutsche Bundesbank, Methodological notes on the monetary target variable "M3". Monthly Report, March 1988, pages 18-21.
of nominal GNP and the domestic price level in the desired direction over the longer term, albeit not with the accuracy of a technical mechanism.\footnote{See also Deutsche Bundesbank, The longer-term trend and control of the money stock, Monthly Report, January 1985, pages 13–26.}

The basic suitability of broadly defined monetary aggregates as indicators and intermediate targets of monetary policy does not rule out the possibility of stable underlying relationships being distorted in the short run. For instance, in the past expectations of drastic changes in exchange rates have often been reflected in sharp variations in enterprises’ short-term financial transactions with non-residents and in non-banks’ time deposits held with domestic banks. Similarly, at times when the capital market has been marked by an exceptionally pronounced “wait-and-see attitude”, funds which were actually intended for investment at long term have temporarily been lodged in short-term time deposit accounts. Such behaviour on the part of investors is observed in particular at times of an inverted yield curve or when the capital markets are characterised by a high degree of uncertainty. To this extent, there is a risk of the underlying trend of monetary expansion being overstated at times.

Conversely, there have been developments in the past which suggested that the growth of the conventional monetary aggregates was failing fully to reflect the actual expansion of liquidity in the economy; a major contributory factor in this connection was financial innovation. This included the strong growth of short-term bank debt securities in the first half of the eighties, when they were not yet subject to minimum reserve requirements. Subsequently, domestic non-banks increased their money holdings abroad more rapidly. Finally, since August 1994 investment in domestic and foreign money market fund certificates has been of major significance. In the light of these developments, the Bundesbank has been monitoring and publishing since 1990 the movement of the money stock M3 extended, which, in addition to M3, includes deposits abroad and short-term bank debt securities (maturing within less than two years) in the portfolios of domestic non-banks and, since January 1995 (or retroactively from August 1994), also the certificates of domestic and foreign money market funds in the hands of domestic non-banks (less bank deposits and short-term bank debt securities in the hands of domestic money market funds). Since then, the Bundesbank has been paying greater attention to this extended money stock when interpreting monetary developments.

It is, of course, not always possible unequivocally to establish the monetary character of these additional components. While money market fund certificates or short-term bank debt securities are substitutes for liquid bank deposits, in actual fact they are likely to constitute in many cases interest-sensitive financial assets which do not perform any direct means-of-payment function. Accordingly, from the present perspective the extended money stock M3’s relationship with the macroeconomic key variables is not as close as that of M3. It cannot be controlled as precisely, either. The Bundesbank has therefore continued to use M3 as its target variable, while falling back on the broader aggregate only for additional calculations. For the rest, the money stock M3 and the money stock M3 extended can be said to have moved largely parallel to one another up to now. In the long run, however, extended M3 is growing slightly faster; any analyses – say, of the appropriate money supply – must take due account of that.

Altogether, financial innovations have not lastingly impaired the suitability of the monetary aggregate M3 for use as an indicator. Hence monetary policy in Germany – unlike, say, that in the United Kingdom or United States – has not been seriously impeded by innovations in the financial markets. The high degree of stability in the German financial markets and their pronounced long-term orientation may owe a great deal to the efficient provision of virtually all financial services by German universal banks, the early liberalisation and deregulation of the financial markets and the consistent gearing of monetary policy to fighting inflation (see also page 42 ff.).\footnote{See Deutsche Bundesbank, The monetary policy implications of the increasing use of derivative financial instruments, Monthly Report, November 1994, pages 41–57, and Deutsche Bundesbank, Trends towards securitisation in the German financial system and their implications for monetary policy, Monthly Report, April 1995, pages 19–32.}

The special factors observed after German unification were operative for a limited period only and thus constituted temporary, rather than permanent, disruptions. Although they gave rise to monetary volatility, and impaired the performance of the money stock as an indicator in the short run, there is not yet any convincing evidence that the long-term relationship between monetary growth and price movements has become unstable in Germany, or that the strategy of monetary targeting geared to the traditional yardstick should therefore be abandoned. At all events, this is implied neither by the Bundesbank’s studies nor by most external analyses. They suggest that the monetary targeting strategy in Germany continues to be empirically substantiated. Even if these studies cannot furnish any definitive “proof”, they reinforce the conviction that the Bundesbank does best to abide by the proven strategy.\footnote{See Deutsche Bundesbank, Review of the monetary target and restructuring of the minimum reserve regulations, Monthly Report, July 1995, pages 17–35.}
stock for the practical implementation of the Bundesbank's anti-inflation policy, monetary policy makers will never be able to rely mechanistically on a single intermediate monetary target variable. Quite apart from the specific weaknesses of a statistical and conceptual nature which every monetary indicator exhibits (at least at times), every indicator has the basic drawback that it can always only impart some of the relevant information on the state of the economy and the financial markets. The search for the “right” indicator for monetary policy or the “optimum” intermediate target variable will therefore never yield a result which reduces the activities of the central bank to mere “automatic-pilot” monetary management. This is why the Bundesbank always evaluates a wide range of monetary and general economic data, so as to check and corroborate the conclusions it draws from its observation of the course of the money stock regarding the implementation of its policy. In principle, this approach means that, in individual cases, monetary policy decisions may be affected by considerations which do not derive directly from the observed movements of the monetary target variable. But despite these necessary qualifications, the Bundesbank continues to regard the monetary aggregate M3 as the linchpin of its stability-oriented policy.

III. The Bundesbank's monetary targets

1. Reorientation of monetary policy in the mid-seventies

The Bundesbank first set an annual monetary target, and made it known in advance, in December 1974. It has in principle adhered to this practice ever since, although the target has been formulated in different ways in the interim (see Table 5). As in many other industrial countries, practical policy requirements and past experience were ultimately the reason for introducing the concept of “monetary targeting”. Immediately after the eruption of the first oil crisis, the Bundesbank’s attempt to exercise a moderating effect on wages and prices by means of “moral suasion” had little effect. In consultation with the Federal Government and the Council of Economic Experts, the Bundesbank therefore came to the conclusion that it would be useful to provide all decision-makers with an explicit monetary framework for the nominal growth of aggregate expenditure by quantifying a target for the money stock. This was done in the hope that a monetary target would encourage adjustment to the stability-oriented stance of monetary policy, dispel any doubts as to the seriousness of the central bank’s determination to work towards price stability and facilitate agreement (or minimise friction) between the

<table>
<thead>
<tr>
<th>Year</th>
<th>Target: growth of the central bank money stock or the money stock M3</th>
<th>Actual growth (rounded figures)</th>
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<tbody>
<tr>
<td></td>
<td>in the course of the year 2 as an annual average</td>
<td>More precise definition during the year in the course of the year 2 as an annual average</td>
</tr>
<tr>
<td>1975</td>
<td>8</td>
<td>-</td>
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<tr>
<td>1976</td>
<td>-</td>
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<tr>
<td>1977</td>
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<td>1978</td>
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<td>1979</td>
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<td>1980</td>
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<td>1981</td>
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<td>1983</td>
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<td>1986</td>
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<td>1989</td>
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<tr>
<td>1994</td>
<td>4½-6½</td>
<td>-</td>
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</table>

1 From 1988: money stock M3. — 2 Between the fourth quarter of the previous year and the fourth quarter of the current year; 1975: December 1974 to December 1975. — 3 In accordance with the adjustment of the monetary target in July 1991.

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various areas of economic policy. It was also intended to reduce the risk of having to adopt painful restrictive measures at a later date in order to counteract undesirable developments which might have been prevented. The adoption of a strategy of monetary targeting had been made possible by the collapse of the Bretton Woods system in 1973 and the transition to floating exchange rates, thanks to which the Bundesbank had regained control over the domestic money stock.

The new practice of monetary targeting was based on the experience that in the medium term an advance of the inflationary process is not possible without undue growth of the money stock. This relationship is easy to grasp, as – as men-
tioned – is borne out for Germany by empirical studies which, over the longer term, show a fairly close correlation between the monetary aggregate used by the Bundesbank as its intermediate target and the price level. It is evident, in particular, that a rate of monetary growth (adjusted, if appropriate, to take account of a trend change in the velocity of circulation of money) which exceeds the increase in potential output will lead in the long run to rising prices.¹

2. Setting and reviewing the monetary target

In every year since 1975 the Bundesbank has derived its target for the money stock from macroeconomic benchmark variables and explained these to the general public. Attention has been focused primarily on average annual figures for the growth of aggregate production potential and for envisaged price movements. Hence the Bundesbank’s monetary targeting strategy includes a recognisable stabilisation element.

If there are no lasting disruptions of economic activity, the demand for money in the economy will go up over the medium term in line with the increase in real production potential. Hence an expansion of the money stock at the pace of the growth of production potential – adjusted, if necessary, for the change in the trend of the relationship between the two variables – will at the same time secure price stability and provide adequate financial scope for the rise in expenditure necessary to absorb the available supply. However, this procedure for deriving a monetary target presupposes that initially prices are stable, for production potential is utilised by aggregate demand, which, like the money stock, is a nominal variable. Any increase in it must therefore likewise be ascertained at current prices. In view of the unfavourable underlying situation, the Bundesbank felt obliged until 1984 to include an “unavoidable” rate of price rises in its calculation. By so doing, it took due account of the fact that price increases which have already entered into the decisions of economic agents cannot be eliminated immediately, but only step by step. On the other hand, this tolerated rise in prices was invariably below the current inflation rate, or the rate forecast for the year ahead. The Bundesbank thereby made it plain that, by adopting an unduly “gradualist” approach to fighting inflation, it did not wish to contribute to strengthening inflation expectations. Once price stability was virtually achieved at the end of 1984, the Bundesbank abandoned the concept of “unavoidable” price increases. Instead, it has

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<th>Basic formula for the derivation of a monetary target</th>
<th>Table 6</th>
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<tr>
<td>Annual averages, figures for the 1995 monetary target used as an example</td>
<td></td>
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<tr>
<td>1. Growth of (real) production potential</td>
<td>+ 2%</td>
</tr>
<tr>
<td>2. Medium-term price assumption</td>
<td>+ 2 %</td>
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<tr>
<td>= Nominal growth of production potential (1+2)</td>
<td>+ 4%</td>
</tr>
<tr>
<td>3. Addition / deduction for the longer-term change in the “velocity of circulation” of money</td>
<td>+ 1 %</td>
</tr>
<tr>
<td>= Growth of the money stock which is consistent with production potential (1+2+3)</td>
<td>+ 5%</td>
</tr>
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Deutsche Bundesbank

since then included, when deriving the monetary target, a medium-term price assumption of 2\%. With the aid of this assumption, which is to be seen as the maximum inflation rate to be tolerated in the medium term, the aim of price stability is operationalised for the implementation of monetary policy. A low positive tolerance limit for changes in the domestic price level is advisable, above all, in the light of the possibility of statistical recording errors and of a slight overstating of price rises in the price statistics (because substitution effects and quality changes are not taken into consideration, and because of the inevitable incompleteness of the range of prices covered).

Until 1987 the Bundesbank formulated its intermediate targets in terms of the central bank money stock. The central bank money stock comprises currency in circulation in the hands of non-banks and the required minimum reserves (other than minimum-reserve-carrying bank debt securities) calculated at constant reserve ratios (as at January 1974). The money stock components included in this aggregate thus largely coincide with those included in M3.¹ Basically, the central

bank money stock is likewise a broad money stock definition, but the money stock components included are assigned different weights. Whereas currency is counted at its full weight, bank deposits are included only in accordance with their historical reserve ratios (16.6% for sight deposits, 12.4% for time deposits and 8.1% for savings deposits). These different weights assigned to the individual money stock components were intended to reflect the fact that the degree of liquidity of bank deposits differs. On the other hand, the unduly heavy weight of currency in circulation (which accounts for some 50% of the central bank money stock) as compared with deposits has always been considered unsatisfactory. After the mid-eighties this increasingly proved to be a disadvantage. Since currency in circulation in Germany responds sharply to extreme "outliers" in interest rate and exchange rate movements, its heavy weight led to the central bank money stock over- or understating the underlying trend of monetary expansion not only in the short run, but also over whole years or for even longer periods.

Another significant factor was that other considerations which used to argue in favour of the central bank money stock have been dwindling in importance over the years. The central bank money stock combines both money creation by banks and that by the central bank. The central bank money stock encompasses those liabilities of the Bundesbank which either – like currency in circulation – constitute a component of the money supply from the outset or – like the minimum reserves on domestic liabilities – result ultimately from the monetary expansion kept going by the banks. Seen in these terms, therefore, the central bank money stock is the reflection of the national money stock in the central bank's balance sheet. At the same time, however, it represents (calculated at current reserve ratios) the Bundesbank's direct contribution to money creation. To that extent, the central bank money stock underlines the final responsibility of the central bank for the growth of the money stock. These psychological advantages were ultimately the main reason why the Bundesbank initially formulated its intermediate target in terms of that aggregate. Over time, as the general public became increasingly familiar with the indirect targeting of the money stock, this argument diminished in importance. Moreover, the current minimum reserve ratios increasingly deviated from those of 1974, on which the definition of central bank money is based. The correlation between the ongoing provision of central bank money and the growth of the central bank money stock (at constant reserve ratios) accordingly weakened.

That is why, when setting the target for 1988, the Bundesbank switched to the money stock M3, whose response to interest rate and exchange rate swings and random fluctuations in the demand for Deutsche Mark banknotes at home and abroad is less pronounced than that of the central bank money stock, owing to the smaller share of currency it contains (about 11%).

Owing to the generally parallel movement of the central bank money stock and the money stock M3 over the long term, the change-over to the new target variable at the beginning of 1988 left the basis of monetary targeting unaffected (see Chart 10 on page 75). The method of deriving the target could also in general be retained.

When deriving the monetary target for 1988, an extra margin (initially of about 1½ percentage point; as from the derivation of the monetary target for 1993, 1 percentage point) was included for the first time to allow for the long-term change in the relationship between production potential at current prices and the money stock M3. The growth of nominal production potential and the money stock implied a slight change in the trend of this statistical relationship in the longer run. The trend decline in the "velocity of circulation of money" owes something to several factors. In particular, the fact that the money stock M3 partly also reflects the holding of assets, and that financial assets grow faster than production potential, is likely to play a part. There are also some other contributory factors, such as the holding of Deutsche Mark banknotes abroad.

In the autumn of 1990 western and eastern Germany were reunited. As early as the middle of that year, the Deutsche Mark currency area was extended accordingly by a monetary union (see page 14 f.). In the circumstances the Bundesbank abided by its tried and tested monetary strategy, thus demonstrating continuity at a time when conditions were quite difficult for the German economy. This consistency was facilitated by the relatively low economic weight of eastern Germany. In 1991 east German GNP amounted to only 7½% of West German GNP. However, monetary policy had to make allowance for some special factors operative during the transitional period. In the absence of historical precedents and against the backdrop of the upheavals in eastern Germany, which impinged equally on households' and enterprises' behaviour and on the financial sector, the initial level of liquidity to be expected in eastern Germany and its further trend were hard to foretell. On the one hand, the 15% jump in the money stock due to the currency conversion in eastern Germany seemed to be an overly wide margin. On the other hand, in this particular situation there were good reasons for an increased demand for money. These included the rapid economic restructuring of eastern Germany, the initially very wide differences in the position of individual sectors of the economy and the adjustment to West German price levels. The Bundesbank responded to this situation by showing a particularly high degree of
flexibility, and fostered the interpretation of monetary developments by an especially intensive use of other indicators. An all-German monetary target was announced and pursued from 1991 onwards. Since that date the benchmark figures on which the derivation of the target is based have referred to the whole of Germany.

The sum of the above-mentioned benchmark figures – i.e. the growth of production potential, the medium-term price assumption and the trend decline in the velocity of circulation – yields the average annual growth rate of the money stock which is to be regarded as consistent with potential GDP. For technical reasons, the Bundesbank has converted this average target since 1979 into a target over a four-quarter time period, which covers the period between the fourth quarter of the previous year and the fourth quarter of the current year. Moreover, the Bundesbank set the monetary target for 1979 for the first time in terms of a target range (of 6 % to 9 %), rather than a single figure. The Bundesbank has adhered to this practice ever since, except in 1989 (see Table 5 on page 79). When converting the average target into a four-quarter target, the prevailing monetary situation is also taken into account. The question of whether increases or deductions are necessary invariably arises when noticeable monetary overhangs or “underhangs” have occurred. After due consideration of the reasons concerned and of all the factors relevant to overall economic developments, it must be decided whether a corresponding adjustment is appropriate.

The target range (“corridor”) concept takes due account of the limits to the technical accuracy attainable in pursuing quantitative monetary targets. A corridor of 1 to 2 percentage points for annual four-quarter targets generally seems appropriate, if only to “capture” exogenous influences on monetary developments, short-term irregularities in the functioning of the financial markets and the difficulty of the statistical measurement of the money supply. The Bundesbank has preferred wide corridors of 3 percentage points primarily at times of increased uncertainty about overall economic conditions. At the beginning of the nineties, by contrast, the Bundesbank, by setting target ranges which tended to be narrow, chiefly sought to give expectations at home and abroad as clear a lead as possible, and to stress the anti-inflationary thrust of monetary policy. This was of paramount importance in view of the inflationary threats which were emerging after a prolonged economic upswing, and which were further accentuated by events in the wake of German unification.

However, if distortions occur around the turn of the year, the corridor concept hardly provides full protection against a temporary under- or overstating of monetary growth and target deviations, especially as the target corridor is very narrow at the beginning of the year. The Bundesbank has therefore switched to showing the target corridor in the first three months of a year as an “unshaded area”. Moreover, since 1995 it has been publishing, in the first few months of each year, not only the growth of M3 against the fourth quarter of the previous year but also its growth against the fourth quarter of the last year but one. This procedure alleviates the problem of the transition from the old to the new monetary target base and shows the underlying trend of monetary growth more clearly than a short-term rate that reflects random factors more strongly.

The uncertainties which have persisted on the production and price fronts and the risk of short-term fluctuations in non-banks’ demand for money have prompted the Bundesbank to review the monetary target in the middle of the year to see whether, in the light of the latest developments, the original formulation is still acceptable (target review). Although the targets for the expansion of the money stock, which are always announced for a calendar year at a time, include a recognisable stabilisation element, they are not intended to preclude any response to movements in economic activity, exchange rates, costs or prices. A feedback from current trends was required, in particular, in the first year after German unification, as money demand patterns in the new Länder were initially difficult to predict. When indications emerged that the excess liquidity created by the currency conversion was being absorbed faster than had originally been expected, the Bundesbank formally adjusted its monetary target for the first time in mid-1991, lowering its target range by 1 percentage point.

3. Lessons of the monetary target

If the annual targets set by the Bundesbank since 1975 are compared with the actual out-turn, and bearing in mind the practical limits to the precise tuning of the money stock over a one-year period, it can be said that, after an initial experimental stage when target formulations were not very practicable, the Bundesbank has been more successful in meeting its quantitative targets (see Table 5 on page 79). Particularly after 1979, when the Bundesbank started to use annual four-quarter targets with wider corridors, the precision with which the targets were met was fairly considerable for a long time, notably in the light of the conditions (concretised in advance) under which the Bundesbank was willing in the years from 1979 to 1983 to depart from the middle of its target corridors.
In some years, however, target overshootings could not be avoided. In 1978, 1986-7 and 1992 the original targets were markedly overshot. This was not so much due to technical factors, but was deliberately tolerated by the Bundesbank in view of the current overall economic requirements. In 1978, this was the case in view of an excessive appreciation of the Deutsche Mark. Similarly, in 1986-7 the Bundesbank tolerated an overshooting in the light of the virtual stability of prices. In doing so, it not least took due account of the economic and monetary policy requirements which resulted from Germany’s balance of payments surplus and its international role. In 1992 it likewise tolerated a major target overshooting in the light of the special factors affecting monetary expansion – such as reconstruction in eastern Germany, management problems caused by an inverse yield curve and low capital market rates, heavy inflows of foreign exchange in the wake of turmoil in the EMS and tax-induced cash hoarding.

In the short run, the Bundesbank has never regarded the annual targets as the sole guideline for its liquidity and interest rate policy actions, but has also taken domestic and external underlying conditions into account. This does not mean, however, that, by doing so, it has also relinquished its medium-term objectives for appropriate monetary growth.

The constraints facing monetary policy makers as a result of Germany’s integration in the world economy are a particularly significant factor. They prevent any fully autonomous German monetary policy even when exchange rates are mostly floating. Flooding exchange rates have admittedly enlarged the room for manoeuvre available to monetary policy makers, but the growing interdependence of the financial markets and the increase in international monetary policy cooperation have created new dependencies, in particular ever-closer international interest rate linkages. Capital movements which are independent of transactions in goods have become the factor dominating shorter-term exchange rate developments in “globalised” financial markets. In particular, the dollar rate has tended to fluctuate unduly. The implications of these fluctuations for prices, costs, real incomes and economic activity in Germany cannot be disregarded. Wherever the Deutsche Mark has appreciated excessively, as in 1978 and again in 1986-7, the Bundesbank has therefore of necessity pursued a more expansionary monetary policy and tolerated interest rate reductions, which has led to an overshooting of the monetary target. This was acceptable insofar as risks of inflation were being moderated by the appreciation. In 1992, a crisis in the European Monetary System led to considerable intervention by the Bundesbank in support of partner currencies, and contributed to the overshooting of the monetary target. At the same time, the close international linkages between capital market rates impeded the control of monetary expansion. However, other special factors also contributed to the considerable overshooting of the target in that year. These included, in particular, strong credit demand fuelled by the restructuring in eastern Germany and fostered by high Government interest rate subsidies. Changes in the fiscal policy setting likewise led to recurrent distortions and volatilities in monetary expansion in that year, as in subsequent years. A major factor in this connection was the withholding tax on interest income introduced at the beginning of 1993 and modified thereafter.

The overall record of the pragmatic policy of monetary targeting is favourable. The trend towards a long-term rise in inflation rates was arrested. The growth rate of the cost of living, which had soared to 7% after the first oil price shock in the mid-seventies, had been reduced to 2.7% by 1978. Similarly, after the second oil price shock the targets were designed to keep the money stock tight, and this made it easier to escape from the vicious circle of inflation and depreciation and regain external equilibrium and competitiveness. In the middle of the eighties, for the first time since the late fifties, price stability was regained. As a result of the decreasing inflationary tensions, interest rates fell to a very low level by historical and international standards, and business activity moved on to a path of sustained growth. In the face of the historical challenges confronting German monetary policy makers as a result of unification, the monetary targets have provided valuable orientation for monetary policy. After a temporary rise in inflation rates in the wake of German reunification, price increases were again brought closer to rates that are acceptable in the medium term.

This positive overall assessment of the Bundesbank’s strategy of monetary targeting should, however, not obscure the fact that the effectiveness of monetary policy is limited in the short and medium run. In the shorter and medium term, prices may deviate from the path mapped out by monetary growth. Interest rate and exchange rate influences which affect the demand for money may at times mask the longer-term relationship between the money stock and prices, as may non-monetary inflation factors, such as oil price shocks, distributive struggles between management and labour or increases in indirect taxes. In this context, monetary policy is unable to determine the extent to which targeted monetary growth is used in the short run for an expansion of output or merely for price and cost rises. This largely depends on the behaviour of the Government and the social groups. To this extent, monetary targeting also aims at making the monetary policy objectives more readily understandable. The Bundesbank has therefore emphasised time and again that, in addition to a counter-inflationary central bank policy and a disciplined Government budget policy, voluntary cooperation by
management and labour are indispensable to bring and keep inflation durably under control without employment being adversely affected.

IV. Controlling the money stock through the money market

The Bundesbank’s monopoly of the provision of banknotes (monopoly of bank-note issue) and its right to require banks to hold minimum reserves create a demand for central bank money on the part of commercial banks. This need for central bank money provides the Bundesbank with leverage for controlling the expansion of the money stock as a whole through the terms on which it supplies central bank money. Money creation by banks always involves an increase in currency in circulation and in the minimum reserves which must be held at the Bundesbank. It is therefore conditional on money which credit institutions cannot create themselves. Hence the influence of the Bundesbank extends indirectly to the growth of the sight, time and savings deposits of domestic non-banks, which are liabilities of credit institutions and are included in the broadly defined money stock. This also enables it to meet the monetary targets it announces in advance.

Through its management of liquidity in the money market, the Bundesbank exerts an indirect impact on conditions in the credit and capital markets. Over the somewhat longer term, it influences the banks’ willingness to lend and the demand for money and credit in the economy in the desired direction through these transmission channels. The result is that monetary expansion takes place at a pace which is compatible with the achievement of the monetary target. It is in the nature of this indirect control mechanism that the necessary adjustments to the financing conditions in the markets and corrections to the growth of the money stock not only take time but, in the shorter term, can never be made with absolute precision. The Bundesbank therefore, so to speak, “feels its way” towards the envisaged objectives by flexibly deploying its instruments of monetary policy. This transmission mechanism, in which the influence of the central bank is felt only indirectly, owes something to the special features of the minimum reserve and refinancing system in Germany (see page 119 ff.), as well as to the typical business practices of domestic credit institutions.

Not only for this reason, however, it would be wrong to assume that the Bundesbank can use its monopoly of the creation of central bank money directly to keep the growth of the money stock in the very short term – say, from week to week or from month to month – exactly on the path marked out by the monetary target. The Bundesbank cannot directly curb the expansion of the money stock at will by failing to meet any excess demand for central bank balances on the part of banks; nor is it able (by creating excess balances for credit institutions) to offset unduly weak demand for central bank money so smoothly that the increase in the money stock will at no time lag behind the target set. On the contrary, it is inherent in the nature of the complex process of money creation (in which the central bank, credit institutions and non-banks are all involved) that the Bundesbank can work only indirectly towards ensuring that the money stock develops along the envisaged lines, by the appropriate setting of interest rates and the other terms on which it regularly makes central bank balances available. This is one of the reasons why the Bundesbank sets only annual targets for monetary growth.

An individual bank will not assess its liquidity position simply according to how high its current balances with the central bank are, but will also take account of its interbank lendings and its unutilised borrowing lines at the central bank and in the interbank market. Excess central bank balances or unutilised refinancing facilities are therefore not the essential point of departure for money creation as long as a functioning interbank money market exists. But once the banks have decided to expand their earning assets, or if bank customers take advantage of the loan commitments which credit institutions have made and are obliged to fulfil, the money creation process is set in motion without any action on the part of the central bank. Then – after the decisions by non-banks and banks which lead to the expansion of the volume of money and credit have been taken – there will inevitably be an additional demand for central bank money for the banking system as a whole, since currency in circulation and minimum reserve requirements will rise. In the short run, this demand is virtually inelastic. Firstly, the banks normally operate their ongoing minimum reserve position without maintaining significant excess balances. Secondly, within one calendar month they will scarcely be able to exercise any major influence on their minimum reserve requirements – which are known by the middle of the month – by restructuring their deposit and lending business with their non-bank customers. Hence the Bundesbank has no choice but to meet credit institutions’ demand for central bank balances in the very short run. At times, indeed, it may have to provide more central bank balances than are strictly compatible with the target path for monetary growth.

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<tr>
<td>Total 1</td>
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<tr>
<td>2. Lasting provision (+) or absorption (−) by</td>
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<td>Change in minimum reserve ratios</td>
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<td>Recourse to unused refinancing facilities</td>
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<td>Open market operations in the debt securities market and in liquidity paper</td>
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<tr>
<td>Profit transfer to the Federal Government</td>
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<td>Total 2</td>
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<tr>
<td>3. Change in the banks’ short-term liquidity gap</td>
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<td>4. Meeting of remaining deficit (+) or absorption of surplus (−) by</td>
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<td>Securities repurchase transactions</td>
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<td>Very short-term assistance measures of the Bundesbank</td>
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<tr>
<td>Changes in Lombard loans (increase: +)</td>
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<td>Memo items</td>
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<td>Unused refinancing facilities</td>
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<td>Securities repurchase transactions</td>
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<td>Very short-term assistance measures</td>
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<td>Lombard loans</td>
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1 Changes in required minimum reserves due to changes in the reserve ratios are shown in item 2. — 2 Pursuant to section 17 of the Bundesbank Act, as amended up to July 15, 1994. — 3 Including changes in the minimum reserves due to the growth of the reserve-carrying foreign liabilities. — 4 Quick tenders, foreign exchange swap and repurchase transactions, sales of short-term Treasury bills and shifts of Federal balances (pursuant to section 17 of the Bundesbank Act, as amended up to July 15, 1994). — 5 Levels in the last month of each period.

Deutsche Bundesbank
These particular features of the process of monetary expansion force the central bank to seek to control money creation and implement the announced annual target for the growth of the money stock by an indirect procedure. To this end, and as a first step, its forecast of the banks' liquidity needs and of its planned provision of funds is based on an estimate of credit institutions’ central bank money requirements at the beginning of each calendar month, i.e. at the beginning of the period in which minimum reserve requirements have to be met. This estimate is based on normative figures derived from a pace of monetary expansion compatible with the current monetary target. For the individual determinants of central bank money requirements (currency in circulation, sight, time and savings deposits), individual changes that are compatible with the target are taken into account. The estimate of central bank money requirements is progressively updated – thus losing its originally purely normative nature – as information on the actual trend is received in the course of the month. Buttressed by its key position in the supply of central bank money, the Bundesbank uses the instruments at its disposal to structure interest rates and supply and demand conditions in the money market in line with its monetary objectives (see Chart 11 on page 89).¹

Firstly, it changes its own interest rates for refinancing transactions and open market operations. Secondly, it chooses what appears to be the best channels through which to provide or withdraw central bank balances, and also decides on the timing of its interventions in the money market and the period for which it will make liquidity available to the money market.

The table on the “Central bank money requirements of banks and liquidity policy measures of the Bundesbank” shows the analytical basis for this control process in the money market.² This table is published regularly in detailed form in the Statistical Section of the Monthly Report of the Bundesbank; in January 1995 its layout was brought into line with the instrumental/operative approach to ongoing money market management adopted in the mid-eighties (see Table 7 on page 91). It takes due account of the actual procedure used by the Bundesbank for computing and meeting liquidity needs and brings out the Bundesbank’s active role in liquidity management. The first block, giving the determinants of liquidity requirements – growth-induced central bank money requirements and ongoing transactions – is compared, in the second block, with the principal measures and transactions of the Bundesbank which tend to have longer-term liquidity effects.

The balance of both blocks yields the change in the banks’ short-term liquidity gap. It is systematically separated from its counterparts of the provision of liquidity – securities repurchase agreements, very short-term assistance measures and Lombard loans. In this way, the extent and structure of the change in the short-term liquidity gap and the adjustment of the provision of short-term funds by the Bundesbank are immediately apparent from the liquidity account.

In accordance with the various phases of the transmission mechanism for monetary policy, the Bundesbank’s short-term control procedure can be summarised roughly as follows:

(a) At the instrument level, the Bundesbank decides on suitable individual measures designed to create the desired conditions in the money market.

(b) At the money market level, the Bundesbank defines suitable short-term operational aims for bank liquidity and money market rates, which will make attainment of the annual target for the money stock and the key economic target variables appear possible in the longer run.

(c) At the intermediate target level, which is represented by the annual monetary target, the Bundesbank examines more or less continuously throughout the year whether, when and, if necessary, to what extent deviations in monetary expansion from the target path should be corrected through the adjustment of conditions in the money market and the other financial markets.

¹ See also Deutsche Bundesbank, Money market management by the Deutsche Bundesbank, Monthly Report, May 1994, pages 59–74.
The instruments of monetary policy
I. Overview

The Bundesbank Act provides the Deutsche Bundesbank with a wide range of interest rate and liquidity policy instruments to enable it to discharge its duties. The central bank is thus able to influence interest rates and the availability of funds in the money market in a variety of ways in the pursuit of its monetary objectives. At the same time, the relevant legislation provides wide scope for the actual design and further evolution of the instruments. This enabled, for example, the rediscount and Lombard policies and minimum reserve policy to be developed further and new instruments, such as securities repurchase transactions and foreign exchange swaps, to be designed so as to adjust the range of instruments to new requirements. The Bundesbank’s policy is mainly intended to influence the banks’ lending policy and the demand for money and credit in the economy indirectly through changes in bank liquidity and interest rates in the money market (see page 61 ff. and page 88 ff.). The Bundesbank does not, however, have the option of imposing direct limits on borrowing by non-banks (by setting credit ceilings) or of fixing interest rates in the credit markets administratively (interest rate control).

In addition to largely refraining from direct non-market intervention, the Bundesbank, in shaping its instruments, has taken due account of market principles and in particular of the criterion of avoiding competitive distortions. It has eliminated differentiating and discriminating regulations and reduced the minimum reserve instrument largely to its regulatory function of a liquidity buffer in the money market and stabiliser of the demand for central bank money.

The range of monetary policy instruments available to the Bundesbank can be classified in accordance with various criteria. The Bundesbank’s interest rate policy instruments include, firstly, the setting of the discount and Lombard rates, for which the term “officially controlled rates” is customarily used by the general public. In addition, the interest rates applied to securities repurchase agreements have increasingly assumed the role of a third “key rate” in recent years, not least because changes in these rates often prompt market participants to speculate about the Bundesbank’s interest rate policy intentions. One of the “classical” liquidity policy instruments is, in particular, changes in the banks’ minimum reserve requirements. Moreover, access to rediscount credit and Lombard loans can be limited both quantitatively and qualitatively. However, the securities repurchase transactions already mentioned now play a predominant role in active liquidity management, with the decision on the amounts to be allotted representing the true liquidity policy component of this instrument. Finally, in discharging its duties the Bundesbank has occasionally also relied on the “intangible” instrument of “moral suasion”, in order, say, to discourage undesirable inflows of funds from abroad or to influence developments in the financial markets.

Depending on the period of time for which a central bank measure is intended to be effective, the Bundesbank’s instruments can be divided into “longer-run adjustment” and “fine-tuning” measures, although the borderline is not always very clear-cut. In particular, securities repurchase transactions are on the borderline in terms of this classification. Interest rate policy longer-run adjustment provides longer-term guidelines for interest rates in the money and credit markets. This applies particularly to changes in the discount and Lombard rates. The liquidity policy instruments of longer-run adjustment are designed to meet the banks’ need for central bank money on a lasting or longer-term basis, or to limit their liquidity scope. The measures involved are changes in the minimum reserve ratios and in the banks’ refinancing facilities – especially the rediscount facility – and outright purchases or sales of longer-term debt securities by the Bundesbank in the open market. The liquidity policy instruments of longer-run adjustment had diminished in importance as long ago as at the end of the Bretton Woods system, and, upon the move to more flexible fine-tuning measures in the mid-eighties, were progressively relegated into the background. The minimum reserve instrument has largely lost its original (active) liquidity policy management function; it is now of a primarily regulatory nature, supporting the use of the other instruments of monetary policy by stabilising the demand for central bank money. The rediscounting of bills substantially performs the function of a basic refinancing facility and plays only a minor part in ongoing liquidity management.

Fine-tuning measures are mainly used to neutralise temporary fluctuations in bank liquidity and to steer money market rates as “unobtrusively” as possible in the desired direction. Fine-tuning includes open market operations in the widest sense by the Bundesbank in the money market, with maturities of between one day and one to two months. The instruments available for making money market management more flexible have steadily been refined further since the end of the seventies. At present the Bundesbank primarily uses securities repurchase agreements for managing the money market; over time they have become the most important element in the banks’ overall refinancing and thus also the principal source of lasting funds. In addition, it also employs, if necessary, the instrument of securities repurchase agreements in the form of what are known as “quick tenders”, sales of short-term Treasury bills, and foreign exchange swap and repurchase transactions. These operations are highly flexible; moreover, they have the advantage that they can be used almost entirely at the discretion of the
Bundesbank, while credit institutions generally draw on unutilised rediscount and lombard facilities on their own initiative.

The description of the individual instruments of monetary policy begins with the traditional interest and liquidity policy instruments for credit institutions’ refinancing at the Bundesbank (discount and lombard policies). That section will be followed by a discussion of open market policy, which has progressively increased in importance in recent years, and a section on minimum reserve policy. In conclusion, some other instruments, notably liquidity policy through the exchange market, will be discussed in more detail.

II. Refinancing policy

Refinancing generally means lending by the Bundesbank to credit institutions through the purchase of bills of exchange (rediscount credit) and the granting of loans against the collateral of securities (lombard loans). In the wider sense, refinancing also includes the ongoing provision of funds by the Bundesbank through securities repurchase transactions entered into with credit institutions on a revolving basis (see page 110 ff.).

Bundesbank Act, section 15, discount, lending and open market policies:

In order to influence the amount of money in circulation and of credit granted, the Deutsche Bundesbank sets the interest and discount rates to be used in its transactions and defines the principles governing its lending and open market operations.

According to section 15 of the Bundesbank Act, the purpose of refinancing is to influence the amount of money in circulation and of credit granted. Interest rates are the main action parameters of refinancing policy. But the Bundesbank also has the option of a qualitative and quantitative restriction of refinancing. Individual banks have no general right to refinancing facilities at the Bundesbank under the Act. On the other hand, every credit institution which is subject to minimum reserve requirements is offered refinancing facilities.

1. Rediscount policy

Section 19 of the Bundesbank Act gives the Bundesbank the right to buy and sell bills of exchange from and to credit institutions at the discount rate, which it sets itself, provided that the bills satisfy the conditions specified in the Act.

Bundesbank Act, section 19, transactions with credit institutions:

(1) The Deutsche Bundesbank is entitled to conduct the following transactions with credit institutions in the area in which this Act is law:

1. buy and sell bills of exchange and cheques backed by three parties known to be solvent; the need for the third signature may be dispensed with if the security of the bill or cheque is ensured in some other way; the bills must fall due within three months of the date of purchase; they should be fine trade bills;

2. buy and sell Treasury bills issued by the Federal Government, one of the Federal special funds specified in section 20 (1) 1 below or a Land Government, and falling due within three months of the date of purchase;

(...)

(2) The discount and lombard rates are to be used for the transactions specified under numbers 1 to 3 of subsection (1) above.

The Bundesbank Act does not lay down any maximum or minimum levels for the discount rate; the Bundesbank can therefore set the rate in accordance with current monetary policy requirements. Of the various refinancing rates applied by the Bundesbank, the discount rate is traditionally the lowest; as a consequence, the total amount of rediscount credit must be limited.

The Bundesbank Act confines itself to defining the minimum requirements for eligible bills. They must be backed by three parties known to be solvent; they must fall due within three months of purchase, and they should be fine trade bills. In its Monetary policy regulations ¹ the Bundesbank has spelled out the eligibility criteria for bills in greater detail. According to those regulations, only parties whose

¹ Deutsche Bundesbank, Monetary policy regulations, Banking Regulations 3, April 1995.
financial position can be adequately assessed, e.g. on the basis of annual accounts, can be regarded as being "known to be solvent". The trade bills purchased by the Bundesbank are those drawn between enterprises and/or the self-employed on the basis of deliveries of goods or services. This "general regulation", which was introduced in 1977, superseded a number of specific regulations on the purchase of particular bills, e.g. installment sales bills. In the case of bank acceptances, which as a rule bear only two signatures, the need for the third signature may be dispensed with under the Bundesbank Act only if the security of the bill is ensured in some other way. Foreign bills are purchased only if they have been drawn on the strength of foreign trade transactions by domestic enterprises. Such bills must be backed not only by the party presenting the bill for discount, but by at least one other domestic (non-bank) party; specifically, in the case of drafts, as drawer, in the case of promissory notes, as payee.

Of major importance for liquidity policy is, in particular, the possibility of limiting the total amount of rediscount credit available to banks by laying down overall rediscount quotas. All bills rediscounted at the Bundesbank and not yet due are counted towards these rediscount quotas. For a long time, a number of special refinancing facilities or additional quotas existed besides the regular discount quotas; they were designed to serve specific financing purposes. These measures, which tended to have a selective effect, served in particular to promote exports, medium and small-sized firms and intra-German trade (i.e. between the Federal Republic of Germany and the former GDR). The refinancing instruments used included prime bankers' acceptances (see page 50) and "storage agency bills". Nowadays there is a special facility only for promissory notes issued under Limit B of the Export Credit Company (AKA Ausfuhrkredit-Gesellschaft mbH) to finance export business. On June 1, 1995, this limit was lowered from DM 2.25 billion to DM 1.25 billion, and it will be cancelled altogether at the end of May 1996.

The total amount of rediscount quotas granted to banks is fixed by the Central Bank Council. For the distribution of this total among the individual credit institutions, the Bundesbank introduced a uniform method of calculation in 1974\(^1\) to enable a "standard quota" to be computed for each credit institution on the basis of objective criteria. This computation is based on the institution's liable capital. The acquisition of a major participating interest in another credit institution which already has a rediscount quota generally results in a corresponding cut in the quota. In addition, the specific business structure of the institution is taken into account through a structural component based on the share of short and medium-term lending to non-banks in the total volume of business. Moreover, the extent to which a credit institution holds bills which can be rediscounted under the quota is also taken into consideration. Finally, the procedure includes a multiplier which is uniform for all credit institutions, and depends on the total amount of rediscount quotas set by the Central Bank Council. After the standard quotas have been computed in this way, the rediscount quota for each credit institution is fixed individually. Here due regard is paid, among other things, to whether the credit institution is complying with the Principles of the Federal Banking Supervisory Office concerning Capital and Liquidity, and whether its conduct of business is beyond reproach in other respects as well. The quotas, once fixed, generally apply for one year.

2. Lombard policy

Under section 19 (1) 3 of the Bundesbank Act, the Bundesbank may grant credit institutions loans at interest against the collateral of certain securities and Debt Register claims. Such loans are known as lombard loans.

Bundesbank Act, section 19, transactions with credit institutions

(1) The Deutsche Bundesbank is entitled to conduct the following transactions with credit institutions in the area in which this Act is law:

(…)

3. Grant loans at interest (lombard loans) for a period not exceeding three months against the collateral of
(a) bills of exchange satisfying the requirements of number 1 above,
(b) Treasury bills satisfying the requirements of number 2 above,
(c) debt securities and Debt Register claims in the form of Treasury discount paper issued by the Federal Government, a Federal special fund or a Land Government,
(d) other debt securities and Debt Register claims issued or payable by the Federal Government, a Federal special fund or a Land Government,
(e) other debt securities and Debt Register claims specified by the Bank,
(f) equalisation claims as defined in section 1 of the Act on the Redemption of Equalisation Claims (Gesetz über die Tilgung von Ausgleichsfordernungen) and entered in the Debt Register. (…)

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\(^1\) See Deutsche Bundesbank, Principles for the measurement of rediscount quotas, Monthly Report, April 1975, pages 20–26.
Like rediscount credit, such loans may not be granted for longer than three months. In principle, Lombard loans should be extended only to bridge temporary liquidity needs and only if the size and maturity of the Lombard borrowing seems appropriate and warranted (Central Bank Council decision of December 17-18, 1952). The granting of Lombard loans at the Lombard rate can be generally restricted or suspended on monetary policy grounds. Thus the Bundesbank reserves the right, if appropriate for monetary policy reasons, to grant Lombard loans, after a corresponding announcement, in the form of special Lombard loans at a special Lombard rate only. The special Lombard rate may be changed daily and the offer to grant special Lombard loans may be revoked at one day’s notice (Central Bank Council decision of September 6, 1973). The securities eligible as collateral are specified in section 19 (1) 3 of the Bundesbank Act and set forth in the “List of Securities Eligible as Collateral at the Deutsche Bundesbank (Lombard List)”.

The loan-to-value ratios, which differed according to the type of collateral (for bills of exchange the ratio was up to nine-tenths of their nominal value, for all other paper up to three-quarters of their market or nominal value), were abolished in mid-1994. Such security reductions are no longer justified, as the current value of the collateral can be computed at any time with the aid of electronic data processing.

Lombard loans are intended to be credit in current account. There is no statutory limit on the rate for Lombard loans. The Lombard rate has so far always been fixed above the discount rate, reflecting the fact that Lombard loans are supposed to be for emergency funding. For a long time the gap between the Lombard rate and the discount rate was never more than 1 percentage point, but occasionally, at times of relatively restrictive monetary policy, it has been as wide as 3 percentage points. The difference between the special Lombard rate and the discount rate has sometimes been even greater (around the turn of 1973-4 and between the spring and autumn of 1981).

3. The effects of rediscount and Lombard policy

Setting the discount and Lombard rates is, over the longer term, the cornerstone of interest rate policy. In a banking system which is permanently indebted to the central bank for rediscount credit, the discount rate represents a kind of floor for the rates for one-month and three-month funds (see page 47). The rate for day-to-day money, on the other hand, may temporarily fall below the discount rate in periods of a glut of liquidity, since banks can reduce the rediscount credit they have taken up only as the bills fall due. Being traditionally the lowest lending rate of the Bundesbank, the discount rate contains a kind of subsidy element, the extent of which is determined by the gap between that rate and the other central bank and market rates.

Experience has shown that changes in rediscount quotas do not immediately affect liquidity in full. Whenever rediscount quotas are raised, initially only the unused scope for rediscounting increases. The rate at which it is utilised depends firstly on whether the banks wish to repay other more expensive types of central bank borrowing and secondly on the extent to which they are able to procure additional bills. A cut in quotas will take effect only as bills already rediscounted fall due.

Changes in the quotas, taken as an isolated factor, have an impact on the banks’ average cost of borrowing from the Bundesbank, it is true, but where the resetting of the rediscount quotas only serves to offset lasting changes in credit institutions’ demand for funds, this must not as a rule be construed as a reflection of a change in the monetary policy stance. Liquidity policy measures of this kind, which are predominantly of a compensatory nature, are “technical” adjustments of bank liquidity and as such a preliminary to discretionary monetary policy; they should not be thought to exert a signal effect.

The Lombard rate is generally of greater significance for the interest rate trend in the money market. As part of the Bundesbank’s flexible money market management, it forms a kind of upper limit to the day-to-day money market rate, since normally, when liquidity positions are well-balanced, no bank will pay higher rates in the money market than it has to pay for very short-term recourse to Lombard credit. But when bank liquidity is in short supply and considerable Lombard borrowing has already occurred, the rates for day-to-day money might, by way of an exception, climb above the Lombard rate.

Bank lending and deposit rates, which were directly linked to the discount and Lombard rates until interest rate deregulation in April 1967, are now determined by market or competitive conditions; generally, however, they still largely follow the movements of the discount and Lombard rates even today (see also page 64). This is less evident in the case of bank deposit rates, largely because the rate for the shortest-term savings deposits (those at three months’ notice) is not very flexible. This rate, which is often referred to as the “basic savings rate”, is relatively seldom changed by the banks, and is traditionally kept rather low. On the other hand, over the past few years savers have progressively turned away from this
traditional type of deposit and given increasing preference to more flexible forms of saving, yielding interest at more market-related rates. Time deposit rates at the shorter end of the market, notably those for wholesale deposits, largely follow the movements of the relevant money market rates (see Chart 9 on page 63).

4. The lessons of rediscounf and lombard policy

The Bundesbank has always regarded the purchase of trade bills as a means of providing central bank balances on a longer-term basis. Refinancing through bills takes due account of the fact that the assets purchased or accepted as collateral by the Bundesbank should be “self-liquidating” as far as possible. After all, the ability to cut business back quickly is essential for a central bank.

In the past, rediscounf quotas were often raised or lowered across-the-board, in accordance with the requirements of monetary policy. Moreover, in order to ward off imports of funds, they were at times reduced by the amount of any increase in certain liabilities to non-residents. At other times (in 1973-4), banks were not allowed to utilise their quotas in full, but only up to a particular percentage.

However, despite the important role which Parliament has assigned to rediscounf policy, it was for quite some while of very limited quantitative significance, at least in terms of liquidity policy. For at times purchases of dollars arising from intervention had become the chief source of the creation of central bank money, and the utilisation of the rediscounf facilities granted to individual credit institutions was comparatively low.

Moreover, for a long while changes in rediscounf quotas (and other refinancing facilities) were not aimed primarily at changing the banks’ refinancing at the Bundesbank through bills. The focus was rather on influencing what is known as the banks’ “free liquid reserves” (unused refinancing facilities and liquid bank assets which could be sold to the central bank at any time, and which provided autonomous access to central bank money). The crucial factor here was conceptual considerations, whereby the banks respond to fluctuations in their free liquid reserves or their liquidity ratio (free liquid reserves as a percentage of deposits) by making synchronous changes in their asset management, especially securities purchases and credit expansion. This response pattern disappeared completely in the early seventies. The main reason for that was the strong expansion and increasing viability of national and international money markets and the intensification of competition among banks after the lifting of administrativive interest rate controls. The pressure to abandon the strategy pursued up to then had therefore increased continuously, especially as the theoretical shortcomings of that approach could no longer be ignored.

Potential central bank money in the form of free liquid reserves leaves the banks with autonomous monetary expansion leeway. This may considerably increase the time-lag with which restrictive monetary policy measures take effect. The Bundesbank therefore reduced the unutilised part of the rediscounf quotas at the beginning of the seventies.

During the ensuing period of relaxation it allowed a sizeable amount of free liquid reserves to accumulate once again, as this appeared to be conducive to a stabilisation of interest rate reductions. Throughout the period since 1978, however, the quotas have been virtually fully utilised. When there were heavy outflows of foreign exchange upon the swing in the balance of payments at the end of the seventies and early in the eighties, the rediscounf quotas were raised markedly once more in several steps, but, upon the switch to an initial rudimentary fine-tuning policy, the emphasis shifted away from rediscounf policy. Refinancing through bills progressively decreased in importance relative to new open market policy instruments; its share in total central bank lending amounted to little more than one-quarter in 1994, compared with around three-quarters in 1980 (see Table 8 on page 107). Hence, for some time, it has only been performing the function of basic refinancing playing virtually no part in ongoing money market management.

The significance of rediscounf credit increased briefly again in quantitative terms in connection with German monetary union, which came into force on July 1, 1990, when the Bundesbank had to resort to unconventional methods in the matter of supplying funds to the east German banking system. On the one hand, sizeable refinancing facilities had to be granted immediately – not least so as to provide an initial stock of currency – while, on the other, the customary instruments used for the purpose in western Germany (such as, in particular, trade bills and securities) were not available. The Bundesbank therefore initially gave east German credit institutions access to the traditional rediscounf window – notwithstanding the arrangements described above – by discounting their own bank promissory notes bearing no other signature. Moreover, the limits to the refinancing facilities set for the individual banks in the form of refinancing quotas were initially based solely on the individual institutions’ balance sheet totals. Finally, the overall amount of refinancing quotas was set by the Bundesbank at a fairly high level to begin with, as compared with western Germany. The promissory notes were bought at the discount rate by the Bundesbank under such refinancing quotas.
From the very outset, however, it was intended to bring east German credit institutions' refinancing facilities gradually into line with the arrangements applying to west German banks. Initial steps in this adjustment process were taken as early as February 1991, when east German credit institutions were granted access to securities repurchase agreements. There have been no refinancing quotas since November 1992, and east German banks have been granted regular rediscount quotas instead.

In principle, the Bundesbank extends lombard loans only to bridge the temporary liquidity needs of a credit institution, and provided that a loan’s size or maturity afford no apparent reason for withholding it. However, the actual handling of the lombard facility has undergone several changes, in keeping with the changing monetary policy requirements. For example, in periods of restrictive monetary policy the Bundesbank made sure it did not lose control over central bank money creation through having an open lombard window. In the past, quantitative restrictions were typically imposed for that purpose, such as the “lombard warning mark” placing a limit of 20% on individual banks’ rediscount quotas (1970 to 1973), the “lombard quota allocation” of 15% of the rediscount quota (1979-80) and/or restrictions regarding the frequency and duration of recourse to the facility. At times, the lombard loan facility was suspended or replaced by the special lombard loans referred to above (1973-74 and 1981-82), when the Bundesbank expressly reserved the right to suspend the facility at any time or to change the lombard rate at three days’ notice.

Since May 1982 the lombard loan facility has been subject to no quantitative restrictions whatsoever, but the high level of lombard borrowing, which is inconsistent with its actual purpose, initially continued. The banks finally came to see the lombard facility as a safe, virtually permanent source of funds. As this at the same time led to the day-to-day money market rate sticking to the level of the lombard rate, this implied a narrowing of the scope for monetary policy action. From the mid-eighties onwards, the Bundesbank therefore increasingly used open market policy instruments, which basically restored the lombard loan facility to its traditional function of an emergency facility and the lombard rate to its role of being a ceiling for the day-to-day money market rate. The present system of money market management does not prevent the role of the lombard loan facility, which generally is intended for frictional borrowing, from being strengthened temporarily for monetary policy reasons in order selectively to tighten liquidity in the money market. It may also sometimes happen that the banks take up exceptionally large amounts of lombard loans for speculative reasons, thereby impeding liquidity management by the Bundesbank. Breaking free from this

<table>
<thead>
<tr>
<th>Year</th>
<th>Rediscout credit</th>
<th>Securities repurchase transactions</th>
<th>Lombard or special Lombard loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>83.5</td>
<td>6.0</td>
<td>10.5</td>
</tr>
<tr>
<td>1981</td>
<td>86.6</td>
<td>6.9</td>
<td>6.5</td>
</tr>
<tr>
<td>1982</td>
<td>79.9</td>
<td>14.8</td>
<td>5.3</td>
</tr>
<tr>
<td>1983</td>
<td>83.9</td>
<td>8.0</td>
<td>8.1</td>
</tr>
<tr>
<td>1984</td>
<td>76.5</td>
<td>15.9</td>
<td>7.6</td>
</tr>
<tr>
<td>1985</td>
<td>64.0</td>
<td>34.7</td>
<td>1.3</td>
</tr>
<tr>
<td>1986</td>
<td>66.2</td>
<td>33.2</td>
<td>0.6</td>
</tr>
<tr>
<td>1987</td>
<td>66.7</td>
<td>33.0</td>
<td>0.3</td>
</tr>
<tr>
<td>1988</td>
<td>51.6</td>
<td>47.7</td>
<td>0.7</td>
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<td>39.0</td>
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<tr>
<td>1991</td>
<td>37.9</td>
<td>61.1</td>
<td>1.0</td>
</tr>
<tr>
<td>1992</td>
<td>34.0</td>
<td>65.4</td>
<td>0.6</td>
</tr>
<tr>
<td>1993</td>
<td>27.7</td>
<td>71.8</td>
<td>0.5</td>
</tr>
<tr>
<td>1994</td>
<td>29.5</td>
<td>69.7</td>
<td>0.8</td>
</tr>
</tbody>
</table>

* Excluding very short-term assistance measures by the Bundesbank. — 1 Borrowing under rediscount and refinancing quotas and special facilities, such as those for promissory notes issued by the AKA-Ausfuhrkredit-Gesellschaft mbH and prime bankers’ acceptances.

Deutsche Bundesbank

“Lombard trap” typically sooner or later calls for the raising of the lombard rate, so that the lombard facility resumes its general function of being an emergency funding facility for the banks.

Much as in the case of rediscount credit, transitional arrangements were made for lombard borrowing by east German credit institutions after German monetary union. As part of these arrangements, the Bundesbank was prepared to grant lombard loans backed by a pledge of bank promissory notes (bearing no other signature) if the collateral specified in the Lombard List was not available or if the stocks of such paper were insufficient. Since the beginning of 1993, bank promissory notes have no longer been eligible as collateral for lombard loans, as east German credit institutions now have at their disposal major quantities of securities duly eligible as collateral.
III. Open market policy

1. The institutional framework

Open market policy is the term used for purchases and sales of securities by the central bank for its own account in the open market. The Bundesbank's open market policy is based on section 21 of the Bundesbank Act.

Bundesbank Act, section 21, open market operations:

In order to regulate the money market, the Deutsche Bundesbank is entitled to buy and sell in the open market at market prices

1. bills of exchange satisfying the requirements of section 19 (1) 1 above;
2. Treasury bills issued by the Federal Government, a Federal special fund or a Land Government;
3. debt securities and Debt Register claims payable by the Federal Government, one of its special funds or a Land Government;
4. other debt securities specified by the Bank.

Under the Act the Bundesbank is allowed, in order to regulate the money market, to buy and sell in the open market at market prices a wide variety of securities, some of which belong to the money market and some to the capital market. However, it must be pointed out that open market operations in long-term securities, too, are permitted only for the purpose of regulating the money market, i.e. bank liquidity. This precludes intervention by the central bank in the capital market for its own account with the aim of financing the public sector borrowing requirement or supporting prices. The provision that the Bundesbank may only buy or sell "in the open market" is designed mainly to prevent the central bank from purchasing debt instruments straight from the issuers. Direct acquisition in this way is not an open market transaction but lending, e.g. to a public authority. The latter had been strictly limited from the very outset by the Bundesbank Act (see page 35 ff.), and is now, with the inception of the second stage of EMU on January 1, 1994, generally prohibited by virtue of (overriding) EC law. Ongoing price management operations, which the Bundesbank conducts for debt securities issued by the Federal Government and its special funds for the account of the issuer as part of its function of being the "fiscal agent", are not open market policy operations either.

Buying and selling "at market prices" means that the central bank may not choose arbitrary prices, out of line with market prices, for its transactions. In practice, of course, it is not always easy to define the market price. Participation in the market by the central bank affects the market situation, and the interest rate expectations of market players change, so that the Bundesbank may sometimes unavoidably be forced into the position of an "interest rate leader".

2. Open market operations in money market paper

The Bundesbank first engaged in open market operations in the money market in 1955 (for a detailed discussion of trading in money market paper see page 47 ff.). Until the beginning of the seventies, efforts were concentrated mainly on offering credit institutions facilities for investing their surplus liquidity (which largely stemmed from the sometimes very heavy inflows of funds from abroad) in interest-bearing assets. These open market operations were all with credit institutions, and were in mobilisation paper that was included in the Bundesbank's money market regulating arrangements. During the sixties such open market operations tended to recede into the background again. After the transition to full convertibility from the beginning of 1959, credit institutions (under the system of fixed exchange rates) were able to invest their liquid secondary reserves not only in domestic but increasingly also in short-term external assets. At the same time the Bundesbank was eager to encourage banks to hold monetary reserves.

As from July 1970, when there were heavy speculative inflows of foreign exchange, major quantities of mobilisation paper were sold to banks again. When the scope for such sales (totalling DM 8 billion) was exhausted at the beginning of 1971, liquidity paper was issued for the first time. In mid-1971 the Bundesbank also began to include non-banks in its open market operations in money market paper, temporarily offering Bundesbank discount paper (standardised Treasury discount paper (U-Schätze) which could not be returned before maturity), to private investors as well. The Bundesbank has sold banks no further mobilisation or liquidity paper included in its money market regulating arrangements since the spring of 1975. But there was another very strong rise in mobilisation and liquidity paper outstanding in 1978 (to DM 14.7 billion in mid-November 1978) as the Bundesbank mopped up some of the massive inflows of liquidity from abroad at
that time by selling non-returnable money market paper. When the external influences subsequently reversed, the Bundesbank prematurely repurchased the paper remaining in credit institutions’ portfolios up to the spring of 1980 to counterbalance the outflows of foreign exchange. Since then no mobilisation and liquidity paper has durably been included in banks’ portfolios. As and when appropriate, the Bundesbank sells such paper at short term only, i.e. for three days as a rule, to absorb temporary excess liquidity in the money market. Small amounts are also sold to non-residents.

Between March 1993 and the autumn of 1994 the Bundesbank offered liquidity paper on the open market on a major scale as part of the extension of its scope for open market operations to DM 50 billion. By such Bundesbank liquidity paper (Bundesbank-Liquiditäts-U-Schätze ("Bulis")), which was issued by means of revolving auctions, the Bundesbank sought to influence domestic non-banks’ money-holding directly. As this attempt failed – Bulis were primarily bought by non-residents – and as the Bundesbank did not wish to provide the money market funds authorised in August 1994 with investment facilities, the Bull auctions were discontinued.

3. Open market transactions under repurchase agreements

Since the seventies the Bundesbank has been making increasing use of new methods of open market policy. It has developed what are known as “Open market transactions under repurchase agreements”, initially in domestic bills and since 1979 also in debt securities. Transactions under repurchase agreements in bills and securities are temporary open market operations. They provide banks with central bank balances for only a limited period specified in advance.

In April 1973 the Bundesbank for the first time expressed itself willing, in order to ease special pressures in the money market, to buy domestic bills eligible for rediscounting at the Bundesbank from credit institutions outside the rediscount quotas on condition that the seller repurchased the bills forward (bill-based repurchase transactions). The bills were purchased, discounted at market-related rates, and repurchased from the seller on the expiry of the transactions, applying the same discount rate. In general, the maturity of the bill-based open market transactions under repurchase agreements was ten days, but sometimes also twenty days. Since the spring of 1982, however, bill-based repurchase transactions have no longer been used for managing the money market, as credit institutions – in addition to the paper necessary for utilising the rediscount quotas – have virtually no major stocks of bills in their portfolios.

Since June 1979 the Bundesbank has been conducting securities repurchase transactions, which have now become the principal instrument for the provision of central bank money. The legal basis of these transactions is section 21 of the Bundesbank Act and the terms and conditions for securities repurchase agreements, which are in the nature of General Terms and Conditions. As part of these transactions, the Bundesbank purchases securities that are eligible as collateral for Lombard loans from credit institutions which are subject to minimum reserve requirements, on condition that the sellers simultaneously repurchase the securities forward.1 The securities concerned must be officially listed on a stock exchange for first or second segment trading; Treasury discount paper issued by the Federal Government, its special funds and the Länder Governments is also included.

Securities repurchase agreements are generally offered to credit institutions in the form of tenders whose subject is either the amounts purchased only (“fixed-rate tenders”) or the amounts purchased and – simultaneously – the interest rate (“variable-rate tenders”). In the case of fixed-rate tenders, the Bundesbank sets the repurchase rate itself, while the credit institutions merely state in their bids the amounts – not less than DM 1 million – for which they wish to sell securities to the Bundesbank. Through fixed-rate tenders, the Bundesbank can give the market a clear interest rate signal and, in periods of uncertainty, exercise a stabilising influence on interest rate movements. Of the total amount of bids received, the amount which satisfies the Bundesbank’s liquidity policy requirements is allotted in each case. Individual bids for amounts in excess of DM 1 million are scaled down proportionately, i.e. by using a uniform allotment ratio. In the case of variable-rate tenders, credit institutions must state in their bids not only the amount but also the interest rate at which they are prepared to enter into repurchase agreements. Bids “at best” are not permitted, but a number of bids, graduated according to different bidding rates, may be submitted. In the case of variable-rate tenders, allotments are made, as announced in the invitation to tender, either at a uniform interest rate (“Dutch-style” auction) or at the individual bidding rates tendered by the banks (“US-style” auction). Bids above the uniform allotment rate or above the lowest rate at which allotments are made are allotted in full, while bids submitted at this rate are scaled down, if necessary.

1 See also Deutsche Bundesbank. Recent developments with respect to the Bundesbank’s securities repurchase agreements, Monthly Report, October 1985, pages 18-24.
Until the autumn of 1988 the Bundesbank used only the Dutch-style auction for variable-rate tenders. It regularly set a minimum interest rate as a guideline. Thereafter, it adopted the US-style auction method, whereby no minimum bidding rate is given and allotments are made at the credit institutions' individual bidding rates – starting with the highest rates. The main advantage of this method is that it enables market trends to exercise a greater influence on interest rate formation. Since December 1992, moreover, the banks have been able to submit bids expressed in terms of full 0.01 percentage points (instead of 0.05 percentage points previously). This makes it more difficult for banks to coordinate their bidding and mitigates the "signal effect" of interest rate changes.

Open market operations under repurchase agreements have the advantage over the outright purchase of assets eligible for refinancing with the central bank of being reversible at short notice. Securities repurchase transactions have the advantage over traditional refinancing policy measures of always leaving the initiative in the hands of the Bundesbank; moreover, the terms (maturity, rate structure and total amount) can be varied in accordance with the current liquidity situation. Finally, securities repurchase agreements do not directly affect prices in the debt securities market. They only serve to regulate the money market. It is only from there that, like any other liquidity policy measure, they exercise an influence on the capital market.

In the mid-eighties securities repurchase agreements moved increasingly into the forefront of ongoing liquidity management (see also Chart 11 on page 89). Initially, they were used only occasionally and then for the "interim financing" of accumulating durable needs of central bank money on the part of banks – needs which were later "consolidated" by raising the rediscount quotas, lowering the minimum reserve ratios or distributing the Bundesbank's profit. At the beginning of 1985 the Bundesbank modified its money market management strategy, shifting the emphasis to open market policy, and especially to securities repurchase agreements.

The previous approach, which was primarily geared to lombard and rediscount policies, had two main disadvantages. As the banks had relied on lombard borrowing from the Bundesbank virtually throughout the period between the late seventies and the mid-eighties, they had eventually come to consider this facility to be a permanently available source of central bank money. Any easing or tightening of conditions in the money market was therefore chiefly reflected in differences in the level of lombard borrowing, as mentioned, while the day-to-day money market rate fairly closely followed the movements of the lombard rate. Secondly, especially because of the stronger links between the German money and capital markets and those abroad, there was a growing need to be able to respond quickly and with a graduated series of measures to changing conditions in the financial markets. The traditional instruments, however, failed to enable this to be done, as they generated comparatively broad and sometimes lagged effects. Moreover, short-term minor changes in money market conditions had a better chance of not being regarded immediately as a fundamental change in the thrust of monetary policy, and thus perhaps of not being misinterpreted.

Against this background, flexibility in managing the money market could ultimately be enhanced only by a more active use of short-term, reversible open market operations (such as, in particular, securities repurchase agreements), in which the Bundesbank retains the initiative. In the event, the change in the approach to money market management at the beginning of 1985 could be brought about only by offering securities repurchase agreements at a rate below the lombard rate (and hence the ruling day-to-day money market rate). If repurchase rates are above, or at the level of, the lombard rate, credit institutions prefer to meet at least part of their funding needs via lombard loans, which they can use in a more flexible way. The provision of a large volume of liquidity at an interest rate below current money market rates could, however, easily have been construed as a deliberate relaxation strategy, which would not have been warranted in the circumstances. At the beginning of February 1985 the Bundesbank therefore accompanied the more generous offer of securities repurchase agreements at favourable interest rates by a slight raising of the lombard rate to 6%. At the same time, it offered credit institutions Treasury bills (mobilisation and liquidity paper) with a maturity of, as a rule, three days at a rate of initially 5.5%, to preclude an undesirable drop in the day-to-day money market rate, which was a possibility given the fact that increased use of securities repurchase agreements was coinciding with unforeseen liquidity inflows to the money market.

Since February 1985 the Bundesbank has normally offered credit institutions three transactions under repurchase agreements every month, and since August 1988 four. Since May 1985 it has also frequently offered a transaction of this type with two different maturities; banks have been able to submit bids for the customary maturity of approximately one month and bids for a maturity of roughly two months. Since July 1989 four "short-dated" and two "long-dated" transactions have been offered virtually every month. After the EMS crisis, the long tranches were temporarily suspended in October 1992 and the maturity of the transactions – until further notice – was reduced to fourteen days. Since December 1993 the Bundesbank has concluded one securities repurchase agreement every week.
At the end of November 1988 the Bundesbank supplemented its traditional securities repurchase transactions by adding transactions with distinctly shorter maturities ("quick tenders"). In doing so, its intention was to be able to influence the money market flexibly with this instrument from day to day. These transactions are offered only to banks operating in the money market; they are settled on the same day, whereas conventional repurchase agreements are allotted one day after the tender. Quick tenders may have maturities of two to ten days.

Between spring 1985 and autumn 1986 the volume of revolving securities repurchase agreements ranged between DM 30 billion and DM 40 billion a month. This was equivalent to one-third of the total funding operations of the banking system and demonstrates that securities repurchase agreements have rapidly developed into an instrument for the lasting provision of central bank money. In the light of the later massive foreign exchange inflows, the amount of repurchase agreements decreased sharply for a while (to DM 16 billion in January 1988), but it subsequently soared again in connection with the heavy foreign exchange outflows and as a result of the growth-induced rise in central bank money requirements and German monetary union, and it eventually came to DM 144 billion in August 1992. During the EMS crisis in September 1992 and in the summer of 1993, when the Bundesbank had to buy foreign exchange on an unprecedented scale, the amount of securities repurchase agreements outstanding plummeted, but it picked up again quickly after the reversal in foreign exchange movements. At almost DM 180 billion, such transactions reached an all-time peak at the beginning of 1994, but by 1995 they had fallen again – also in the wake of the minimum reserve reductions in 1994 and 1995 – to just under DM 120 billion. Overall, securities repurchase agreements have ousted rediscount credit from its traditional first place among credit institutions' funding mechanisms at the Bundesbank. Since 1993 they have accounted for about 70% of total central bank borrowing.

4. Open market operations in long-term securities

Unlike securities repurchase operations, the Bundesbank has hitherto engaged in large-scale "outright" open market operations in long-term securities only sporadically, and only in the secondary market, confining its activities to purchases and sales of public debt securities. Open market operations of this kind in debt securities have not yet resulted in the Bundesbank holding major amounts of public debt securities for any length of time. If the central bank had built up a sizeable portfolio of long-term government paper, this might easily have given rise to the suspicion that its primary aim was to facilitate the financing of public sector budget deficits. Moreover, the Bundesbank has always applied very strict standards to intervention of this nature, since any heavier commitments by the central bank in the debt securities market might arouse the false impression that the movement of interest rates in that market was largely the outcome of open market operations, and hence was the Bundesbank's direct responsibility. In actual fact, the long-term interest rate is determined predominantly by market factors such as interest rate movements abroad and inflation expectations, which the Bundesbank can influence only indirectly.

The Bundesbank first conducted open market operations in debt securities in mid-1967. During the recession in the first half of that year it initially increased bank liquidity very considerably by lowering the minimum reserve requirements and taking other measures. Yet more liquidity came from surpluses on external payments. But it soon became apparent that the banks were investing the extra liquidity not in the domestic money market but for the most part in money markets abroad. The decline in domestic interest rates desired for monetary policy reasons therefore failed to materialise in the cases in which exports of funds by the banks led on balance to sales of foreign exchange by the central bank. Hence in August 1967 the Bundesbank decided to ease the money market further by buying in the open market, for its own account, debt securities issued by the Federal Government and its special funds. By the end of that year it had taken debt securities to the value of DM 1.3 billion out of the market. This augmented bank liquidity, while at the same time helping to lower interest rates further. As early as 1968 the Bundesbank was able to begin selling securities to the market again. By the end of 1972 its holdings of domestic securities had dropped back to a very low level.

Open market purchases of debt securities reached their highest level ever in the second half of 1975, when the Bundesbank bought public debt securities totalling some DM 7½ billion. This was intended to provide banks with more liquid funds, and prevent an undesirable rise in interest rates. A year later, by contrast, the Bundesbank sold considerable quantities of public debt securities. On various later occasions, too, the Bundesbank conducted open market transactions in debt securities, albeit on a smaller scale. Since the mid-eighties its securities portfolio has ranged between DM 4 billion and DM 6 billion; since 1993 it has continuously been reduced, and it amounted to less than DM 3 billion in mid-1995.
5. The effects of open market policy

The various open market operations in which the Bundesbank engages cannot be classified uniformly according to their interest rate and liquidity policy effects. The Treasury bills and Treasury discount paper sold by the Bundesbank up to the spring of 1975 and included in the money market regulating arrangements constituted to a certain extent “potential” central bank money for credit institutions. When credit institutions acquired this money market paper from, or resold it to, the Bundesbank, the banks’ reserves underwent a restructuring. In the period when the Bundesbank was obliged to intervene in the foreign exchange market in favour of the US dollar and create central bank balances beyond the current requirements of the money market, the interest-bearing short-term investment of these balances in money market paper constituted an “interim solution” in monetary policy terms. The banks’ desire to engage in new lending or further purchases of debt securities could be curbed better in this way than if they had held non-interest-bearing excess balances instead of potential central bank money. The open market operations in short-term debt instruments included in the money market regulating arrangements were therefore a component of the Bundesbank’s interest rate policy rather than of its liquidity policy. A special factor in this connection was not least the circumstance that time deposit rates were in some cases geared to the Bundesbank’s selling and repurchase rates.

On the other hand, open market transactions by the Bundesbank with non-banks, or generally in non-regulated paper, have an effect on interest rates and liquidity alike. Open market sales of paper which is not eligible for purchase by the Bundesbank withdraw liquidity from the banking system; this indirectly affects the level of interest rates in the money market. Moreover, by selling money market paper to non-banks, the Bundesbank is creating alternative investment opportunities, and these compete with the terms of the investment facilities offered by banks.

Securities repurchase agreements, which have been used intensively since the “flexibilisation” of money market management in February 1985, primarily determine the movement of the day-to-day money market rate within the “interest rate tunnel” mapped out by the Bundesbank. The Lombard rate provides the ceiling and the selling rate (if any) of the above-mentioned Treasury bills furnishes the floor of this tunnel, with the latter rate acting as the “lower limit” for the day-to-day money market rate whenever excess liquidity temporarily arises. Securities repurchase agreements are ideal for this money market management approach, as they mature and are renewed at short intervals and their terms can be adjusted immediately to changed market conditions. Even though securities repurchase agreements – unlike Lombard lending by the Bundesbank – are no substitute for day-to-day money, the repurchase rate has nevertheless ultimately assumed the dominant role – which used to be played by the Lombard rate – in determining interest rates in the day-to-day money market. Moreover, the interest rates quoted and applied to open market operations under repurchase agreements may have additional psychological signal effects, and the central bank can use these to influence interest rate expectations in the markets. Depending on monetary policy intentions, the Bundesbank is therefore using open market operations either to relax or tighten liquidity in the money market quickly, or to move money market rates, especially at the short end, in a specific direction through the signal effects. Via the impact of money market rates on the marginal cost to banks of obtaining funds in the banking sector, changes in repurchase transactions also affect the deposit and lending rates applying to non-banks.

6. The lessons of open market policy

In Germany, open market policy for a long time tended to play a rather minor role. This owed something, firstly, to the longer-run adjustment procedure in the money market applied by the Bundesbank as part of its traditional refinancing policy (discount and Lombard policy) and, secondly, to the fact that in Germany, virtually to this day, there is only a very limited market for private and Government money market paper in which the central bank can conduct a traditional open market policy. Against the backdrop of two inflations financed by the central bank in the first half of this century, the Bundesbank, understandably enough, opted for the greatest possible restraint also with respect to indirect lending to the public sector through the outright purchase of longer-term Government paper.

It was only on the adoption of flexible money market management in 1985 that the scope for open market policy was utilised more intensively, with securities repurchase agreements being the key instrument. The revolving conclusion and large volume of securities repurchase agreements has enabled the Bundesbank since then flexibly to manage the day-to-day money market rate. Lombard borrowing, which in earlier years used to be fairly substantial, declined markedly upon the extended recourse to securities repurchase agreements. On a monthly average, such borrowing is now normally in line with the residual needs resulting from liquidity management operations, and is thus consistent with the purpose of this facility. On the whole, experience of flexible money market management has so far been encouraging. On the one hand, the desired availability of funds in the money
market has been achieved relatively quickly in this way, while, on the other, erratic swings in interest rates have been minimised. That has been the case both at times when the Bundesbank has needed to pursue a “more stringent course” in the money market and in periods in which it has been exploring to the full the domestic and external scope for relaxation. By contrast, the hopes of being able to act more “unobtrusively” with the aid of flexible money market management techniques have been fulfilled only in part. In the case of securities repurchase agreements, the general public sometimes attaches a significance which is not nearly warranted to marginal changes in allotment rates.

The large volume of revolving securities repurchase agreements now achieved has meant that the Bundesbank has become much more flexible in its interest rate and liquidity policies. The repurchase agreements constitute a cushion which makes smooth and rapid adjustment to new liquidity policy conditions possible. As indicated above (see page 114), in the autumn of 1986 the Bundesbank offset massive inflows of foreign exchange by correspondingly reducing the volume of securities repurchase agreements. When, at the beginning of 1987, as a result of further foreign exchange inflows, the volume of such agreements threatened to drop below the level which appeared necessary for the smooth continuation of flexible money market management, the Bundesbank mopped up the greater part of the influx of liquidity by raising the minimum reserve requirements and lowering the rediscount quotas. It proceeded in a similar way at the time of the foreign exchange inflows around the turn of 1987-8. It allowed the basic amount of repurchase agreements to dwindle, temporarily reduced the maturity of such transactions to two weeks and finally, when the volume was threatening to drop below a technically required “floor”, siphoned off part of the liquidity influx by lowering the rediscount quotas. In September 1992 and in the summer of 1993 securities repurchase agreements once more acted as an initial “defence line” against heavy inflows of foreign exchange. But it was not possible at that time to reduce the amount of outstanding transactions sufficiently at short notice, and the Bundesbank therefore had to take additional measures (sales of short-term Treasury bills and foreign exchange repurchase transactions) to absorb the liquidity.

As part of the policy of flexible money market management, the Bundesbank has resorted not only to transactions under repurchase agreements in trade bills and above all securities, but occasionally also to generally very short-term assistance measures, such as foreign exchange swap and repurchase agreements (see page 130 ff.), sales of short-term Treasury bills, shifts of Federal balances to the banking system (pursuant to section 17 of the Bundesbank Act, which section was repealed by the Act of July 8, 1994, see page 133 ff.) and quick tenders. By comparison with the regular securities repurchase agreements, such transactions have been carried out only sporadically. From the purely economic point of view, all these transactions constitute a special kind of money market management through the “open market” in the broader sense.

IV. Minimum reserve policy

Obligatory minimum reserves were introduced in Germany for the first time when the Bank deutscher Länder was established in 1948. The Banking Act of 1934 admittedly contained a provision stating that the banks should keep a certain percentage – which the Act did not specify – of their deposits covered by balances at the central bank. This was a regulation of principle only, designed to ensure the safety of customers’ deposits with banks, but the regulation was never implemented. The minimum reserve system introduced after the Second World War, by contrast, was intended right from the start to provide the central bank with a flexible and effective instrument of liquidity policy.

1. Legal basis and structure of the minimum reserve system

The present minimum reserve regulations are based on section 16 of the Bundesbank Act. Under that provision, the Bundesbank may require credit institutions to hold specific percentages of their liabilities arising from sight deposits, time deposits and savings deposits, and of their liabilities arising from short and medium-term borrowing, other than their liabilities to other credit institutions subject to minimum reserve requirements, as balances on giro accounts with it (minimum reserves).

Bundesbank Act, section 16, minimum reserve policy

(1) In order to influence the amount of money in circulation and of credit granted, the Deutsche Bundesbank may require credit institutions to hold

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1 See also Deutsche Bundesbank, Money market management by the Deutsche Bundesbank, Monthly Report, May 1994, pages 59–74.
certain percentages of their liabilities in respect of sight deposits, time deposits and savings deposits, and of their liabilities in respect of short and medium-term borrowed funds (other than liabilities to other credit institutions subject to minimum reserve requirements) in the form of balances on giro accounts with it (minimum reserves). The percentages set by the Bank may not exceed thirty in the case of sight liabilities, twenty in the case of time liabilities and ten in the case of savings deposits; in the case of liabilities to non-residents (section 4 (1) 4 of the Foreign Trade and Payments Act (Aussenwirtschaftsgesetz)), however, the Bank may set a percentage of up to one hundred. (...) 

The Bundesbank issues regulations amplifying the minimum reserve provisions of the Bundesbank Act in the form of a Minimum Reserves Order (Anweisung über Mindestreserven – AMR), which spells out the details.

In principle, all credit institutions are required to hold minimum reserves. At the start of 1984, credit institutions engaging mainly in long-term business, which had been exempt from reserve requirements since 1965, were also brought into the net, as were building and loan associations. The inclusion of building and loan associations in the minimum reserve requirements seemed especially appropriate since they have increasingly been conducting types of banking business other than collective building and loan business. Deposits under savings and loan contracts, which savers may not withdraw before the targeted amount of savings is allotted, and which currently make up the major part of deposits, still, however, remain exempt from reserve requirements, being tied funds destined for all savers.

Among the liabilities subject to minimum reserve requirements, a distinction is drawn in principle between

- sight liabilities (liabilities with a maturity or period of notice of less than one month),
- time liabilities (liabilities with a maturity or period of notice of one month and more), and
- savings deposits.

The minimum reserve regulations were restructured in May 1986, also insofar as the categories of liabilities were concerned.¹ This entailed subjecting DM-denominated certificates of deposit, along with all shorter-term bearer debt securities issued by credit institutions, to the minimum reserve requirements. Otherwise there would have been a risk of deposits subject to minimum reserve requirements being shifted into short-term Deutsche Mark certificates of deposit, and thus escaping the provisions of the minimum reserve instrument. It had already been apparent that at times credit institutions were issuing increased numbers of bank debt securities with maturities of about one year and were offering them to non-banks as a "substitute" for short-term time deposits subject to minimum reserve requirements. Thus the new regulations closed an existing "loophole" in the minimum reserve regulations, which had put the institutions not issuing any shorter-term bank debt securities at a disadvantage. Since the restructuring, the following have been subject to minimum reserve requirements: liabilities not evidenced by certificates (including liabilities in respect of registered debt securities and order debt securities not forming part of a total issue) with a maturity of less than four years and liabilities in respect of bearer debt securities (and order debt securities forming part of a total issue) with a maturity of less than two years, other than liabilities to credit institutions which are themselves subject to minimum reserve requirements. Since May 1986, the Bundesbank has not been raising any objections to banks with a licence to conduct business in Germany issuing DM-denominated debt securities having the characteristics of certificates of deposit. Liabilities in respect of debt securities are, as a matter of principle, classified as time liabilities. In addition, the foreign currency liabilities of credit institutions vis-à-vis non-residents have largely been exempted from reserve requirements under an extended offsetting arrangement (in the amount of claims not evidenced by certificates on non-residents in foreign currencies with maturities of less than four years). Since the middle of 1987, the foreign currency part of positions in European Currency Units (ECUs) and, since the beginning of 1990, of positions in special drawing rights (SDRs) has also been included in the offsetting arrangement, as the private use of these currency baskets, in the same way as that of foreign currencies, has been possible since then.

The level of the minimum reserve ratios is limited pursuant to section 16 of the Bundesbank Act. That provides that the percentages set by the Bank may not exceed thirty in the case of sight liabilities, twenty in the case of time liabilities and ten in the case of savings deposits; the Bank may, however, set a percentage of up

¹ See also Deutsche Bundesbank, Monetary target for 1986 and revision of the minimum reserve regulations, Monthly Report, January 1986, pages 13–15.
to one hundred for liabilities to non-residents (section 4 (1) 4 of the Foreign Trade and Payments Act). Within these limits, the Bank may set the percentages at different levels in the light of general considerations. In the past, the minimum reserve ratios (see Table 9) have been differentiated at times according to various criteria, namely

- the type of liability subject to minimum reserve requirements,
- the amount of the liability subject to minimum reserve requirements, and
- the origin of the liability.

In certain situations they have also been differentiated according to the level of and the increment in liabilities subject to minimum reserve requirements.1

Differentiation according to the type of liability was based on the varying degrees of liquidity of the individual kinds of bank deposits. Thus the reserve ratios for sight liabilities were higher than those for time liabilities and savings deposits until July 1995. The amount of liabilities subject to reserve requirements used to be taken into account by the three kinds of liabilities involved each being divided into three reserve stages (DM 10 million and under, more than DM 10 million to DM 100 million, and over DM 100 million), with the minimum reserve ratios rising from one stage to the next. This procedure, which was in use as from March 1977, meant that the average minimum reserve requirement steadily increased as the volume of deposits grew and asymptotically approached the reserve ratio of the third stage. Upon the restructuring of the minimum reserve regulations in May 1986 the progressive stages were given up, initially in the case of time liabilities and savings deposits, since March 1994 a uniform reserve ratio, independent of the volume, has applied to sight liabilities, too.2

In the past – for the last time between January and May 1978 – the Bundesbank has sometimes imposed higher reserve ratios on liabilities to non-residents (ex-

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1 Moreover, the Bundesbank used to draw a distinction between “Bank places” and “non-Bank places” in the case of sight liabilities and savings deposits. (A Bank place was any place in which the Bundesbank maintained a branch office.) For banks in non-Bank places, the reserve ratios on sight liabilities and savings deposits were lower (“non-Bank place privilege”), since they were generally forced to hold higher cash reserves than banks in Bank places. This “non-Bank place privilege” became obsolete from March 1978, when the credit institutions’ cash balances of domestic legal tender were made deductible from the minimum reserve requirements.


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### Minimum reserve ratios

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1 The ratio of stage 1 on the progressive scale applies to the first DM 10 million of reserve-carrying liabilities, the ratio of stage 2 to the next DM 50 million and the ratio of stage 3 to liabilities exceeding DM 100 million. — 2 From May 1, 1986 the differentiation of the reserve ratios by progressive stages was given up in the case of time liabilities and savings deposits. — 3 From March 1, 1994 the progressive stages for sight liabilities to residents and the remaining differentiation of the reserve ratios by liabilities to residents and those to non-residents were discontinued.

Deutsche Bundesbank
ternal liabilities) than on the same type of liabilities to residents. This was mainly to counteract the inflow of foreign funds to German banks. Special minimum reserve ratios on the increment in liabilities subject to reserve requirements have likewise been introduced by the Bank, primarily to ward off inflows of foreign funds. The last time an incremental reserve ratio was imposed (from January to May 1978), it was fixed at such a level that, together with the minimum reserve requirements on the stock of liabilities to non-residents, the total virtually reached the legally permissible maximum of 100%. Reserve ratios on the increment in domestic liabilities have so far been introduced only from July to November 1960 and from September to November 1970.

The required minimum reserves for a given month are calculated by multiplying the average amount of liabilities subject to reserve requirements which a credit institution holds by the minimum reserve ratios fixed by the Bundesbank. This average amount can be calculated by banks either from the levels at the close of all business and non-business days from the 16th of the preceding month to the 15th of the current month, or from the levels of such liabilities on the 23rd and last day of the preceding month and the 7th and 15th of the current month (bank-week return days). Calculation according to the levels on the bank-week return days can, however, be partly or wholly prohibited by the Bundesbank for individual credit institutions in certain cases.

From March 1978 credit institutions were able to deduct their holdings of domestic legal tender from their minimum reserve requirements, i.e. they could set off their average monthly stock of domestic notes and coins against their (gross) required reserves. However, the amount which could be so offset was limited to 50% of the required reserves. As part of the revision of the minimum reserve regulations in March 1994, the deductibility of credit institutions' cash holdings was lowered initially to 25% of the required reserves; in August 1995 it was abolished altogether as part of the final restructuring of the minimum reserves.

The required reserves, as calculated by this method, are compared with the actual reserves, which are the calendar-day average of the balances held with the Bundesbank during the course of the month in question. Since the minimum reserve requirements have to be met only on average over a month, the banks can also use their central bank balances for payment purposes and, if necessary, temporarily withdraw them altogether, provided that they maintain correspondingly higher balances on other days during the period concerned. The balances maintained in order to comply with the minimum reserve requirements are therefore at the same time "working balances".

The banks as a rule see no reason to maintain with the Bundesbank higher balances than they need to meet their minimum reserve requirements. This is mainly because, in accordance with the Bundesbank Act, no interest is payable on minimum reserve balances. The banks' excess reserves, i.e. the amount by which their actual balances exceed the required reserves, are generally low (about 1% of the reserve requirements). Considerable over-compliance on the average of a month has so far occurred virtually only at times when there have been heavy speculative foreign exchange inflows from abroad. If a bank does not succeed in complying with its minimum reserve requirements by the end of the month, the amount by which its actual reserves fall short of the required reserves is subject to special interest at the rate of 3 percentage points above the current lombard rate, for 30 days.

If the minimum reserves are to be an effective instrument of monetary policy and if the relevant provisions are to be implemented uniformly, the regulations must be complied with precisely. To ensure that they are, credit institutions which are subject to reserve requirements are audited in turn by the staff of the responsible Land Central Bank, according to a rota prescribed by the Central Bank Council. An audit is made of the arithmetical and factual accuracy of the reserve reports which the credit institutions have sent in.

2. The effects of the minimum reserves

As a monetary policy instrument, the minimum reserves perform a dual function. Firstly, minimum reserves – at given reserve ratios – generate a demand for central bank balances on the part of banks, the size of which will depend on the volume of the reserve-carrying liabilities. They thus ensure a sufficiently stable demand for central bank money. The latter underpins the effectiveness of monetary policy, as minimum reserve requirements force the credit institutions as a whole, in a reasonably predictable manner, to look to the central bank as the lender of last resort whenever the volume of money and credit expands. For, on account of the minimum reserve regulations, this process is associated with a rise not only in the general public's need for cash (which is often subject to erratic fluctuations) but – at given reserve ratios – also in the banks' required minimum reserves, and thus their need for funds. Moreover, they give the Bundesbank the option, as part of its longer-term management of bank liquidity, of adjusting the amount of central bank balances permanently supplied to banks by changing the reserve ratios (liquidity effects). Since a change in the minimum reserve ratios will either directly absorb or directly release the central bank balances of banks, minimum reserve
policy measures can also partly or wholly offset developments which boost or curb liquidity, such as foreign exchange movements.

Secondly, minimum reserve requirements, through which central bank balances have to be maintained only on average over a month, rather than daily, act in the money market as a liquidity cushion which absorbs unforeseen fluctuations in liquidity needs, generally with no intervention by the Bundesbank. This contributes to stabilising interest rates and enables the central bank to adopt a "non-interventionist" stance in the money market. The flexibility of the minimum reserve system is enhanced by the fact that the calculation periods for the actual reserves and the required reserves lie two weeks apart. Since the required reserves are known after the 15th of the current month (the last day included in the calculation of the average amount of reserve-carrying liabilities), credit institutions have sufficient time up to the end of the month to comply with the requirements - a circumstance which likewise contributes to steadying interest rate movements.

Apart from the liquidity aspects described above, the minimum reserves also have interest rate effects. Since balances held as minimum reserves carry no interest, minimum reserve requirements initially depress the banks' profitability. They will therefore attempt to pass this burden on to their customers. It must be borne in mind, however, that the banks' opportunity cost deriving from the minimum reserves is accompanied by a number of concessions or competitive advantages, such as the low-interest funding available through the discount window and the fact that minimum reserve balances may also be used as working balances, with the Bundesbank, moreover, providing relatively generous short-term finance (for example, in the form of lombard loans).

The function of the minimum reserves as a constraint on money creation accounts for the Bundesbank's long-standing perceptible reluctance to lower its reserve ratios. However, the growing interdependence of international financial markets - not least in Europe - has increased the incentive to circumvent the minimum reserve requirements. In particular, the Euro-markets, where no minimum reserves exist, therefore had an interest rate advantage of relevance to investment decisions. This gave rise, for one thing, to competitive distortions detrimental to Germany as a financial centre; for another, increased money holding outside Germany impairs the informative value of the domestic monetary aggregates, including the money stock M3, which the Bundesbank uses as its intermediate target variable. These developments prompted the Bundesbank to restructure the minimum reserve instrument in three steps (in March 1993 and March 1994, and finally in August 1995) and to lower the reserve ratios substantially. The differenti-

ation of the reserve ratios in accordance with various criteria, as mentioned above, was reduced at the same time. Since the spring of 1993 a uniform ratio (of 2%) has been applied to time liabilities and savings deposits (previously 4.95% and 4.15%, respectively). One year later, the progressive stages for sight deposits were abolished and the reserve ratio, which had averaged 11%, was reduced to a uniform 5%. From August 1995 the reserve ratio for sight deposits was lowered further to 2% and that for savings deposits was brought down to 1½%.

The minimum reserve decisions taken in 1993, 1994 and 1995 released funds totalling about DM 60 billion; they were also accompanied by considerable cost relief for the banks. In the spring of 1995 credit institutions' required minimum reserves, before the deduction of deductible cash holdings, amounted to just under 3% (or about 2% after deduction of the cash holdings) of the reserve-carrying liabilities, whereas at the peak of the period of monetary restriction in 1973 no less than nearly 14% of the liabilities subject to minimum reserve requirements had to be maintained as reserve balances with the Bundesbank (see Chart 12 on page 129). This ratio was reduced to below 2% by the minimum reserve cuts of August 1995.

3. The lessons of the minimum reserves

The recent restructuring of the minimum reserve system and the considerable reduction in the minimum reserve ratios do not imply any change in the Bundesbank's basic attitude towards this monetary policy instrument. The objectives of the restructuring were to simplify the minimum reserve system, to lessen the incentive to circumvent the regulations and thus to safeguard the viability of this instrument in liberalised and globalised markets. It also took due account of the fact that the significance of the minimum reserve instrument for monetary policy has changed over the years. In the past, and especially during the period of fixed exchange rates, the Bundesbank used the minimum reserve requirements primarily as an instrument for the longer-run adjustment of bank liquidity. On the discontinuance of the intervention obligations following the collapse of the Bretton Woods system in 1973, the minimum reserve requirements increasingly declined in importance as an instrument of economic management. In the past few years the Bundesbank has switched almost entirely to using open market policy instruments, which are much more flexible, for managing bank liquidity. Moreover, changes in

1 See also Deutsche Bundesbank, Review of the monetary target and restructuring of the minimum reserve regulations, Monthly Report, July 1995, pages 17-35.
the minimum reserve ratios often exert substantial signal effects, which are by no means always desirable.

Today, this instrument is of significance for monetary policy primarily in terms of creating the regulatory framework for the deployment of the other monetary policy instruments. Firstly, the minimum reserve requirements generate — as mentioned — a sufficient and stable demand on the part of banks for central bank balances, and thus facilitate control of monetary expansion, which is a crucial factor in the longer-term movement of prices and which serves as the Bundesbank’s key reference variable. Secondly, it performs the function of a liquidity cushion in the money market and enables the Bundesbank to adopt a low-intervention stance. These functions of the minimum reserve instrument, which are of importance for the efficiency of monetary policy, have not been impaired by the lowering of the reserve ratios in recent years. The minimum reserves which the banks are required to maintain continue to exceed their working balances (which would need even if there were no minimum reserve requirements, for instance for the settlement of payments), especially as such working balances have decreased since the abolition of the Federal and Länder Governments’ obligation to lodge their funds with the Bundesbank. Hence efficient money market management remains assured. The lower demand for central bank money resulting from the release of minimum reserves was offset by the Bundesbank by a corresponding reduction in its securities repurchase transactions. The residual volume of securities repurchase agreements is large enough for it to be able to neutralise any future unexpected surges in liquidity in the money market.

Minimum reserves also serve as a fairly stable operational reference point for the Bundesbank’s short-term money market management. Observations show that there is apparently a pattern of compliance with minimum reserve requirements by banks in the course of a month which is characteristic of periods when there are equilibrium conditions in the money market. This pattern is determined not only by the market influences operating in a given month, but also by the internal reserve management requirements of the individual bank. As long as the public authorities’ deposit requirement existed (pursuant to section 17 of the Bundesbank Act, which was repealed by the Act of July 8, 1994), the pattern sometimes varied considerably from calendar month to calendar month, and was marked by fairly substantial advance compliance with the minimum reserve requirements; this temporary overhang faded away quickly as liquidity was siphoned off on tax payment dates, and by the end of the month was reduced to the usual marginal over-compliance with the minimum reserve requirements. The abolition of the deposit requirement and the substantial cuts in minimum reserves in 1993, 1994
and 1995 smoothed the pattern of compliance with the minimum reserve requirements. Other things being equal, the Bundesbank's "allotment policy" on the ongoing conclusion of securities repurchase agreements could and can be geared to some extent to this comparatively regular pattern.

V. Other instruments of monetary policy

To supplement its traditional instruments of rediscount, lombard, minimum reserve and open market policy through securities repurchase agreements, which are now at the centre of ongoing money market management, the Bundesbank has developed a number of other instruments over the years with a view to enhancing the flexibility of monetary policy. While these instruments do not correspond to open market policy in the traditional sense, their effects and uses are very similar. They comprise operations which normally are used to influence the liquidity of banks in the very short run – often only on a day-to-day basis. They are therefore not deployed as regularly as are securities repurchase agreements. The instruments deserving mention in this connection include the short-term foreign exchange swap and repurchase agreements introduced in 1979, virtually together with securities repurchase agreements, and used for the fine-tuning of the money market. In addition, on various occasions the Bundesbank subsequently took advantage of the option provided for under the Bundesbank Act until 1994 of shifting Federal balances maintained with it into the money market ("shifts under section 17 of the Bundesbank Act"). Moreover, in the shape of the quick tender described above (page 114), the Bundesbank has had at its disposal since the end of 1988, for use at very short notice, a variant of securities repurchase agreements whose processing is faster and well established. Finally, the list of very short-term assistance measures in the money market also includes the Bundesbank's option of selling short-term Treasury bills (generally for three days) to mop up excess liquidity.

1. Liquidity policy through the foreign exchange market

During the period of fixed exchange rates, the Bundesbank devised some foreign exchange policy instruments enabling it to influence international flows of funds in order to lessen the disruptions of monetary policy emanating from the foreign exchange markets. These instruments were swap transactions and outright for-ward operations in the foreign exchange market. Even though such transactions are not mentioned explicitly in the Bundesbank Act, they are covered by the general responsibility given to the Bundesbank for foreign exchange dealing.

Bundesbank Act, section 19, transactions with credit institutions

(1) The Deutsche Bundesbank is entitled to conduct the following transactions with credit institutions in the area in which this Act is law:

(...)

8. buy and sell payment media denominated in foreign currencies, including bills of exchange and cheques, claims and securities, and gold, silver and platinum;

9. carry out all banking transactions with non-residents. (...)

In a swap transaction, the Bundesbank buys (or sells) foreign exchange spot and at the same time sells (or buys) it back forward. A swap transaction is therefore a combination of a spot and a forward transaction, and the swap rate charged is equivalent to an interest rate. Until 1971, the swap policy which the Bundesbank conducted with credit institutions on the basis of transactions of this nature was directed towards encouraging exports of funds by banks, and was motivated at times by both monetary and foreign exchange policy considerations. The swap transactions were conducted in US dollars only.

When the Bundesbank began its swap policy at the end of 1958, it intended inter alia to assist German credit institutions to build up an adequate stock of short-term foreign investments, so that banks could play a part in accumulating holdings of foreign assets. At the same time, however, this policy influenced developments in the domestic money market for, in proportion as the attraction of foreign money markets was increased by Bundesbank swap rates that differed from market rates, the supply of cash balances from banks in the domestic market tended to fall. At the end of the sixties the need to influence the domestic money market became a less significant reason for swap operations, which were then motivated mainly by the Bundesbank's attempts to ease the international monetary situation and strengthen confidence in the (fixed) dollar parity.
The outright forward operations in which the Bundesbank engaged from time to time were similarly motivated. An outright forward transaction differs from a spot transaction in that the performance of the contract is not required until a later date (e.g. three months later). The Bundesbank first resorted to outright forward operations in US dollars at the end of 1968, to ward off speculation on the revaluation of the Deutsche Mark. Later – both before and after the transition to floating exchange rates in the spring of 1973 – such operations were conducted on various occasions to counteract speculative foreign exchange flows or to enable interventions to smooth out exchange rate fluctuations vis-à-vis the dollar to be conducted as discreetly as possible. An indirect influence is exerted on the spot market by forward transactions because the commercial bank, to avoid having an open foreign exchange position, will seek to cover the exchange risk arising from the forward transaction contracted with it by means of a closing spot transaction. Operations of this kind affect bank liquidity, after a time-lag, in the same way as though a similar spot foreign exchange transaction had been carried out. If, for example, US dollars are sold forward instead of spot, the corresponding counter-value in central bank balances which banks have to provide when they actually take delivery of the dollars in question is withdrawn from credit institutions on the settlement date.

In contrast to earlier swap policy measures, the foreign exchange swaps the Bundesbank has engaged in since 1979 have only served the purpose of fine-tuning the money market. If the Bundesbank buys US dollars from banks in a swap transaction, it is in fact providing them with central bank balances for a specific period. Conversely, if it sells US dollars to banks in a swap deal, it is taking liquidity out of the money market for a specific length of time. All these transactions are carried out at the ruling market rates. They do not normally exercise a direct influence on the exchange rate, in addition to their effect on liquidity.

In order to absorb liquidity on a temporary basis, the Bundesbank has also concluded foreign exchange transactions under repurchase agreements with credit institutions since the summer of 1979. In such transactions, a right to the delivery of specific external assets held by the Bundesbank is transferred to banks for a limited period. The external assets themselves remain the property of the Bundesbank; the interest income from them therefore continues to accrue to the central bank. A foreign exchange transaction under repurchase agreement has the same effect on liquidity as a swap transaction in which US dollars are sold spot to credit institutions: banks’ deposits at the Bundesbank are reduced. But whereas a contractionary swap transaction also causes the Bundesbank’s net external assets to decrease, a foreign exchange transaction under repurchase agreement leaves such assets unchanged. Instead, the Bundesbank’s liabilities to credit institutions arising from repurchase agreements increase; hence there is no contraction in the Bundesbank’s balance sheet, only an exchange of liabilities. In recent years foreign exchange swaps have been used almost only to increase liquidity, whereas preference has been given to foreign exchange repurchase agreements whenever a short-term reduction in liquidity has been intended. As far as their significance for money market policy is concerned, foreign exchange swaps and repurchase agreements are analogous to securities repurchase transactions (see page 110ff.); they have the same effect as reversible open market operations.

Foreign exchange swap and repurchase transactions are fairly flexible, both with regard to their maturities and with regard to the volume that can be traded in any one deal. Moreover, they can be carried out quickly. The Bundesbank has therefore sometimes assigned to them the role of a kind of “buffer” to counteract unwelcome fluctuations either way in credit institutions’ central bank balances during a monthly minimum reserve period. In terms of quantity, too, foreign exchange swap and repurchase transactions have sometimes been of considerable significance.

2. Deposit policy

Section 17 of the Bundesbank Act, which was headed “Deposit policy” (and was repealed by the Act of July 8, 1994) required the Federal Government, the Equalisation of Burdens Fund, the ERP Special Fund and the Länder Governments to deposit their liquid funds with the Bundesbank. Upon entry into the second stage of European economic and monetary union, the central and regional public authorities were released from the beginning of 1994 – simultaneously with the discontinuance of the cash advances granted by the Bundesbank (pursuant to section 20 of the Bundesbank Act) – from their deposit requirements pursuant to section 17 of the Bundesbank Act (initially de facto, by the granting of or increase in what are known as blanket quotas for the investment of their liquid funds elsewhere, and from the middle of the year also de jure).

The role of the deposit requirement pursuant to section 17 of the Bundesbank Act has undergone some changes in the past few decades. When the Bundesbank Act was first drafted, the objective of this provision was to withdraw the liquid resources of the central and regional public authorities from the private sector flow of funds and hence to curb the banks’ scope for credit creation. At the same time, the Bundesbank was given a means of using the public authorities’ cash
balances (the level and movement of which are not without significance for central bank policy) to manage the money market, if appropriate, by shifting them. In line with this interpretation, the public authorities, in managing their liquid funds, were themselves required to take due account of monetary policy considerations. It was only logical of Parliament to include the deposit requirement in Part IV of the Bundesbank Act, dealing with the Bundesbank’s monetary powers, rather than in Part V, spelling out the primarily operational regulations governing the scope of the Bundesbank’s business.

Besides the monetary policy objectives, the provisions of section 17 of the Bundesbank Act also gave rise to a virtually equal treatment of all credit institutions, which was considered desirable on competitive and structural policy grounds. The Bundesbank was required, however, to take due account of the Länder Governments’ interest in maintaining their State and Land Banks; the Bundesbank met this proviso by granting Länder-specific blanket quotas. Finally, the deposit requirement was to be seen in connection with the legally prescribed free processing of payments and provision of other services by the Bundesbank as part of its principal banker and fiscal agent functions. The arguments relating to competition and the technicalities of payments have, of course, been declining in importance with the development, over the years, of an efficient banking system which is able to offer public authorities all financial services under competitive conditions.

In the course of time, the use of public sector deposits as an instrument of short-term money market management increased in significance. In order to influence the money market on a day-to-day basis, public sector balances were shifted into the money market for the first time in 1975, with the Bundesbank, on grounds of practicability, confining itself to Federal balances. Whenever public funds were shifted into the banking system, there was a direct increase in bank liquidity; conversely, when the funds where shifted back to the Bundesbank, liquidity was siphoned off. Of course, public funds could be moved into the banking system only if they were available in sufficient quantities and for the period considered necessary. Generally, therefore, deposit policy could be used only for very short-term money market management, in fact from day to day. But the Bundesbank, especially in major tax payment months, occasionally used the section 17 instrument for somewhat longer periods, too, as part of a mixed funding of the banks’ liquidity needs if the desired evening-out of movements in the banks’ balances and conditions in the money market would otherwise have been possible only by means of potentially disruptive sharp fluctuations in the volume of regular securities repurchase agreements.

On the abolition of the deposit requirement, the instrument of shifts of Federal balances under section 17 of the Bundesbank Act ceased to be available, but this at the same time resulted in a lesser need for fine-tuning operations. Firstly, estimating the Federal Government’s cash transactions at the Bundesbank, as part of the ongoing liquidity forecast which the Bundesbank uses as a basis for its allotments of securities repurchase agreements, often proved to be particularly difficult and uncertain. Secondly, the pronounced fluctuations in net public sector balances at the Bundesbank in the course of the month determined the movement of banks’ central bank balances and hence often entailed a need for assistance measures by the Bundesbank. Since the abolition of the deposit requirement, inflows and outflows of public funds from the money market have cancelled out, and banks’ central bank balances have fluctuated less.

3. Regulating international money and financial transactions

In Germany, international money and financial transactions are free from all controls. In the past, however, restrictions have been imposed from time to time to ward off speculative inflows of foreign exchange and give domestic monetary and fiscal policy greater room for manoeuvre. In 1972-3, for example, capital imports into Germany were contained by a number of administrative measures. After the transition to a floating rate for the dollar in the spring of 1973, these measures “to protect the economy against external constraints” were initially retained, but they were gradually relaxed or suspended from 1974 onwards. What remained of the restrictions was abolished altogether in March 1981.

The legal basis for restrictions on financial transactions is the Foreign Trade and Payments Act (Aussenwirtschaftsgesetz – AWG). The Federal Government is responsible for taking the respective measures, but it must consult the Bundesbank before issuing the appropriate regulations. Moreover, under European law, measures which imply retrogression in the liberalisation of financial transactions require a Council decision.

The restrictions may consist, inter alia, in making capital imports subject to approval (on the basis of section 23 of the AWG), or in prohibiting them altogether. The payment of interest on balances held by non-residents with German banks may also be made subject to approval or prohibited. Finally, at the end of 1971 what was known as the “cash deposit requirement” was introduced into the Foreign Trade and Payments Act. This provided that any resident borrowing abroad may be required to deposit a certain percentage of these funds at the
Bundesbank without being paid interest. The ceiling for the cash deposit require-
ment was fixed at 100% in February 1973; the actual amount was determined by 
the Bundesbank, in agreement with the appropriate Federal Minister. The cash 
deposit requirement remained in force from 1972 to 1974; it was intended to limit 
enterprises' borrowing abroad, a process which cannot be controlled directly by 
the arsenal of instruments available to the Bundesbank.

Bundesbank Act*

* Gesetz über die Deutsche Bundesbank, as amended up to July 16, 1994. This (revised) translation has been prepared in the Bundesbank for the convenience of English-speaking readers. It is not official; the only authentic text is the German one as published in the Federal Law Gazette (Bundesgesetzblatt).
PART I
Establishment, legal form and duties

1. Establishment of the Deutsche Bundesbank

The Land Central Banks and the Berlin Central Bank shall amalgamate with the Bank deutscher Länder. The Bank deutscher Länder shall become the Deutsche Bundesbank.

2. Legal form, capital and domicile

The Deutsche Bundesbank is a Federal corporation under public law. Its capital, amounting to two hundred and ninety million Deutsche Mark, is held by the Federal Government. The Bank is domiciled in Frankfurt am Main.

3. Duties

The Deutsche Bundesbank shall regulate the amount of money in circulation and of credit supplied to the economy, using the monetary powers conferred on it by this Act, with the aim of safeguarding the currency, and shall arrange for the execution of domestic and international payments.

4. Participating interests

The Deutsche Bundesbank is entitled to participate in the Bank for International Settlements and, subject to the approval of the Federal Cabinet, in other institutions serving the purposes of supranational monetary policy or international payment and lending operations, or otherwise apt to assist it in discharging its duties.

PART II
Organisation

5. Governing bodies

The governing bodies of the Deutsche Bundesbank comprise the Central Bank Council (Zentralbankrat) (section 6), the Directorate (Direktorium) (section 7) and the Executive Boards (Vorstände) of the Land Central Banks (section 8).

6. Central Bank Council

(1) The Central Bank Council determines the monetary policy of the Bank. It draws up general guidelines governing the conduct of business and administration, and defines the responsibilities of the Directorate and the Executive Boards of the Land Central Banks, in accordance with the provisions of this Act. In specific cases it may also issue instructions to the Directorate and the Executive Boards of the Land Central Banks.

(2) The Central Bank Council is composed of the President and Vice-President of the Deutsche Bundesbank, the other members of the Directorate and the Presidents of the Land Central Banks.

(3) The Central Bank Council deliberates under the chairmanship of the President or Vice-President of the Deutsche Bundesbank. It takes its decisions by a simple majority of votes. For the rest, the conditions for taking decisions are governed by by-laws. The by-laws may provide that members of the Central Bank Council who are durably unable to attend meetings be represented by deputies.

7. Directorate

(1) The Directorate is responsible for implementing the decisions taken by the Central Bank Council. It manages and administers the Bank, except in matters within the responsibility of the Executive Boards of the Land Central Banks. The following transactions, in particular, are reserved for the Directorate:

1. transactions with the Federal Government and its special funds,
2. transactions with credit institutions that perform central functions throughout Germany,
3. foreign exchange transactions and transactions with non-residents,
4. open market operations.

(2) The Directorate is composed of the President and Vice-President of the Deutsche Bundesbank and up to six other members. Members of the Directorate must have special professional qualifications.

(3) The President, the Vice-President and the other members of the Directorate are nominated by the Federal Cabinet and appointed by the President of the Federal Republic. Before making such nominations, the Federal Cabinet shall consult the Central Bank Council. Members of the Directorate are appointed for eight years, or in exceptional cases for a shorter term of office, but not for less than two years. Appointments and retirements shall be published in the Federal Gazette (Bundesanzeiger).

(4) Members of the Directorate hold office under public law. Their legal status relative to the Bank, and particularly their salaries, retirement pensions and surviving dependants’ pensions, are regulated by contracts with the Central Bank Council. These contracts are subject to the approval of the Federal Cabinet.

(5) The Directorate deliberates under the chairmanship of the President or Vice-President of the Deutsche Bundesbank. It takes its decisions by a simple majority of votes. In the event of a tie, the chairman has a casting vote. For the rest, the conditions for taking decisions are governed by by-laws. The by-laws may provide that certain decisions must be taken unanimously, or by some other majority of votes.

8. Land Central Banks

(1) The Deutsche Bundesbank maintains a Main Office (Hauptverwaltung) known as a Land Central Bank (Landeszentralbank) in each of the following areas:

1. the Land of Baden-Württemberg,
2. the Free State of Bavaria,
3. the Länder of Berlin and Brandenburg,
4. the Free Hanseatic City of Bremen and the Länder of Lower Saxony and Saxony-Anhalt,
5. the Free and Hanseatic City of Hamburg and the Länder of Mecklenburg-Western Pomerania and Schleswig-Holstein,
6. the Land of Hesse,
7. the Land of North Rhine-Westphalia,
8. the Länder of Rhineland-Palatinate and Saarland,
9. the Free States of Saxony and Thuringia.

(2) The Executive Board of each Land Central Bank carries out the transactions and administrative duties occurring in the area for which it is responsible. The following transactions, in particular, are reserved for Land Central Banks:

1. transactions with the Land Government or Länder Governments, and with public authorities in the Land or Länder,
2. transactions with credit institutions in their area, other than transactions which are reserved for the Directorate under section 7 (1) 2 above.

(3) The Executive Board of each Land Central Bank is composed of the President and Vice-President and, in the cases referred to in subsection (1) numbers 4 and 5 above, of one other member. The by-laws may authorise the appointment of one or two further members to an Executive Board, and may contain provisions governing decision-making by Executive Boards. Members of Executive Boards must have special professional qualifications.

(4) Presidents of Land Central Banks are nominated by the Bundesrat (the chamber of Parliament representing the Länder) and appointed by the President of the Federal Republic. The Bundesrat submits its nomination on the basis of a proposal by the authority appropriate under the laws of the Land or Länder concerned, and after having consulted the Central Bank Council. Vice-Presidents and other members of Executive Boards are nominated by the Central Bank Council and appointed by the President of the Deutsche Bundesbank. Members of Executive Boards are appointed for eight years, or in exceptional cases for a shorter term of office, but not for less than two years. Appointments and retirements shall be published in the Federal Gazette.

(5) Members of Executive Boards hold office under public law. Their legal status relative to the Bank, and particularly their salaries, retirement pensions and surviving dependants’ pensions, are regulated by contracts with the Central Bank Council. These contracts are subject to the approval of the Federal Cabinet.

9. Advisory Boards at Land Central Banks

(1) At every Land Central Bank there is an Advisory Board (Beirat), which confers with the President of the Land Central Bank on questions of monetary policy, and
with the Executive Board of the Land Central Bank on the performance of that Board’s duties in its area.

(2) The Advisory Board is composed of not more than 14 members, who should have special expertise in the field of banking. Not more than half of its members should be chosen from the various areas of banking, while the other members should be selected from trade and industry, distribution, the insurance sector, the professions, agriculture, and from among the ranks of wage and salary earners.

(3) The members of the Advisory Board are nominated by the Land Governments concerned and, after the Executive Board of the Land Central Bank has been consulted, appointed by the President of the Deutsche Bundesbank for a term of office of three years.

(4) Meetings of the Advisory Board are chaired by the President of the Land Central Bank or his deputy. The appropriate Land Ministers shall be given an opportunity of attending such meetings. They may request the convening of the Advisory Board. For the rest, the proceedings of an Advisory Board are governed by by-laws.

10. Branch offices

The Deutsche Bundesbank is entitled to maintain branch offices (i.e. branches (Hauptsstellen) and sub-branches (Zweigstellen)). The branches are managed by two managers (Direktoren), who report to the appropriate Land Central Bank. The sub-branches are managed by one manager, who reports to the superordinate branch.

11. Representation

(1) The Deutsche Bundesbank is represented in and out of court by the Directorate, in the area of a Land Central Bank also by the Executive Board of that Bank, and in the area of a branch also by the managers of that branch. The provisions of section 31 (2) and section 41 (4) below are unaffected.

(2) Declarations are binding upon the Deutsche Bundesbank if they are made by two members of the Directorate or of the Executive Board of a Land Central Bank or by two managers of a branch. They may likewise be made by authorised representatives appointed by the Directorate or, in the area of a Land Central Bank, by the Executive Board of that Bank. A declaration made to the Bank has full legal effect if made to one person authorised to represent the Bank.

(3) Authority to represent the Bank may be evidenced by a certificate signed by a notarial official (Urkundsbeamter) of the Deutsche Bundesbank.

(4) Proceedings against the Deutsche Bundesbank relating to the business operations of a Land Central Bank or a branch may likewise be instituted at the court having jurisdiction at the domicile of that Land Central Bank or branch.

PART III
Federal Cabinet and Bundesbank

12. Relations between the Bank and the Federal Cabinet

Without prejudice to the performance of its duties, the Deutsche Bundesbank is required to support the general economic policy of the Federal Cabinet. In exercising the powers conferred on it by this Act, the Bank is independent of instructions from the Federal Cabinet.

13. Cooperation

(1) The Deutsche Bundesbank shall advise the Federal Cabinet on monetary policy issues of major importance, and shall furnish it with information on request.

(2) Members of the Federal Cabinet are entitled to attend the meetings of the Central Bank Council. They have no right to vote, but may propose motions. At their request, a decision shall be deferred for up to two weeks.

(3) The Federal Cabinet should invite the President of the Deutsche Bundesbank to attend its deliberations on important monetary policy issues.
PART IV
Monetary powers

14. Note issue

(1) The Deutsche Bundesbank has the sole right to issue banknotes in the area in which this Act is law. Its notes are denominated in Deutsche Mark. They alone are legal tender for any amount. Notes in denominations smaller than ten Deutsche Mark may be issued only by agreement with the Federal Cabinet. The Deutsche Bundesbank shall announce publicly the denominations and distinguishing features of the notes it issues.

(2) The Deutsche Bundesbank may call in notes. Recalled notes become invalid on the expiry of the period for exchange announced at the time of recall.

(3) The Deutsche Bundesbank is not required to replace destroyed, lost, counterfeit or falsified notes or notes that have become invalid. It shall replace mutilated notes if the bearer either presents parts of a note which together make up more than one-half of the note, or furnishes proof that the remainder of the note of which he presents only one-half or some smaller part has been destroyed.

15. Discount, lending and open market policies

In order to influence the amount of money in circulation and of credit granted, the Deutsche Bundesbank sets the interest and discount rates to be used in its transactions and defines the principles governing its lending and open market operations.

16. Minimum reserve policy

(1) In order to influence the amount of money in circulation and of credit granted, the Deutsche Bundesbank may require credit institutions to hold certain percentages of their liabilities in respect of sight deposits, time deposits and savings deposits, and of their liabilities in respect of short and medium-term borrowed funds (other than liabilities to other credit institutions subject to minimum reserve requirements) in the form of balances on giro accounts with it (minimum reserves). The percentages set by the Bank may not exceed thirty in the case of sight liabilities, twenty in the case of time liabilities and ten in the case of savings deposits, in the case of liabilities to non-residents (section 4 (1) 4 of the Foreign Trade and Payments Act (Aussenwirtschaftsgesetz)), however, the Bank may set a percentage of up to one hundred. Within these limits, the Bank may set the percentages at different levels, especially for individual categories of institutions, in the light of general considerations, and may exclude certain liabilities from the calculation. For a credit institution as defined in section 53 of the Banking Act (Gesetz über das Kreditwesen), a debit balance on inter-branch settlement account is deemed to be a liability in respect of sight deposits within the meaning of sentence 1 above.

(2) A credit institution’s average monthly balance with the Deutsche Bundesbank (actual reserves) must at least correspond to the percentages set in accordance with subsection (1) above of its average monthly reserve-carrying liabilities (required reserves). The Bank shall issue more detailed provisions on the calculation and determination of actual reserves and required reserves.

(3) The Deutsche Bundesbank may charge special interest at a rate up to three per cent above the current Lombard rate on the amount by which the actual reserves fall short of the required reserves. Such special interest should not be charged if the shortfall was unavoidable for reasons that could not be foreseen, or if the credit institution has gone into liquidation. The Deutsche Bundesbank shall inform the banking supervisory authorities of any substantial or repeated shortfalls.

(4) Rural credit cooperatives affiliated to a regional institution and having no giro account with the Deutsche Bundesbank may hold their minimum reserves with their regional institution; the regional institution shall hold identical balances with the Deutsche Bundesbank.

(5) The minimum reserves to be held under this Act shall be counted towards the liquid reserves to be held under other Acts.

17. (repealed)

18. Collection of statistics

In order to discharge its duties, the Deutsche Bundesbank is entitled to order and collect statistics in the fields of banking and the monetary system from all credit institutions. Sections 9, 15 and 16 of the Federal Statistics Act (Bundesstatistikgesetz) apply as appropriate. The Deutsche Bundesbank may publish these statistics for general purposes. Figures relating to individual institutions may not be disclosed in such publications. Persons entitled to information under section 13 (1)
above may be supplied with such figures only if, and insofar as, this is provided for in the order under which the statistics are collected.

PART V
Scope of business

19. Transactions with credit institutions

(1) The Deutsche Bundesbank is entitled to conduct the following transactions with credit institutions in the area in which this Act is law:

1. buy and sell bills of exchange and cheques backed by three parties known to be solvent; the need for the third signature may be dispensed with if the security of the bill or cheque is ensured in some other way; the bills must fall due within three months of the date of purchase; they should be fine trade bills;
2. buy and sell Treasury bills issued by the Federal Government, one of the Federal special funds specified in section 20 (1) 1 below or a Land Government, and falling due within three months of the date of purchase;
3. grant loans at interest (lombard loans) for a period not exceeding three months against the collateral of
   (a) bills of exchange satisfying the requirements of number 1 above,
   (b) Treasury bills satisfying the requirements of number 2 above,
   (c) debt securities and Debt Register claims in the form of Treasury discount paper issued by the Federal Government, a Federal special fund or a Land Government,
   (d) other debt securities and Debt Register claims issued or payable by the Federal Government, a Federal special fund or a Land Government,
   (e) other debt securities and Debt Register claims specified by the Bank,
   (f) equalisation claims as defined in section 1 of the Act on the Redemption of Equalisation Claims (Gesetz über die Tilgung von Ausgleichsforderungen) and entered in the Debt Register.

If the debtor defaults on a lombard loan, the Bank has the right to sell the collateral by auction through one of its officials or through an official authorised to sell by auction, or, if the asset provided as collateral has a stock market or market price, to sell it at the current price through one of those officials or a broker, and to indemnify itself for expenses, interest and principal out of the proceeds; the Bank retains this right relative to other creditors and relative to the assets of a bankrupt debtor as well;

4. accept non-interest-bearing deposits on giro accounts;
5. accept assets, especially securities, for safe custody and administration; the Bank is debarred from exercising any voting rights in respect of the securities in its safe custody or under its administration;
6. accept cheques, bills of exchange, payment orders, securities and interest coupons for collection and, after cover has been provided, pay out the proceeds, except as the Bank may otherwise provide regarding the crediting of the proceeds of cheques and payment orders;
7. execute other banking transactions on behalf of third parties, after cover has been provided;
8. buy and sell payment media denominated in foreign currencies, including bills of exchange and cheques, claims and securities, and gold, silver and platinum;
9. carry out all banking transactions with non-residents.

(2) The discount and lombard rates shall be used for the transactions specified under numbers 1 to 3 of subsection (1) above.

20. Transactions with public authorities

(1) The Deutsche Bundesbank is entitled to conduct the transactions specified in section 19 (1) 4 to 9 above with the Federal Government, Federal special funds, Länder Governments and other public authorities; for this purpose, the Bank may grant intra-day credit. For such transactions the Bank may not charge the Federal Government or Federal special funds (with the exception of the Deutsche Bundespost POSTBANK and the Länder Governments) any expenses or fees.

(2) The Federal Government, Federal special funds and Länder Governments should issue debt securities and Treasury bills primarily through the Deutsche Bundesbank; failing this, such securities shall be issued in consultation with the Deutsche Bundesbank.

21. Open market operations

In order to regulate the money market, the Deutsche Bundesbank is entitled to buy and sell in the open market at market prices.
1. bills of exchange satisfying the requirements of section 19 (1) 1 above;
2. Treasury bills issued by the Federal Government, a Federal special fund or a Land Government;
3. debt securities and Debt Register claims payable by the Federal Government, one of its special funds or a Land Government;
4. other debt securities specified by the Bank.

22. Transactions with the general public

The Deutsche Bundesbank is entitled to conduct the transactions specified in section 19 (1) 4 to 9 above with natural persons and corporations at home and abroad.

23. Certification of cheques

(1) The Deutsche Bundesbank may certify cheques drawn on it only after cover has been provided. Such certification makes the Bank liable to the bearer for payment; it is also liable to the drawer and the endorser for payment.

(2) Payment of the certified cheque may not be refused, not even if the drawer has been adjudged bankrupt in the meantime.

(3) The liability arising from the certification lapses if the cheque is not presented for payment within eight days of the date of drawing. As regards proof of presentation, article 40 of the Cheque Act (Scheckgesetz) applies.

(4) The claim arising from the certification is barred by the statute of limitations two years after the expiry of the period for presentation.

(5) The jurisdictional and procedural provisions applicable to bill-of-exchange cases apply as appropriate to the assertion in court of claims arising from the certification.

24. Lending against and purchase of equalisation claims

(1) Notwithstanding the qualifications contained in section 19 (1) 3 above, the Deutsche Bundesbank is entitled to grant credit institutions and insurance enterprises loans against the collateral of equalisation claims
1. as defined in section 1 of the Act on the Redemption of Equalisation Claims, or
2. pursuant to Annex I article 8 section 4 of the Treaty of May 18, 1990 between the Federal Republic of Germany and the German Democratic Republic Establishing a Monetary, Economic and Social Union, read in conjunction with article 1 of the Act of June 25, 1990 (Federal Law Gazette 1990 II, p. 518, 550) insofar, and as long, as this is necessary to maintain the solvency of the party providing the collateral.

(2) The Deutsche Bundesbank is entitled to buy equalisation claims of the type specified in subsection (1) 1 above, subject to the provisions of section 9 (1) of the Act on the Redemption of Equalisation Claims, insofar, and as long, as the resources of the Fund for the Purchase of Equalisation Claims are insufficient for the purpose.

25. Other transactions

The Deutsche Bundesbank should conduct transactions other than those authorised by sections 19 to 24 above only for the purpose of carrying out and completing authorised transactions, or for its own operations, or for its staff.

PART VI
Annual accounts, distribution of profit and Return

26. Annual accounts

(1) The financial year of the Deutsche Bundesbank is the calendar year.

(2) The accounting system of the Deutsche Bundesbank shall comply with generally accepted accounting principles. The layout of, and the notes on, the annual accounts (balance sheet, profit and loss account) shall pertain to the duties of the Deutsche Bundesbank; the liability structure need not be disclosed. Regarding valuation, the provisions of the Commercial Code relating to corporations apply as appropriate; section 280 (1) of the Commercial Code need not be applied. In the course of establishing the profit or loss, the creation of liability items for general risks associated with domestic and foreign business, such as is considered warranted in the light of reasonable commercial judgement and after due consideration of the duties of the Deutsche Bundesbank, remains unaffected.
(3) The Directorate shall draw up the annual accounts as soon as possible. The accounts shall be audited by one or more auditors appointed by the Central Bank Council in agreement with the Federal Court of Auditors (Bundesrechnungshof). The Central Bank Council then approves the annual accounts, which are thereupon to be published by the Directorate.

(4) The report of the auditors serves as the basis for the audit which the Federal Court of Auditors carries out. The report of the auditors, together with the comments of the Federal Court of Auditors thereon, shall be communicated to the Federal Ministry of Finance.

27. Distribution of profit

The net profit shall be distributed in the following order:

1. twenty per cent of the profit or twenty million Deutsche Mark, whichever is the higher, shall be transferred to the legal reserves until they reach five per cent of the total amount of banknotes in circulation; the legal reserves may be used only to offset falls in value and to cover other losses; the fact that other reserves are available for this purpose does not preclude their use;
2. up to ten per cent of the remaining net profit may be used to form other reserves; the total amount of such reserves may not exceed the Bank’s capital;
3. forty million Deutsche Mark, and from the financial year 1980 onwards thirty million Deutsche Mark, shall be transferred to the Fund for the Purchase of Equalisation Claims set up under the Act on the Redemption of Equalisation Claims until that Fund’s dissolution;
4. the balance shall be paid over to the Federal Government.

28. Return

The Deutsche Bundesbank publishes, as at the 7th, 15th, 23rd and last day of each month, a Return which shall include the following particulars:

I. Assets

Gold
Balances with foreign banks and money market investments abroad
Foreign notes and coins, foreign bills of exchange and cheques
Domestic bills of exchange
Lombard loans

Treasury bills and Treasury discount paper of
(a) the Federal Government and its special funds
(b) the Länder Governments
Securities
Coins
Balances on postal giro accounts
Equalisation claims
Other assets

II. Liabilities

Banknotes in circulation
Deposits of
1. credit institutions
2. public depositors
   (a) the Federal Government and its special funds
   (b) the Länder Governments
   (c) other public depositors
3. other domestic depositors
4. foreign depositors
Liabilities arising from external transactions
Provisions
Capital
Reserves
Other liabilities

PART VII
General provisions

29. Special status of the Deutsche Bundesbank

(1) The Central Bank Council and the Directorate of the Deutsche Bundesbank have the status of supreme Federal authorities (oberste Bundesbehörden). The Land Central Banks and branches have the status of Federal authorities.

(2) The Deutsche Bundesbank and its staff enjoy the privileges granted to the Federal Government and its staff in the fields of construction, housing and rent.
(3) The provisions of the Commercial Code concerning entries in the Commercial Register and the provisions concerning membership of Chambers of Industry and Commerce are not applicable to the Deutsche Bundesbank.

30. Notarial officials

The President of the Deutsche Bundesbank may appoint notarial officials for the purposes of section 11 (3) above. They must be qualified to hold the office of judge.

31. Legal status of the civil servants, other salaried staff and wage earners of the Deutsche Bundesbank

(1) The Deutsche Bundesbank employs civil servants (Beamte), other salaried staff (Angestellte) and wage earners (Arbeiter).

(2) The President of the Deutsche Bundesbank appoints the civil servants of the Bank, those of the Higher Service after nomination by the Central Bank Council. In the case of civil servants of the Upper Intermediate, Intermediate and Ordinary Services, he may delegate this power to the Presidents of the Land Central Banks. The President of the Deutsche Bundesbank is the supreme institutional authority (oberste Dienstbehörde), and in this capacity he represents the Bank in and out of court. He disciplines civil servants, except in matters within the jurisdiction of the disciplinary courts, and is the authority instituting formal disciplinary proceedings (section 35 of the Federal Disciplinary Code (Bundesdisziplinarordnung)).

(3) The civil servants of the Deutsche Bundesbank are indirect Federal civil servants. Except as otherwise provided by this Act, the regulations generally applicable to Federal civil servants apply to them. The entry into force of this Act takes the place of the entry into force of the Federal Civil Service Act (Bundesbeamten gesetz).

(4) Subject to the approval of the Federal Cabinet, the Central Bank Council may regulate the legal status of the civil servants and other salaried staff of the Deutsche Bundesbank through staff regulations if the requirements of orderly and efficient banking operations necessitate it. The staff regulations may provide only

1. that, for civil servants of the Bank, the following provisions of the legislation regulating the status of Federal civil servants be departed from:

(a) sentence 2 of section 21, sentence 3 of section 24 and section 26 (1), section 30 (2), section 66 (1) 2 and 5, and section 116 (1) 3 of the Federal Civil Service Act;

(b) section 15 of the Civil Service Pay Act (Besoldungs gesetz) of December 16, 1927 (Reich Law Gazette I, page 349) as amended, insofar as a revocable, non-pensionable Bank Allowance not exceeding twenty-two per cent of the basic salary, an allowance for expenses incurred on official business and a bonus for exceptional performance are granted;

(c) the provisions on the granting of maintenance allowances to civil servants undergoing preparatory training;

2. that the civil servants and other salaried staff of the Bank are required to notify the Bank of any gainful employment on the part of their spouses;

3. that the other salaried staff of the Bank

(a) like the civil servants, require prior permission to engage in any of the sidelines specified in section 66 (1) 2 and 5 of the Federal Civil Service Act,

(b) receive the payments specified under letter (b) of number 1 above.

(5) The bonuses for exceptional performance and allowances for expenses incurred on official business specified in subsection (4) 1 (b) above may not, in the aggregate, exceed one-twentieth of the expenditure on the remuneration of the civil servants and other salaried staff of the Deutsche Bundesbank.

(6) Subject to the approval of the Federal Cabinet, the Central Bank Council issues regulations on the educational background and careers of civil servants of the Deutsche Bundesbank. It may depart from the provisions of the legislation regulating the status of Federal civil servants with respect to the duration of the preparatory training, the duration of the probationary period and the duration of the period of experience required for promotion in the Upper Intermediate Service and for qualifying for admission to the Higher Service.

32. Pledge of secrecy

All persons in the service of the Deutsche Bundesbank are pledged to secrecy about the affairs and facilities of the Bank, as well as the transactions it conducts. Without permission, they may not testify or make statements in or out of court about matters of these kinds which have come to their notice in the course of their activities, not even after they have left the service of the Bank. Where the interests of the Bank are involved, such permission is granted to members of the Central Bank Council by that Council, and to other members of the Bank's staff by the
President, who may delegate this power to the Presidents of the Land Central Banks; for a court hearing, permission may be refused only if this is necessary for the good of the Federal Government or in the public interest.

33. Public announcements

The Deutsche Bundesbank shall publish announcements intended for the general public – particularly the calling-in of banknotes, the setting of interest rates, discount rates and minimum reserve ratios, and the ordering of statistics – in the Federal Gazette.

34. By-laws

The by-laws of the Deutsche Bundesbank are adopted by the Central Bank Council. They are subject to the approval of the Federal Cabinet, and shall be published in the Federal Gazette. The same applies to amendments of the by-laws.

PART VIII
Provisions on penalties and on the detention of counterfeit money

35. Unauthorised uttering and use of monetary tokens

(1) A term of imprisonment not exceeding five years or a fine will be imposed on anybody who

1. utters without authority monetary tokens (stamps, coins, notes or other instruments capable of being used in payments in place of the coins or banknotes authorised by law) or non-interest-bearing bearer debt securities, even if they are not denominated in Deutsche Mark;
2. uses for payments objects of the type specified in number 1 above that have been uttered without authority.

(2) The attempt is punishable.

(3) If the offence described in number 2 of subsection (1) above has been committed through negligence, the punishment shall be a term of imprisonment not exceeding six months or a fine not exceeding one hundred and eighty daily rates.

36. Detention of counterfeit currency and of monetary tokens or debt securities that have been uttered without authority

(1) The Deutsche Bundesbank and all credit institutions shall detain forged or falsified banknotes or coins (counterfeit currency), banknotes and coins suspected of being counterfeit currency, and objects of the type specified in section 35 above that have been uttered without authority. A receipt shall be given to the party concerned.

(2) Counterfeit currency and objects of the type specified in section 35 above shall be handed over to the police together with a report. Credit institutions shall notify the Deutsche Bundesbank of having done so.

(3) Banknotes and coins suspected of being counterfeit currency shall be submitted to the Deutsche Bundesbank for examination. If the Bank finds that the banknotes or coins are false, it shall hand over the counterfeit currency to the police, together with an experts’ report, and inform the detaining credit institution accordingly.

37. Confiscation

(1) Objects of the type specified in section 35 above that have been uttered without authority may be confiscated.

(2) Objects confiscated under subsection (1) above and counterfeit currency confiscated under section 150 of the Penal Code shall be preserved by the Deutsche Bundesbank. They may be destroyed, if the offender has been found, ten years after the judgement ordering confiscation becomes effective or, if the offender has not been found, twenty years thereafter.
38. Restructuring the central banking system

(1) On the entry into force of this Act, the assets of the Land Central Banks and the Berlin Central Bank, together with their liabilities, pass in their entirety to the Bank deutscher Länder. No charge is made for the amendment of the Land Register. The Land Central Banks and the Berlin Central Bank cease to exist without going into liquidation.

(2) With effect from January 1, 1957 the obligations of the Länder Governments in respect of equalisation claims held by the Land Central Banks in accordance with the provisions of the currency reform pass to the Federal Government, and the obligation of the Land of Berlin in respect of the debt securities held by the Federal Government in accordance with sentence 2 of section 23 (2) of the First Act Transferring Financial Burdens and Cover to the Federal Government (Erstes Gesetz zur Überleitung von Lasten und Deckungsmitteln auf den Bund), as amended up to August 21, 1951 (Federal Law Gazette I, page 779), lapses; if the conversion account of a Land Central Bank is adjusted after this Act has come into force, the Federal Government assumes all the consequent rights and obligations. The Bank pays the Land of North Rhine-Westphalia fifteen million Deutsche Mark and the Land of Berlin five million Deutsche Mark, plus interest at the rate of six per cent each from January 1, 1957 onwards, out of the balance of its profit payable to the Federal Government under number 4 of section 27 above. This is deemed to settle all the claims of the Länder Governments arising from the extinction of their shares in the Land Central Banks and the Berlin Central Bank.

(3) The Bank refunds to the Länder Governments out of the balance of its profit payable to the Federal Government under number 4 of section 27 above, and after the payments provided for in subsection (2) above have been made, the interest those Governments have paid since January 1, 1957 on the equalisation claims of the Land Central Banks.

(4) The consequences arising from sentence 2 of section 2 above, read in conjunction with section 27 above, become operative with effect from January 1, 1957. The opening balance sheet of the Deutsche Bundesbank shall be approved as at that date, the provisions of section 26 above applying as appropriate.

39. Transitional provisions for the Executive Boards of Land Central Banks and for Advisory Boards

(1) The members of the Executive Boards of Land Central Banks existing on November 1, 1992, whose areas will change pursuant to section 8 (1) 4, 5, and 8 above, shall retire from office on November 1, 1992. They will receive their salaries as retirement pensions for the remainder of their contractual term of office, and thereafter the contractual standard retirement pension.

(2) The Advisory Boards of Land Central Banks existing on November 1, 1992 will be dissolved.

40. Changes in the terms of service

(1) On the entry into force of this Act, the civil servants, other salaried staff and wage earners of the Bank deutscher Länder, the former Land Central Banks and the Berlin Central Bank will become civil servants, other salaried staff and wage earners of the Deutsche Bundesbank. Permanent civil servants or civil servants on probation will receive the legal status of permanent civil servants or civil servants on probation under the Federal Civil Service Act; civil servants on revocable appointments will receive the legal status of civil servants on revocable appointments under the Federal Civil Service Act, unless, where the requirements of section 5 (1) 2 of the Federal Civil Service Act are satisfied, they are appointed to be civil servants on probation; the difference between a higher previous salary and the salary due after this Act has come into force will be made good by a non-pensionable compensatory allowance payable until it has been offset by salary increases; increases due to changes in civil status or changes in locality category and general salary increases resulting from changes in economic conditions will be disregarded.

(2) For the rest, the provisions of part III of chapter II of the General Act Regulating Civil Servants' Rights and Duties (Beamtenrechtsrahmengesetz) apply. In this connection, the pension of a civil servant of the Deutsche Bundesbank who has been temporarily retired may not, for a period of five years, amount to less than fifty per cent of his pensionable salary, calculated on the basis of the final level of his salary grade. This does not apply to the calculation of surviving dependants' pensions.
(3) On the entry into force of this Act, the retired civil servants, widows, orphans and other pensioners of the Bank deutscher Länder, the former Land Central Banks and the Berlin Central Bank will become pensioners of the Deutsche Bundesbank. Section 180 of the Federal Civil Service Act applies as appropriate; the entry into force of this Act takes the place of the entry into force of the Federal Civil Service Act. Section 180 (4) of the Federal Civil Service Act applies to former civil servants of the Bank deutscher Länder, the former Land Central Banks and the Berlin Central Bank and their surviving dependants.

(4) Subsection (3) above applies as appropriate to the civil servants of the Deutsche Reichsbank who were re-employed in accordance with their former legal status at an office of the Deutsche Reichsbank in the Federal territory after May 8, 1945 and who retired without having passed into the service of the Bank deutscher Länder, a former Land Central Bank or the Berlin Central Bank, and to their surviving dependants.

(5) Any claims under the Federal Act Regulating the Indemnification of Government Employees for National Socialist Injustice (Bundesgesetz zur Regelung der Wiedergutmachung nationalsozialistischen Unrechts für Angehörige des öffentlichen Dienstes) and the Federal Act Regulating the Indemnification of Government Employees Living Abroad for National Socialist Injustice (Bundesgesetz zur Regelung der Wiedergutmachung nationalsozialistischen Unrechts für die im Ausland lebenden Angehörigen des öffentlichen Dienstes) of persons

1. who were wronged in the area of the Deutsche Reichsbank or
2. who, being members or former members of the staff of the Bank deutscher Länder, the former Land Central Banks or the Berlin Central Bank, satisfy the requirements of section 22 (3) of the Act Regulating the Indemnification of Government Employees for National Socialist Injustice

become claims on the Deutsche Bundesbank. In the cases coming under number 1 above, this does not apply if another employer is required to provide indemnification under section 22 (3) of the above Act.

(6) Section 41 of this Act applies to persons who received or could have received pensions under the Act Regulating the Legal Status of Persons Coming within the Provisions of Article 131 of the Basic Law (Gesetz zur Regelung der Rechtsverhältnisse der unter Artikel 131 des Grundgesetzes fallenden Personen).

(7) (no longer valid transitional provision)

41. Legal status of persons coming within the provisions of article 131 of the Basic Law

(1) The Deutsche Bundesbank is a "corresponding institution" within the meaning of section 61 of the Act Regulating the Legal Status of Persons Coming within the Provisions of Article 131 of the Basic Law in relation to the Deutsche Reichsbank, the Nationalbank für Böhmen und Mähren and foreign central banks (number 19 of schedule A to section 2 (1) of the Act).

(2) Section 62 of the Act specified in subsection (1) above applies as appropriate to civil servants, other salaried staff and wage earners of the Deutsche Reichsbank who were employed at offices of the Deutsche Reichsbank in the Federal territory and the Land of Berlin on May 8, 1945 and who

1. lost their post for reasons unconnected with the legislation regulating the status of civil servants, other salaried staff and wage earners, and have not yet been re-employed in accordance with their former legal status or
2. reached the age of sixty-five, or became incapacitated for work, before the Act specified in subsection (1) above came into force, and are not receiving a corresponding, or any, pension for reasons unconnected with the legislation regulating the status of civil servants, other salaried staff and wage earners.

(3) For retired civil servants of the Deutsche Reichsbank who retired before September 1, 1953 (section 5 (1) 1, section 6 (2), section 35 (1) and section 48 of the Act specified in subsection (1) above), the previous basis of assessment in accordance with the Federal Civil Service Act (pensionable salaries, pension rates) is retained, subject to the modifications resulting from sections 7, 8, 29 (2) and (3) and sections 30, 31 and 35 (3) of the Act specified in subsection (1) above and sections 108, 112, 117 (1), section 140 (2) and sentences 1 and 2 of (3), section 156 (1), sections 181a and 181b of the Federal Civil Service Act; if the calculation of the pensionable period of service is based on a provision corresponding to section 117 (2) of the Federal Civil Service Act or to section 181 (5) of the Federal Civil Service Act as amended up to June 30, 1975, section 117 (3) of the Federal Civil Service Act applies as appropriate. The pension shall not exceed seventy-five per cent of the pensionable salary. The same applies as appropriate to surviving dependants. The second clause of sentence 6 of section 64 (1) of the Act specified in subsection (1) above applies.

(4) The President of the Deutsche Bundesbank is the supreme institutional authority for the persons to whom the provisions of subsections (1) and (2) above apply.
In this capacity he represents the Bank in and out of court. In the cases coming under subsection (1) above, he takes the place of the Federal Ministry of Finance insofar as the participation of that Ministry is prescribed in the Act specified therein and in the provisions of the legislation regulating the status of officials applicable under that Act.

42. Issue of liquidity paper

(1) The Federal Government shall supply the Deutsche Bundesbank on request with Treasury bills or Treasury discount paper in denominations and on terms of the Bank's choice (liquidity paper) up to the maximum amount of 50 billion Deutsche Mark. The liquidity paper is payable at the Bank. The Bank is liable to the Federal Government for meeting all obligations arising from the liquidity paper.

(2) The par value of the liquidity paper issued shall be entered in a special account by the Deutsche Bundesbank. The funds may be used only to redeem liquidity paper that has fallen due or been repurchased by the Bank prior to maturity.

(3) The Federal Ministry of Finance is entitled to issue liquidity paper pursuant to subsection (1) above.

43. (Repeal of and amendments to legislation)

44. Dissolution

The Deutsche Bundesbank may be dissolved only by an Act of Parliament. The Dissolution Act will determine how the assets shall be applied.

45. (repealed)

46. (repealed)

47. (Entry into force)
Glossary

Banking supervision. Monitoring of the business activities of credit institutions by public authorities. Its raison d'être is the central position of credit institutions in the circular flow of money in the economy. From a microeconomic point of view it is necessary to ensure the safety of the assets entrusted to credit institutions. From a macroeconomic point of view care must be taken to ensure that there will be no banking crises which would adversely affect the proper functioning of the economy as a whole. In Germany, banking supervision is carried out by the Federal Banking Supervisory Office in cooperation with the Deutsche Bundesbank.

Bank liquidity. "Liquid" funds which the banks need for maintaining their ability to pay. From the point of view of the individual bank, basically all assets which may be exchanged at any time for means of payment - such as listed securities or balances held with other credit institutions - are bank liquidity. However, payments by the banking system as a whole cannot be made by means of interbank claims, but only by means of central bank money. Credit institutions' overall liquidity therefore comprises only their current holdings of central bank balances and cash resources (cash) plus their potential balances which they are able to obtain from the central bank, notably by drawing on unutilised rediscount quotas.

Banknotes. Notes for a stated sum of money (paper money). In Germany banknotes - unlike coins - are the only unrestricted legal means of payment (legal tender). Pursuant to section 14 of the Bundesbank Act, the Deutsche Bundesbank has the monopoly of issuing banknotes, i.e. banknotes may only be issued by it.

Banks (credit institutions). Enterprises which accept funds from outside sources (deposit business) and pass on these funds in the form of loans to non-banks (lending business). Besides this function as financial intermediaries, other major tasks of the banks consist of providing non-banks with the means of payment and processing cash and cashless payments. They differ from other (non-bank) financial intermediaries in particular because of their direct money creation capability. This capability arises from the fact that sight deposits in particular are generally accepted as means of payment. In Germany, pursuant to the definition in section 1 of the Banking Act, credit institutions are enterprises conducting certain types of banking business (deposit, lending, discount, securities, safe custody, investment fund, guarantee and giro business and acquisition of claims in respect of loans prior to their maturity), if the scale of such business calls for a commercially organised business undertaking.

Bank-week return days. The 7th, 15th, 23rd and the last day of each month. The Deutsche Bundesbank publishes a Weekly Return which - like a balance sheet - shows the levels of major assets and liabilities of the Bank on these days. Moreover, the monthly average of the reserve-carrying liabilities can be calculated from the levels of these liabilities on the 23rd and the last day of the preceding month and the 7th and 15th of the current month to determine credit institutions' required minimum reserves. The money stock M3 as a monthly average is calculated as the average of five bank-week return days (from the last day of the preceding month to the last day of the current month); the end-of-month levels carry a weight of only 50% here.

Bill of exchange. Security evidencing an abstract promise, or obligation, to pay. It is governed by the special formal regulations of the Bills of Exchange Act. Bills of exchange are used in particular for the short-term financing of trade transactions. Credit institutions grant trade and industry short-term credit by purchasing bills of exchange (discount credit). The banks, in turn, may submit bills eligible for refinancing at the Bundesbank to fund their own activities (refinancing); however, such rediscount credit or, for short, discount credit is available on a limited scale only (rediscount quotas).

Borrowers' note loans. Mostly medium or long-term wholesale loans granted against a debt instrument (borrowers' note). Borrowers' note loans are mainly used by enterprises and public authorities for raising funds. The borrowers' note is not a security. It is therefore not eligible for use by the lender (essentially banks) for refinancing at the Bundesbank.

Bretton Woods system. International monetary system after the Second World War created at the United Nations monetary and financial conference in Bretton Woods (United States) in July 1944. The principal components of this agreement were the adoption of fixed exchange rates based on the gold exchange standard with the US dollar as the key currency, and the creation of the International Monetary Fund and the International Bank for Reconstruction and Development (World Bank).

Capital market. Collective name for all markets in which long-term loans and equity capital are traded. In the narrower sense, the term capital market means organised trading in securities only (exchange). The securities market, in turn, is
subdivided into the debt securities market (market for ⇒ debt securities) and the share market (market for equity capital of public limited companies). Finally, the securities market also includes the certificates of investment funds; the latter represent an indirect means of acquiring securities provided that investment funds, in turn, purchase debt securities or shares.

**Cash (currency).** Comprises ⇒ banknotes and ⇒ coins. Currency constitutes the stock of legal tender (⇒ means of payment). Currency in circulation outside the domestic banking system is a component of the ⇒ money stock.

**Cash advances.** Short-term credit of limited volume granted by the Bundesbank to public authorities in the form of book credit and credit against Treasury bills for bridging cash deficits in the course of budget implementation. These credit facilities of the Bundesbank were abolished at the beginning of 1994 with the implementation of the provisions of the Maastricht Treaty concerning the second stage of economic and monetary union, which, among other things, prohibits central bank lending to public authorities.

**Cash deposit.** Balances which residents, in particular non-banks, must hold in the form of a specified percentage of their borrowing from non-residents in a non-interest-bearing special account with the Bundesbank. This requirement is designed to counteract the inflow of foreign funds outside the domestic banking system which would lead to an undesirable expansion of the ⇒ money stock. A cash deposit requirement applied between March 1972 and July 1974.

**Central bank balances.** Balances held at the central bank – usually by ⇒ banks. They are used by the credit institutions for meeting their ⇒ minimum reserve requirements and as working balances. In Germany, all these balances of ⇒ central bank money are held in non-interest-bearing giro accounts (section 19 (1) 4 of the Bundesbank Act). Central bank balances are traded in the ⇒ money market for interbank liquidity adjustment.

**Central bank money.** Broadly, the ⇒ money created by the central bank. Central bank money comprises the total stock of ⇒ cash (currency) in circulation and the ⇒ central bank balances of banks and non-banks. Central bank money in the narrower definition used by the Bundesbank comprises currency in circulation outside the domestic banking system and credit institutions’ ⇒ minimum reserves on their domestic liabilities.

**Central bank money stock.** Currency in circulation outside the domestic banking system plus the banks’ required reserves on their liabilities to residents, with the required reserves being computed at constant reserve ratios (base: January 1974). Until 1987 the Bundesbank used the central bank money stock as its ⇒ intermediate target variable for monetary policy, for which it set annual ⇒ monetary targets.

**Coins.** Pieces of metal which perform ⇒ functions of money (hard money). If the value of the minted metal is the same as the face value of the coin, the coins are called standard coins; if the intrinsic value of the minted coin is lower than the face value, they are called ⇒ token coins.

**Conversion rate.** Rate at which flow and stock data (such as wages and bank deposits) are converted into another ⇒ currency in the course of a currency reform or monetary union. In the case of the German monetary union, flow data were converted at a rate of 1:1 from GDR Mark into Deutsche Mark, and stock values basically at a rate of 2:1. In the case of savings deposits, however, a basic amount was converted at a rate of 1:1.

**Convertible.** Possibility of exchanging one’s own ⇒ currency freely and without restriction for foreign currency at the ruling ⇒ exchange rate. Another feature of convertibility is the unrestricted transferability of domestic currency abroad and of foreign currency to the home country. Only currencies which are not subject to any restrictions on current international payment and financial transactions applying to residents or non-residents are deemed to be fully convertible. The Deutsche Mark is such a fully convertible currency.

**Currency.** Monetary unit of a country. The usage of the term currency varies. For one thing, it refers to the nationally regulated monetary system of a state, including all its regulations safeguarding price stability (monetary constitution). For another, it refers to the type of cover for currency in circulation (e.g. gold standard, paper currency).

**Debt securities.** Securities whereby the issuer undertakes to pay a specified sum of money on maturity and to make interest payments in accordance with a specified procedure. Debt securities are used when there is a large need for borrowed funds. Debt securities may be issued not only by public authorities (public debt securities), but in particular also by ⇒ banks (bank debt securities, mortgage bonds) and industrial corporations (industrial bonds).
Deposit money. Demand deposits held with credit institutions (giro money, sight deposits) which can be used as money by issuing cheques, direct debits or credit transfers. Sight deposits are part of the generally accepted \( \Rightarrow \) means of payment \( \Rightarrow \) money; non-banks' holdings of deposit money are therefore also a component of narrow definitions of the \( \Rightarrow \) money stock. Deposit money is created by \( \Rightarrow \) money creation by \( \Rightarrow \) banks.

Direct inflation targeting. Monetary policy strategy where the final goal of price stability is targeted direct, i.e. where no \( \Rightarrow \) intermediate target is set. The basic idea is to take due account of the uncertainties and time-lags involved in the monetary transmission mechanism by monitoring a large number of \( \Rightarrow \) indicators considered to be relevant and at the same time to fix the thrust of monetary policy by setting a target value for the price level or inflation rate. The disadvantages of such an approach compared with an intermediate target strategy are a higher degree of complexity, the associated reduction in transparency for the general public and the danger of a certain degree of disorientation of monetary policy decisions. Recently, the central banks of some countries (such as the United Kingdom, New Zealand, Canada and Finland) have adopted such a one-tier strategy. The reason for this change of strategy was not theoretical advantages but rather the collapse of traditional monetary relationships which had rendered an intermediate target strategy impossible. The fact remains that monetary policy in these countries, too, is unable to control the price level directly by means of the instruments available.

Discount rate. Interest rate which the Bundesbank charges for granting \( \Rightarrow \) rediscount credit. Setting the discount rate and the \( \Rightarrow \) Lombard rate by the Central Bank Council is the traditional core of the Bundesbank's interest rate policy (section 15 of the Bundesbank Act). The discount rate is traditionally the lowest lending rate of the Bundesbank.

ECU (European Currency Unit). The European Currency Unit ECU is the official unit of account of the European Community. It is defined as a currency basket which contains fixed amounts of most EC currencies. The ECU is the sole numeraire for all operations in the context of the intervention and credit mechanism of the \( \Rightarrow \) European Monetary System. On the other hand, the ECU hardly performs the "classical" \( \Rightarrow \) functions of money; its role as a \( \Rightarrow \) means of payment and unit of account for the exchange of goods and services is insignificant. As it is designed as a currency basket, the value of the ECU and the conversion rates vis-à-vis the national currencies change; the daily values of the ECU are computed and published by the EC Commission on the basis of the dollar rates of the basket currencies. A distinction should be made between the official ECU and the private ECU; the latter is defined individually in agreements – for instance, in the issue terms for debt securities.

Equalisation claim. Asset created for the adjustment of the balance sheets of banks and enterprises. A need for equalisation claims can arise if in the wake of a currency conversion assets and liabilities are not converted at the same rate and there are not sufficient assets for the adjustment of the balance sheet. The creation of such substitute assets was necessary for the first time after the currency reform of 1948 and again after monetary union with the former GDR in 1990. The allocation of equalisation claims was necessary in 1948 because the banks' loans to the Government had become worthless while the banks still had a sizeable volume of deposits after the currency reform. The balance sheet of the Bundesbank includes over DM 8 billion in equalisation claims which had been created when the population was provided with an initial stock of cash. The instrument of equalisation claims was used again in mid-1990, firstly, to close the gap between the loans and the deposits, which on average had been converted at a more favourable rate, and, secondly, to provide the east German banks, which had to write off some of their loans which had become worthless, with adequate capital. On request, these equalisation claims can be changed into negotiable debt securities (issued by the Currency Conversion Equalisation Fund) and then used as a basis for borrowing from the Bundesbank (\( \Rightarrow \) Lombard loans, \( \Rightarrow \) securities repurchase transaction). Equalisation claims are claims on the Federal Government and the Länder Governments.

European Monetary Institute (EMI). An institution set up at the beginning of the second stage of European economic and monetary union (EMU) in 1994. The EMI is to coordinate national monetary policies in the EC during the second stage; the objective of this coordination is to achieve the convergence in the field of price stability necessary for transition to the final stage of EMU. In addition, the EMI is to prepare the regulatory, organisational and logistic framework which the \( \Rightarrow \) European System of Central Banks requires for the performance of its functions in the third stage of EMU. The members of the EMI are the central banks of the EC member states. The EMI is directed by the Council of the EMI, which consists of the President of the EMI and the Governors of the national central banks. The EMI is domiciled in Frankfurt am Main.

European Monetary System (EMS). The European Monetary System was established on March 13, 1979 as the successor to the European narrower margins arrangement with the objective of creating a "zone of monetary stability" with
basically fixed but adjustable exchange rates. One of the main elements of the EMS is the European exchange rate mechanism (ERM). The by-laws of the EMS provide for exchange rate stabilising measures whenever the ⇒ intervention points of the participating currencies are reached; these measures comprise interest rate policy and economic policy measures as well as compulsory intervention and realignments. On account of its high degree of monetary stability and the confidence which it enjoys in the financial markets, the Deutsche Mark has emerged as the anchor currency of the EMS. The fluctuation margins, which originally had been ± 2.25% of the current central rates, were widened to ± 15% in the wake of the exchange rate turmoil in 1993.

European System of Central Banks (ESCB). Organisation to be set up under the European economic and monetary union (EMU) and consisting of the European Central Bank (ECB) and the central banks of the member states. The ESCB will exercise the sovereign rights in the area of domestic and external monetary policy for the states participating in monetary union. The primary objective of the ESCB is to maintain price stability. The main tasks of the ESCB in the final stage of EMU are to define and implement the monetary policy of the Community, to conduct foreign exchange operations and to hold and manage the foreign reserves. Moreover, it has to promote the smooth operation of the payment system and to perform a number of advisory and information functions. In its monetary policy decisions the ESCB is independent of instructions from other bodies responsible for economic policy at a national or Community level. The central decision-making body of the ESCB is the Governing Council of the ECB.

Exchange. Organised market in which fungible goods (such as securities, commodities, foreign exchange) are traded in accordance with specified rules. The rates or prices of the goods traded are fixed on the basis of supply and demand.

Exchange rate. Price of a ⇒ currency expressed in units of another currency. In Germany, the exchange rate is fixed both officially and in (interbank) over-thecounter trading. The official exchange rate is fixed on the currency exchange (⇒ exchange) in Deutsche Mark for a specified amount of the foreign currency concerned (direct quotation, e.g. DM 1.38 = US$ 1 or DM 1.16 = Pta 100). In contrast to the direct quotation, the indirect quotation states the amount of the foreign currency to be paid in exchange for a specified amount of domestic currency (e.g. US$ 0.72 = DM 1). There are floating exchange rate and fixed exchange rate systems.

Federal Banking Supervisory Office (Bundesaufsichtsamt für das Kreditwesen). Carries out ⇒ banking supervision in cooperation with the Bundesbank in accordance with the provisions of the Banking Act. The office has to counteract undesirable developments in banking which may endanger the safety of the assets entrusted to ⇒ banks, adversely affect the orderly conduct of banking business, or involve serious disadvantages for the national economy. It is a superior Federal authority reporting to the Federal Ministry of Finance and is domiciled in Berlin. The Act on the relocation of the Federal Government to Berlin (Gesetz über den Umzug der Bundesregierung nach Berlin) stipulates that the domicile of the Federal Banking Supervisory Office will be relocated to Bonn.

Federal Supervisory Office for Securities Trading (Bundesaufsichtsamt für den Wertpapierhandel). Monitors, based on the provisions of the Act Governing Securities Trading (Gesetz über den Wertpapierhandel), compliance with the transparency requirements for stock exchange trading and is involved in the detection of insider trading offences; moreover, its tasks include cooperation with the securities supervisory authorities abroad. This superior Federal authority is domiciled in Frankfurt am Main.

Financing paper. ⇒ Treasury bills and ⇒ Treasury discount paper which public authorities issue through or in consultation with the Bundesbank to meet part of their short-term borrowing requirements.

Fixed-rate tender. ⇒ Securities repurchase transaction.

Foreign exchange repurchase transaction. ⇒ Repurchase transaction (repo).

Foreign exchange swap. Spot purchase and sales transactions of the Bundesbank with other credit institutions in a particular currency with the simultaneous agreement of an offsetting forward transaction. Foreign exchange swap transactions are used by the Bundesbank chiefly as an instrument for fine-tuning ⇒ bank liquidity. The relative difference between the rates for the two maturity dates of a ⇒ swap transaction is called the ⇒ swap rate.

Functions of money. A distinction is made between three principal economic functions performed by ⇒ money. Money is used (1) to make exchange transactions economically efficient and cost-effective (function as a medium of exchange and ⇒ means of payment); (2) enable the values of disparate goods to be calculated and compared by reducing the virtually infinite choice of relative prices in an economy (one good expressed in units of another good) to the much smaller
number of absolute prices (a good expressed in monetary units) (function as a unit of account); (3) store assets in the form of the highest degree of \( \Rightarrow \) liquidity over time (function as a store of value). Using money as a medium of exchange and a unit of account has made possible the transition to a properly functioning economy based on the division of labour. In times of very high and sharply accelerated \( \Rightarrow \) inflation the functions of money can be impaired to such an extent that new media of exchange and units of account — such as precious metals, cigarettes or foreign currencies — replace the old money.

**Independence of the central bank.** Degree of freedom of decision which a central bank enjoys in performing its function as the body responsible for monetary policy. Legal independence is generally provided for in the legislation concerning a country’s central bank. Broadly speaking, there are three aspects of independence: (1) Functional (institutional) independence describes the degree of freedom with which a central bank is able to gear its monetary policy to statutory objectives or to objectives it may have set itself. (2) Financial (instrumental) independence concerns the freedom to manage assets and liabilities and hence the use of monetary policy instruments. A central bank is independent in the instrumental sense if it has a set of instruments at its disposal which is adequate for the performance of its functions and if it can use these instruments at its discretion. Financial independence can be restricted, for example, by the obligation to finance government budget deficits or by obligations to intervene under systems of fixed exchange rates. (3) Independence of the central bank with regard to its governing bodies refers in particular to the choice, term of office and possibility of early retirement of the members of these bodies. The Deutsche Bundesbank enjoys a comparatively high degree of independence with regard to all of the three aspects mentioned.

**Indicator.** Variable which serves to describe or forecast economically relevant facts. Indicators are used in particular for analysing economic activity (such as the trend in orders received, which is used as a leading indicator of economic activity). The function of indicators in monetary policy is to show the direction and strength of the impulses emanating from monetary policy measures and thus to permit an accurate and early assessment of the stance of monetary policy. Neither the movement of the monetary policy instrument variables themselves (such as central bank interest rates) nor the trend in the ultimate goal variable is suitable for this purpose. Instead, it requires a variable which in the transmission process lies between the starting point and final point of the transmission path. The movement of the indicator variable should, firstly, reflect the influence of monetary policy measures and, secondly, furnish this information quickly and with a high degree of accuracy. Finally, a connection which can be easily forecast should exist between changes in the indicator value and the trend in the monetary policy target variable proper. If a central bank uses the same variable as an indicator and as an \( \Rightarrow \) intermediate target variable (for example, in Germany the \( \Rightarrow \) money stock M3), the trend in the variable will indicate ex post the effects of past monetary policy measures (indicator), while performing the function of the intermediate target by setting a value to be aimed at in the future.

**Inflation.** Rise in the general level of prices continuing over several periods. A characteristic feature of inflation is price rises involving basically all categories of goods and an associated general fall in the purchasing power of money; changes in the prices of individual goods only, on the other hand, do not constitute inflation. Selected price indices are used for measuring inflation. The best-known of these is the cost-of-living index for all households.

**Instruments of monetary policy.** Measures which the central bank has at its disposal and which are designed to achieve the (mostly statutory) objectives set. The Bundesbank’s instruments of monetary policy are primarily aimed at managing interest rates and the availability of funds in the \( \Rightarrow \) money market in such a way that the desired expansion of the \( \Rightarrow \) money stock (\( \Rightarrow \) monetary target) and ultimately price stability are achieved. The main instruments are \( \Rightarrow \) refinancing policy, \( \Rightarrow \) open market policy and \( \Rightarrow \) minimum reserve policy.

**Intermediate targeting.** Monetary policy strategy whereby the central bank gears its policy to a variable which in the transmission mechanism lies between the instrument variables which a central bank is able to control direct (e.g. money market rate) and the ultimate goal (opposite: \( \Rightarrow \) direct inflation targeting). In the final analysis the reason for using an intermediate target variable for monetary policy is that the central bank is unable to control the inflation rate directly. A two-tier strategy thus seeks to take due account of the limited knowledge of the strength and duration of the effects of monetary policy measures and of the structure of the economic and financial system. A suitable intermediate target variable must meet two requirements in particular. Firstly, it must be closely linked to the final goal of monetary policy so that pursuit of the intermediate target brings the central bank closer to meeting the final goal. Secondly, the central bank should be able to manage the intermediate target variable with sufficient accuracy and without major time-lags by means of the instruments it has at its disposal. The Bundesbank adopted a policy of monetary targeting in the mid-seventies. Initially it used the \( \Rightarrow \) central bank money stock, but from 1988 it has used the \( \Rightarrow \) money stock M3, as an intermediate target. In the institutional framework obtaining in
Germany these aggregates have met the requirements of an intermediate target comparatively well. Moreover, a monetary policy geared to publicly announced ⇒ monetary targets increases the transparency of central bank action, makes it easier for other economic agents to anticipate future developments and thus reduces the frictions caused by monetary policy.

Intermediate target variable. ⇒ Intermediate targeting.

International Monetary Fund (IMF). The creation of the International Monetary Fund dates back to the monetary and financial conference of the United Nations held in Bretton Woods (United States) in July 1944. It was associated with the setting-up of a new international monetary system based on fixed ⇒ exchange rates. All member states of the IMF have contractually undertaken to comply with agreed rules and to cooperate closely on questions of international monetary policy and international payments. The principal objectives of the IMF are the removal of foreign exchange controls and the transition to ⇒ convertibility, surveillance of national exchange rate policies, the granting of financial assistance to overcome balance of payments problems and the prevention of a world-wide shortage of international liquidity ⇒ special drawing right). Germany has been a member of the IMF since 1952.

Intervention points. The extreme limits up to which ⇒ exchange rates may depart from ⇒ parity in a system of fixed exchange rates. When these maximum or minimum values are reached, the central banks must intervene, i.e. they must purchase or sell foreign exchange to maintain the exchange rate within the band marked by the upper and lower intervention points.

Liquidity. Broadly speaking, the ability of an economic agent to meet current payment obligations or incur new ones. In a subjective sense, the liquidity status is based on the individual perception of the extent to which ⇒ means of payment are available at short notice. This expectation depends on the current stock of perfect means of payment ⇒ cash (currency) and ⇒ deposit money, short-term borrowing facilities and the expected realisation value of all other assets. As this subjective liquidity cannot be measured, the statistical recording of liquidity in the economy is based on specific forms of assets that are available at short notice.

Examples of such means of measuring liquidity are the various definitions of the money stock, which are designed to reflect differing degrees of liquidity, or of ⇒ bank liquidity.

Liquidity paper. ⇒ Treasury bills and ⇒ Treasury discount paper which the Bundesbank buys or sells for its own account in accordance with monetary policy requirements. Liquidity paper is supplied by the Federal Government to the Bundesbank on request, pursuant to section 42 of the Bundesbank Act, up to (a maximum amount of) DM 50 billion. It does not serve to finance public deficits, but to manage ⇒ bank liquidity or liquidity in the economy; as a rule, such paper cannot be returned before maturity. Occasionally, the Bundesbank offers Treasury bills, normally of three days’ maturity, for fine-tuning the ⇒ money market.

Lombard loans. Loans at interest which the Bundesbank grants against the pledge of securities (section 19 (1) 3 of the Bundesbank Act). The collateral mostly consists of ⇒ debt securities which meet particularly high quality standards (paper eligible as collateral for Lombard loans). Lombard loans are intended as an emergency facility; in principle, Lombard loans are to be granted only to bridge temporary liquidity needs, and if the size or maturity of such Lombard borrowing seems to be appropriate and justified. The possibility of recourse to the Lombard loan facility may be limited by the Bundesbank in terms of duration or quantity (special Lombard loans) or even suspended temporarily.

Lombard rate. Interest rate at which the Bundesbank grants ⇒ Lombard loans. Traditionally, the Lombard rate is the highest central bank interest rate. For one thing, this reflects the fact that Lombard loans are supposed to be for emergency funding; for another, the Lombard rate ⇒ being the price for the alternative of obtaining funds from the central bank ⇒ normally forms the upper limit to the day-to-day interbank ⇒ money market rate.

Means of payment. Component of financial assets whose characteristic feature is that they are accepted in economic transactions for the settlement of money debts and also as a general medium of exchange (perfect means of payment). Certain financial assets can assume the property of a means of payment by custom or by act of law. In the latter case, they are said to be legal tender. Legal tender must be accepted by law in settlement of money debts. In Germany, the ⇒ banknotes put into circulation by the Bundesbank are unlimited legal tender; ⇒ coins, however, are only limited legal tender. Perfect means of payment nowadays also include ⇒ deposit money, as it must be accepted as a rule in payment transactions in good faith. In periods of monetary disruptions – as, for instance, in Germany after the First and Second World Wars – the means of payment and the medium of exchange functions of the national currency may be separated: while ⇒ cash (currency) must be accepted in settlement of money debts as before, it is no longer used in private economic transactions as a medium of exchange but replaced by
other media – such as foreign currencies or goods of stable value ("cigarette currency").

**Minimum reserves.** Depository bank balances of banks which the latter must maintain at the central bank to meet their minimum reserve requirements. The level of a bank’s required minimum reserves is established by applying the minimum reserve ratios to the reserve-carrying balance sheet items. Pursuant to section 16 of the Bundesbank Act, the Bundesbank can require credit institutions to maintain a certain percentage of their liabilities arising from sight deposits, time deposits, savings deposits and short and medium-term borrowed funds – excluding their liabilities to other credit institutions subject to minimum reserve requirements – as credit balances in their giro account with it. The details are spelled out by the Bundesbank in a Minimum Reserve Order (Anweisung über Mindestreserven – AMR). The level of the reserve-carrying liabilities of a credit institution during a month is generally calculated from the average level of these liabilities on the four bank-week return days between the 23rd of the preceding month and the 15th of the current month. Multiplication of the average levels by the respective minimum reserve ratios for the individual forms of deposits yields the minimum reserve requirements in the month concerned. Required minimum reserves have to be maintained as balances with the Bundesbank on a calendar-day average. Nowadays the Bundesbank primarily uses the minimum reserve requirements as an instrument for stabilising credit institutions’ demand for central bank money.

**Monetary capital.** Sum total of all longer-term claims of domestic non-banks on the banking system which are not included in the respective definition of the money stock. According to the definition used by the Bundesbank, monetary capital comprises time deposits for four years and more, savings deposits at over three months’ notice, bank savings bonds, other bank debt securities outstanding – all held by domestic non-banks – and the banks’ capital and reserves.

**Monetary target.** Target corridor announced in advance for the annual increase in a monetary aggregate which the central bank regards as a suitable intermediate target variable for its monetary policy strategy. The Bundesbank has announced a monetary target for the year ahead at the end of each year since 1974. Until 1987 this target was expressed in terms of the central bank money stock, but since 1988 it has been based on the money stock M3.

**Money.** The generally accepted medium of exchange and means of payment in a society. This traditional definition which is based on the functions of money chooses the function of a medium of exchange as the defining feature. In Germany, the money stock M1 defined by the Bundesbank corresponds to this definition. Broader money stock definitions such as M2 and M3 include, besides the perfect means of payment (as goods of the highest degree of liquidity), assets which, while not directly used for payment purposes, are available at short notice and hence highly liquid.

**Money creation.** Increase in the money stock through particular asset- and liability-side transactions of the banking system. Nowadays, the principal means of creating money is lending by the commercial banks (active money creation); a sight balance to the amount of the loan is made available to the borrower, and this immediately causes the overall money stock to rise. Whenever non-banks shift bank deposits which are not counted towards the money stock (monetary capital) into types of deposit which are a component of the money stock, new money is also created (passive money creation). The money creation by banks simultaneously increases their need for central bank money: for one thing, a certain part of the new money created by banks is as a rule exchanged for cash (currency); for another, the credit institutions’ minimum reserve requirements increase with the growth of bank deposits. By changing its interest rates and other conditions on which it provides central bank money on an ongoing basis, the central bank is able indirectly to influence the money creation process in the economy.

**Money market.** In the narrower sense, trading in central bank balances whereby liquidity adjustment between commercial banks is effected. A distinction is made between day-to-day money and time deposits (funds with maturities of up to twelve months). Moreover, the refinancing transactions concluded between the Bundesbank and the credit institutions are counted as part of the money market. The money market in the broader sense includes trading in money market paper.

**Money market paper.** Includes, besides financing paper, liquidity paper issued on the initiative of the Bundesbank, pursuant to section 42 of the Bundesbank Act. In the broader sense, money market paper also includes debt securities for less than one year issued by banks (certificates of deposit) and enterprises (commercial paper).

**Money stock.** Stock of money in the hands of domestic non-banks. Because of the lack of clarity regarding the concept of money there are various statistical definitions of the money stock. The Deutsche Bundesbank distinguishes between the following money stock concepts: M1 = currency in circulation (excluding the
banks’ cash holdings) plus sight deposits held by domestic non-banks (other than Federal deposits). M2 = M1 plus time deposits for less than four years held by domestic non-banks. M3 = M2 plus savings deposits at three months’ notice held by domestic non-banks. M3 extended = M3 plus bank deposits held by domestic non-banks at foreign subsidiaries and foreign branches of German banks, and short-dated bank debt securities and domestic and foreign money market fund certificates in the hands of domestic non-banks, less bank deposits and short-term bank debt securities of domestic money market funds. Until 1987, the ⇒ central bank money stock also played a major part in the Bundesbank’s monetary policy.

**Normative inflation.** Normative inflation is one of the macro-economic benchmarks on which the derivation of the ⇒ monetary target is based. For the computation of the target the estimated rate of growth of real ⇒ production potential must be converted into a nominal variable since the monetary target, too, is formulated in nominal terms. Since the mid-eighties the Bundesbank has used a normative ⇒ inflation rate of not more than 2%. On the basis of this normative inflation, which is to be regarded as the maximum inflation rate to be tolerated over the medium term, it determines the stability target which is appropriate for the practical implementation of monetary policy. A low positive tolerance limit for changes in the overall price level is advisable, particularly in view of statistical recording errors and a certain overestimating of the inflation rate in the price statistics (primarily on account of the incomplete inclusion of substitution effects and quality changes).

**Open market operation (open market policy).** The purchase or sale of securities by the central bank for its own account in the ⇒ money market or ⇒ capital market (“open market”). Pursuant to section 21 of the Bundesbank Act, the Bank may conduct open market operations only in order to regulate the money market and must do so at market rates. The Bank may carry out open market operations both in ⇒ money market paper and capital market paper. Purchases ⇒ bank liquidity, whereas sales reduce liquidity. Open market operations may either be “final” ( outright) or “temporary”. In the latter case, they are called ⇒ repurchase transactions (repos). Open market operations in securities under repurchase agreement (⇒ securities repurchase transaction) are of major significance for the Bundesbank’s ongoing money market management; they are now the principal source of credit institutions’ ⇒ refinancing.

**Parity (monetary parity).** In a system of fixed ⇒ exchange rates the fixed rate of exchange between a ⇒ currency and gold (gold parity), another currency (e.g. dollar parity) or an artificial currency unit (e.g. ECU parity).

**Production potential.** The possible (potential) output of goods and services in an economy based on the available labour and capital stock and the technological progress over a certain period under conditions of normal capacity utilisation. In the analysis of economic trends it is used as a yardstick for measuring the adequacy of growth in the economy. In the Bundesbank’s monetary policy strategy it is the key variable for calculating the ⇒ monetary target. The objectives of this potential-oriented monetary policy are, firstly, to provide sufficient money for the potential overall economic growth and, secondly, to limit narrowly the scope for a rise in prices from the monetary side from the outset.

**Rediscant credit.** Credit which the Bundesbank grants credit institutions against the purchase of bills of exchange (section 19 (1) 1 and 2 of the Bundesbank Act). The bills eligible for purchase are subject to special requirements; in particular they should be fine trade bills. The total volume of rediscant credit is fixed by the Central Bank Council. Moreover, a limit is fixed for each institution up to which it may resort to this form of ⇒ refinancing (⇒ rediscant quota). The share of rediscant credit in credit institutions’ total borrowing from the Bundesbank has dropped distinctly as a result of the increased use of ⇒ securities repurchase transactions since the mid-eighties.

**Rediscant quota.** The ceiling set for each bank for the ⇒ discount credit facility granted to a credit institution through the discounting of ⇒ bills of exchange at the Bundesbank. The total amount of rediscant quotas, which is fixed by the Central Bank Council, is distributed among the various credit institutions; the volume of the rediscant quota is determined chiefly by the level of the liable capital and the business structure of the institution concerned.

**Refinancing.** ⇒ Central bank money obtained by the ⇒ banks from the central bank by borrowing. Whereas an individual credit institution is also able to raise funds in the (interbank) ⇒ money market, the banking system as a whole needs to fund its activities by borrowing from the Bundesbank, especially as a result of the demand for ⇒ cash (currency) and of the minimum reserve requirements associated with ⇒ money creation. As a rule, such borrowing takes the form of rediscounting bills (⇒ rediscant credit), the conclusion of ⇒ securities repurchase transactions and recourse to ⇒ lombard loans.

**Repurchase transaction (repo).** Sale of an asset with a simultaneous agreement to repurchase it forward. Repurchase transactions in debt securities between the Bundesbank and the commercial banks have the advantage from the point of view of monetary policy that ⇒ central bank money is provided or absorbed only
temporarily. In addition to the regular ⇒ securities repurchase transactions, the Bundesbank from time to time uses ⇒ foreign exchange repurchase transactions. In the case of these transactions the Bundesbank transfers (sells) claims to foreign assets to the banks for a limited period of time.

Scaling-down. Allotment of supply based on quotas in the case of excess demand. When ⇒ securities repurchase transactions are concluded, the bids submitted by banks normally exceed the volume which the Bundesbank considers to be adequate, with the result that bids have to be scaled down. In the case of fixed-rate tenders, all bids are allotted by the Bundesbank at a uniform scaling down rate (planned volume divided by total amount of bids); in the case of variable-rate tenders, only the bids at the marginal allotment rate are scaled down as appropriate, while all bids above that rate are allotted in full.

Securities repurchase transaction. Purchase by the Bundesbank of securities eligible as collateral for Lombard loans which are listed on a stock ⇒ exchange and of Treasury discount paper issued by the Federal Government, its special funds and the Länder Governments on condition that the banks simultaneously repurchase the paper forward. The Bundesbank employed securities repurchase transactions for the first time in June 1979; since the mid-eighties ongoing liquidity provision has increasingly been effected through the use of these ⇒ open market operations. Securities repurchase transactions take the form of either fixed-rate tenders, whereby the Bundesbank sets the repurchase rate itself and scales down bids received at that rate in accordance with its liquidity policy intentions, or variable-rate tenders, whereby, credit institutions also bid the interest rate. Allocations of variable-rate tenders are effected at a uniform rate ("Dutch auction") or at the individual rates bid by the credit institutions ("US-style auction"). Bids above the lowest rate accepted are allotted in full, whereas bids at that rate may be scaled down (⇒ scaling-down). To meet temporary peaks in the need for liquidity the Bundesbank also employs "quick tenders" (with very short maturities) occasionally; these are offered to banks which are active players in the money market, and are settled on a same-day basis.

Special drawing right (SDR). Reserve asset created by the ⇒ International Monetary Fund (IMF) which can be allocated to all member countries on a non-inflationary scale if there is a long-term global need to supplement existing monetary reserves. SDRs may be held only by the IMF, the monetary authorities of the participating states and other prescribed holders and be used for mutual payments and other financial transactions. The SDR which is used as a unit of account and in which the IMF keeps its books and denominates its transactions with member states is quite another matter. The value of one SDR corresponds to the market value of a basket containing specified amounts of the five most important international currencies (US Dollar, Deutsche Mark, Japanese yen, French franc and pound sterling). The market value of the SDR in a particular currency can be computed by applying the ruling rate of exchange to these currency amounts.

Swap rate. Relative difference between spot and forward rates at which foreign exchange is traded. ⇒ Foreign exchange swap transactions are based on this rate; they are used by international market players to hedge against the exchange rate risk.

Swap transaction. Exchange of currency positions and/or interest payment obligations (for example, exchange of future US dollar payment obligations for future Deutsche Mark payment obligations). Now a widely used instrument in the financial management of banks and enterprises. A special variant is the Bundesbank's swap transactions involving a spot swap (generally US Dollar for Deutsche Mark) and a simultaneous forward counter-transaction. The Bundesbank occasionally uses ⇒ foreign exchange swap transactions for its short-term assistance measures in the ⇒ money market; as a rule they increase liquidity.

Token coins. ⇒ Coins whose precious metal or metal value is lower than their face value. The coins used in Germany are token coins. They are legal tender (⇒ means of payment) to a limited extent only; the obligation to accept coins denominated in pfennig is limited to DM 5 and that for coins denominated in Mark to DM 20. The right to mint coins (coining prerogative) lies with the Federal Government.

Treasury bills. Promissory notes issued by the public sector with maturities ranging from a few days to six months. Treasury bills are issued as discount paper, i.e. the purchaser pays only the amount of the bill less the discount and on maturity is repaid the nominal amount. Treasury bills, which are used for short-term borrowing, fall into the category of ⇒ financing paper; where Treasury bills are issued by the Bundesbank to manage ⇒ bank liquidity, they are called ⇒ liquidity paper.

Treasury discount paper. Non-interest-bearing ⇒ Treasury paper.

Treasury paper. Mostly short or medium-term ⇒ debt securities issued by the public authorities with maturities of between six months and several years. Besides
fixed-rate Treasury notes, there is also non-interest-bearing Treasury paper, e.g. ⇒ Treasury bills, which is issued as discount paper. Depending on the purpose for which it is issued, Treasury discount paper takes the form of either ⇒ financing paper or ⇒ liquidity paper.

Variable-rate tender. ⇒ Securities repurchase transaction.

Velocity of circulation of money. The ratio between nominal GNP (or some other variable measuring the overall turnover of goods in an economy) and the ⇒ money stock. The velocity of circulation thus indicates the average number of times in a specific period that a unit of money is used for payment purposes. The main longer-term determinants of the velocity of circulation are non-banks’ payment patterns and technological progress in the field of payment transactions. The velocity of circulation changes with the definition of the money stock. Over the longer term, the velocity of circulation in Germany measured, for example, in terms of the money stock M3 – is declining steadily (by about ½ % to 1% annually). In the short term, on the other hand, it fluctuates within the business cycle around this declining trend. Changes in the velocity of circulation have to be taken into account when deriving the ⇒ monetary target.

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