

Banks, financial markets and monetary policy

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Foreword

Financial markets all over the world are being inundated with innovations, a development which has been going on for nearly two decades now. In combination with vast leaps in information technology, these innovations have led to the globalization of financial institutions and intensified competition. As a result, monetary authorities everywhere have taken to liberalizing and deregulating their financial markets.

All this has also had an impact on the implementation and efficacy of monetary policy. Although monetary policy is based above all on monetary theory, the achievement of the objective of price stability is ultimately dependent on the behaviour of consumers, producers, financial institutions and government, both domestically and elsewhere. That behaviour, though influenced by the increase in possibilities brought about by financial innovations, is also determined by institutional conditions such as the financial infrastructure, which differs from one country to the next. Any assessment of how the above developments in the financial markets affect monetary policy as it is conducted in different countries should therefore be made against the background of the institutional framework prevailing in each of these countries.

That is in fact what this book is all about, and in my view that is what makes it so worthwhile. The present, second, edition deals with developments in financial markets right up to the mid-1990's, and the reaction of monetary policy-makers to these developments. The book consequently has considerable import as a book of reference. But not only that, from the viewpoint of the start of Stage Three of the European Monetary Union, too, it has its merits. Stage Three is characterized above all by the implementation of a single monetary policy, the salient features of which were published by the European Monetary Institute in the spring of 1997. That single policy is underlain in part by the experience which the Member States have gained through their current monetary policy regimes. Knowledge of these systems, as presented by this book, will enhance our insight into the single monetary policy which awaits us.

Wim F. Duisenberg
President of the European Monetary Institute

Financial markets and monetary policy: the Anglo-Saxon perspective versus the continental- European perspective

By Wim W. Boonstra and Sylvester C.W. Eijffinger

1. Financial markets: deregulation and liberalisation

Since the second half of the 1970s, financial markets in most industrial countries have undergone a process of innovation and, thereby, of disintermediation. Financial innovation refers to the introduction of both new financial instruments and techniques and can be divided into product and process innovations.

The introduction of new financial instruments is one outcome of financial product innovation, but it can also mean new characteristics being added to existing instruments.¹ Financial process innovations support the introduction of product innovations or increase the marketability of present instruments. Examples of such process innovations are the strong growth of the so-called off-balance-sheet activities of the banks, the development of financial disintermediation, limiting the role of the banking system, and the rise of securitization making direct loans more negotiable and, thus, more liquid. These financial innovations are created by participants on financial markets in order to enlarge, on the one hand, their profit opportunities and, on the other hand, to reduce and shift the financial risks [Cross (1986)]. The causes of financial innovation can especially be found in the regulation and later deregulation of financial markets, the increased volatility in the development of foreign exchange rates and interest rates, the decreased liquidity and solvency of banks, in particular U.S. based banks and other financial institutions and, finally, the huge budget deficits of governments in certain industrial countries. It should be emphasised that financial innovations and their consequences, like instability of the money demand function, affected Anglo-Saxon countries such as the United States and the United Kingdom in a relatively strong way, compared to the extent in which continental-European countries (Germany, France, Italy, Spain and the Benelux countries) were affected.

Alongside the process of innovation, financial markets in most industrial countries were more and more deregulated and liberalised by the monetary authorities during the second half of the 1970s and the first half of the 1980s. The reasons for financial deregulation and liberalisation are, among others, the collapse of the Bretton-Woods system of fixed exchange rates, the increased budget and current account deficits and higher and more volatile inflation and interest rates. Financial liberalisation refers to the freeing of international capital movements by the lifting of capital controls, whereas financial deregulation applies to the abolishment of rules and restrictions for domestic money and, especially, capital markets². The lifting of international capital barriers

implies, of course, that national money and capital markets gradually integrate into one global money and capital market. Then, short-term and long-term capital can move unimpeded, quickly and at low costs, resulting in increasingly closer links between the domestic money and capital market interest rates of the industrial countries, given the exchange rate risks³. Financial integration limits the room of manoeuvre for an autonomous monetary policy, even in the case of a large and relatively closed economy like that of the United States. The deregulation of domestic financial markets not only leads to a blurring of the boundaries between the money and capital markets, but also between the financial institutions themselves. This is one of the main reasons for the tendency towards a universal banking system ('Allfinanz' or 'bancassurance') in countries which previously did not have such a system. Finally, focusing on the consequences for monetary policy-making, new sorts of liquid assets are created, jeopardising the definition of money and further undermining the possibilities of a national monetary policy. If these new assets are not included in the money concept which the central bank tries to control, but can be considered as close substitutes of the liquid assets within the relevant monetary aggregate, then the chosen money concept will unsufficiently reflect the direction and strength of monetary policy. According to Goodhart's Law, every monetary aggregate will eventually lose its meaning if it is used as an intermediate target for monetary policy, because its underlying empirical basis is slipping⁴.

2. Monetary policy: transmission process and conflicts

In conducting monetary policy, a central bank tries to achieve certain macro-economic objectives by using its monetary instruments, like the official rates (such as a discount rate and Lombard rate), open-market operations (including repurchase agreements), foreign exchange interventions, cash reserve requirements and direct credit ceilings. These objectives, which are formulated by society and, as a consequence, lie outside the monetary sphere, are called policy goals. Familiar examples are price stability, economic growth and (full) employment. Because monetary policy-makers cannot directly influence these policy goals, they usually choose medium-term monetary targets that they can control in a satisfactory way and the effects of which on the policy goals are sufficiently predictable. Examples of these targets are the narrow and broad monetary aggregates (M1, M2, M3 and even wider aggregates), domestic credit expansion (DCE), capital market interest rate and the (nominal or real) exchange rate vis-à-vis an anchor currency. These targets are, however, also influenced by other, exogenous factors. Therefore, the central banker needs to have one or more intermediate variables between the monetary instruments and the monetary target(s) in order to attain a reliable perspective regarding the effects of the instruments in the short run. These variables are called the monetary indicators, as they reflect the direction and strength of monetary policy, immediately after the use of one or more instruments. Examples of monetary indicators are the (unborrowed) bank reserves, the monetary base (M0), and the (interbank) money market interest rate [Eijffinger (1986)]. The choice of the instruments,

indicator(s) and target(s) depends to a large extent on the view of the monetary authorities (central bank and ministry of finance) regarding the transmission process or mechanism of monetary impulses. Furthermore, the degree of financial innovation, liberalisation and integration and thus the desired market-orientation, flexibility and effectiveness of monetary policy plays a crucial role in this respect (see Figure 1). During the 1980s, in many industrial countries a shift took place from a system of direct credit control aiming directly at a target, in particular domestic credit expansion, towards that of indirect credit control influencing the target indirectly through an indicator.

Figure 1 The transmission process of monetary policy

Monetary instruments	Monetary indicators	Monetary targets	Policy goals
Official rates (Discount rate Lombard rate)	(Unborrowed) bank reserves	Monetary aggregates (M1,M2,M3)	Price stability
Open-market operations (incl. repo's)	Monetary base (M0)	Capital market interest rate	Economic growth
Foreign exchange interventions	(Interbank) money market interest rate	(Nominal or real) exchange rate	Employment
Cash reserve requirements			
Direct credit ceilings		Domestic credit expansion (DCE)	

If the monetary authorities in a certain country use a system of indirect credit control, there may be a conflict between the internal and external monetary policy. Internal monetary policy or money supply policy implies that the central bank tries to influence money growth, however defined, through an indicator, e.g. the interbank money market interest rate. This aim is to reduce (expand) the money supply by an increase (decrease) of the domestic money market interest rate. Besides that, the monetary authorities may be bound to an external monetary policy or exchange rate policy as a consequence of exchange rate agreements on an international level, like the Plaza and Louvre agreements within the G-5 and G-7 respectively, or on a European level, such as the Exchange Rate Mechanism of the European Monetary System. Central banks are then obliged to maintain some nominal exchange rates within an either implicitly or explicitly fixed band. Depending on the different degrees of commitment, they will realise this by (coordinated) foreign exchange market interventions and adjustment of the money market conditions in the relevant countries. An increase (decrease) in the domestic money market interest rate relative to the foreign money market interest rate, will result

in an appreciation (depreciation) of the country's own currency vis-à-vis the foreign currency. This implies that the central bank uses its money market conditions not only for its money supply management, but also for its exchange rate management. Consequentially, there may occasionally be conflicts between the internal and external track of monetary policy in the country concerned. Depending on the desired direction within the framework of the internal and external track, four cases can be distinguished (see Figure 2).

Figure 2 Conflicts between the internal and external monetary policy (in the case of a system of indirect credit control)

Internal	external	
	exchange rate policy aimed at appreciation of own currency	exchange rate policy aimed at depreciation of own currency
restrictive money supply policy (overshooting of monetary target)	<i>no conflict:</i> internally and externally higher interest rate	<i>possible conflict:</i> internally higher, externally lower interest rate
expansionary money supply policy (undershooting of monetary target)	<i>possible conflict:</i> internally lower, externally higher interest rate	<i>no conflict:</i> internally and externally lower interest rate

Figure 2 shows that there will only be a possible conflict between the money supply and exchange rate policy in two of the four cases. It will be clear that the occurrence of a conflict between the internal and external track not only depends on the extent in which the exchange rate policy of a country is bound to certain preconditions, but also on the degree of market-orientation and flexibility of monetary policy and the openness and size of the country's economy. In practice, there have been considerable differences in this respect among the industrial countries. Especially in the Anglo-Saxon countries, the degree of market-orientation and flexibility of monetary policy has traditionally been much greater than in the continental-European countries and, as a consequence, conflicts are more likely to occur.

3. Economic and Monetary Union in Europe

As from the 1st of January 1999, the Economic and Monetary Union (EMU) will presumably take off for those member states of the European Union which comply with the convergence criteria set by the Maastricht Treaty. From then onwards, the European Central Bank (ECB) will conduct a common monetary policy for the countries

participating in the EMU. Of course, the preconditions for this European monetary policy are laid down in the Maastricht Treaty and the Statutes of the ECB⁵. However, a number of important decisions regarding the strategy and operational framework of future European monetary policy are still to be made by the Council of Ministers of Economics and Finance (Ecofin) and the European Monetary Institute (EMI). Again, we take the transmission process (instruments, indicators, targets and policy goals) of monetary policy as a starting point for our discussion of the main issues⁶.

3.1. Goals of monetary policy and the independence of the ECB

According to the Maastricht Treaty, a European System of Central Banks (ESCB) shall be established at the latest on 1 January 1999. This system will consist of the ECB and the national central banks of all member states of the Monetary Union. At the Madrid summit of December 1995, it was decided to establish the ECB in the spring of 1998, when the final go-ahead for EMU will be given.

The Maastricht Treaty provides, together with the Protocol on the Statute of the ESCB and of the ECB, a solid legislative base for the common monetary policy in the Economic and Monetary Union. Furthermore, it stipulates the various provisions to guarantee the independence of the ESCB and ECB. As a matter of fact, their statutes are largely modelled on the law governing the Deutsche Bundesbank [Deutsche Bundesbank (1957), (1989)]. Firstly, the primary objective of the ESCB shall be to maintain price stability. Without impairing this primary objective, the ESCB must also support the general economic policies in the Monetary Union. Secondly, the Governing Council of the ECB, comprised of the members of the Executive Board and the Governors of the national central banks of the countries participating in EMU, will formulate monetary policy within the EMU. The Executive Board consists of the President, the Vice-President and four other members and will implement European monetary policy. Its members will be appointed by the Heads of State and Government, on a recommendation from the Council of Ministers of Economics and Finance, after consulting the European Parliament and the Governing Council of the ECB. Their term of office shall be eight years and their mandate is not renewable. Thirdly, neither the ECB, nor any national central bank shall seek or take instructions from institutions of the Union, from any government or from any other body. Also, each national central bank must be politically independent, ultimately at the date of establishment of the ESCB. This implies, among other things, that the Governor of each national central bank will have a minimum term of office of five years and can only be removed from office if he no longer fulfills the conditions required for his Governorship or in the case of serious misconduct.

In the case of the ECB, the governments of the European Union have apparently chosen for the legislative approach, namely to create by law a very independent central bank with a clear mandate to focus on price stability. This choice was motivated by the success of the Deutsche Bundesbank in maintaining one of the lowest rates of inflation in the world for several decades. Moreover, the academic literature on the time-inconsistency

of monetary policy and on the negative relationship between central bank independence and the degree of inflation in industrial countries provided the theoretical and empirical basis for this legislative approach⁷. Nevertheless, it should be emphasised that legal independence is a necessary but not a sufficient condition for the actual independence of a central bank. Actual independence implies a tradition and culture of monetary stability, not only within the central bank but also within government and parliament. Such a tradition and culture will not be established overnight in the EMU. Naturally, the legal independence of the ECB will be the basis for it earning its credibility and reputation. The mobility of international capital flows and the integration of financial markets in most industrial countries have made the credibility and reputation of the central bank its single most important instrument of monetary policy. This will apply a fortiori to the ECB, which in 1999 by definition will not have any track record.

Furthermore, some remarks could be made on the so-called "sixth convergence criterion": the legal and actual independence of the national central banks in the European Union. According to the Maastricht Treaty, the national central banks should be independent just before entering Stage Three of EMU. This precondition follows logically from the absorption of the national central banks into the ESCB and the participation of the Governors in the Governing Council of the ECB, without seeking or taking instructions from national governments or parliaments. Within the European Union, the Deutsche Bundesbank and the Nederlandsche Bank are generally considered to be the most independent central banks. Apart from France and Spain, there has not been very much progress in this field. The independence of the Banco de España was increased by the central bank law of 1 February 1993, which is modelled after the Statute of the ECB. The law was passed by the Spanish parliament in October 1993 and it made the Banco de España formally as independent as the Bundesbank. In France, on 20 April 1993, the then minister of finance Alphandéry announced a bill to make the Banque de France independent. It also changed its task in defining and putting into effect a monetary policy which aims to assure the stability of prices "within the context of the general economic policy of the government". Also, on 5 January 1994, the French government named the six lay people who would join the Governor and two Vice-Governors of the Banque de France on the central bank's Monetary Policy Committee. Although Mr. Alphandéry said that the independence of the Banque de France was now "at least equal to that of the Bundesbank", one may conclude that its autonomy is not guaranteed in the same sense. Furthermore, the central banks of Finland, Greece, Ireland, Italy, Portugal and Sweden still have to be made legally independent of their national government and parliament⁸. Recently, the Bank of England was given "operational independence" in setting short-term interest rates.

3.2. *Monetary targets*

The monetary policy strategy of the European Central Bank still has to be decided upon. The final decision on the design of monetary policy and the details of the instruments to be used will be made after the establishment of the ECB in Spring 1998. The wide range

of proposals for this strategy currently under discussion can be roughly categorised in: a two-step approach of pursuing the ultimate objective of price stability indirectly, by using an intermediate monetary target, and a one-step approach of achieving the final objective in one move, directly [Issing (1993), EMI (1997)]. The two-step approach has been used in many industrial countries during the second half of the 1970s and 1980s as a consequence of “the long and variable lags” in monetary policy making. By targeting a narrow or broad monetary aggregate (the monetary base, M1, M2 or M3), most countries were quite successful in bringing down expected and actual inflation (shifting-in of the short-term Phillips curve). This era of monetary targeting was the heyday of the Monetarists. The two-step approach is still used with some discretion in continental Europe, in particular in Germany. Given the relatively stable money demand in Germany, the Deutsche Bundesbank has been able to prove that the two-step approach of monetary targeting is an effective strategy in the medium and long run. However, monetary targeting was formally or informally abolished in the other countries. Monetary authorities, especially in the Anglo-Saxon countries (Australia, Canada, New-Zealand, the United Kingdom and the United States), were less successful in monetary targeting. As a result of the high pace of financial innovation and, consequently, instable money demand in these countries, they could no longer identify a suitable intermediate target. Some central banks, e.g. the Federal Reserve System, adopted an eclectic approach of looking at a broad range of information variables, varying from the term and risk structure of interest rates to goods orders, building permits, etc.. Of course, such a strategy of “looking at everything” was not beneficial for the transparency of monetary policy. Other central banks, like the Reserve Bank of New-Zealand, Bank of Canada and the Bank of England, have chosen the one-step approach of inflation targeting because of their problems with monetary targets. It should be emphasised that the actual strategies of these central banks differ a lot in theory and practice. The most extreme method of inflation targeting is the so-called contracting approach that, applying the principle-agent literature, involves the structuring of an optimal contract between the government as the principal and the central bank as the agent. The principal signs a contract with the agent according to which the central bank is subject to an *ex post* penalty schedule depending on realised inflation. The nature of the contract will affect the incentives facing the central bank and will, thereby, affect monetary policy [Walsh (1995)]. Such a system, in which the government imposes an explicit inflation target on the central bank and makes the Governor explicitly accountable for meeting this target, has existed since 1989 in New-Zealand. The Governor of the Reserve Bank can, under certain circumstances, be dismissed if the inflation rate exceeds the two percent level. A more moderate method of inflation targeting has been implemented in Canada with formal target bands for reducing the rate of inflation (CPI). These inflation-reduction targets were announced in early 1991 by both the Bank of Canada and the government, to achieve not only the short-term objectives of preventing a further wage-price spiral and reducing the prevailing inflationary expectations, but also to achieve the longer-term goals of realising price stability and gaining credibility in monetary policy [Freedman (1994)]. The loosest inflation-targeting method is applied in the United Kingdom. At the end of 1992, the British government decided to set an inflation target range of 1 to 4 percent in terms of the increase in the Retail Price Index (RPIX). Since 1993, the Bank of

England has published a quarterly Inflation Report providing an analysis of the various determinants and a prediction of the expected time path of inflation. The inflation-targeting framework is considered by the Bank of England as a possible synthesis of rules and discretion [Crockett (1994)]. It should be stressed that the inflation targets impose no restrictions on the future actions of the monetary authorities, and that there are no costs involved in the announcement of these targets (in the context of game theory: "cheap talk").

3.3. Monetary indicators

Today, central banks in almost all member states of the European Union apply a system of indirect credit control. This means that these central banks influence domestic credit expansion and, as a result, money growth through the (interbank) money market rate. The money market rate in Germany, France and other European countries is steered by the official rates and the open-market operations of the central bank. However, in the United Kingdom the relevant indicator of monetary policy is not the (interbank) money market rate but the base rate of clearing banks, comparable with the prime rate in the United States. That is the rate at which clearing banks will lend in the short run to high-quality borrowers, e.g. large companies. The Bank of England affects the base rates and, thus, the private sector lending rates of banks by manipulating its dealing rates. [Eijffinger (1993)]. With respect to the indicators, the Bank of England is also out of line with the continental European central banks.

The currency crises of September 1992 and July / August 1993 within the EMS Exchange Rate Mechanism proved that the integration of financial markets and the *ex ante* coordination of fiscal and monetary policies between the member states makes high demands on what we would like to call institutional convergence. By institutional convergence is meant the convergence of both financial market structure, interest rate vulnerability of the economy and monetary responsibilities in the EU countries.

The financial market structure is related to, among other things, the maturities, techniques and volumes of national money and capital markets and the organization of financial transactions and operations. If we consider, for example, the financing of government debt in the various member states of the European Union, average public debt maturities appear to differ markedly. At the end of 1990, for example, the weighted average maturity of all government debt, including short-term bonds, in Spain was only 1.5 years, in Denmark and Italy 2.5 years, in Belgium 3.5 years, in Germany 4 years, in the United Kingdom 4 to 5 years, in France 5 to 6 years and in the Netherlands 6.5 years. Especially the Spanish public debt, but also the Danish and Italian public debt appear to be highly sensitive to fluctuations in short-term interest rates⁹. In these countries, particularly in Italy with its huge debt, there is a continuous threat of conflict between monetary and budgetary policies. Therefore, in such countries high priority must be given to issuing long-term loans with a fixed interest rate. To do this, it is extremely important to redress inflationary expectations, in order to increase market acceptance for such long bonds.

The interest rate vulnerability of the economy largely depends on the financing structure of households and corporates. Looking for example at household mortgage debt financing, the ratio between fixed-rate and floating-rate debt differs considerably among the main EU countries. According to *The Economist*, at least 90 % of all home-mortgages in Britain at the beginning of the 1990s were at floating interest rates, compared with 10 % or less in Germany and France [*Economist* (1993), *BIS* (1995)]. Italy was in the middle with 45 % of all mortgages at variable rates. The extreme position of the United Kingdom reflected its long history of high and volatile inflation, which made long-term mortgage loans at fixed rates unduly risky for lenders. As from 1993, however, there has been a change towards more fixed-rate loans in Britain: 40 % of all new mortgages were at fixed interest rates. This new trend has, among others, been caused by a better access by the British building societies to wholesale finance. The German and French mortgage banks have had access for a long time, through the issue of mortgage bonds.

Regarding the debt financing by companies unfortunately one can not detect any convergence in market structure between the main EU countries. The proportion of company debt at fixed-interest rates as a percentage of total debt is approximately 80 % in Germany, 60 % in France and less than 50 % in the United Kingdom. Because the financial liabilities of the companies in these countries are, generally, larger than their financial assets, a rise in the short-term interest rate implies – in particular in the UK – a lower cash flow.

In such an environment, one hardly can imagine a successful single monetary policy. If, for example, both the United Kingdom and Germany were to participate in the EMU, and the ECB were to push short-term money rates upwards, this would have strongly diverging effects in the various regions within the EMU. The higher short-term rates would soon lead to an increase in mortgage payments in the UK, leading to a decline in free disposable household income, while at the same time having no direct effect on economic activity in Germany.

3.4. Monetary instruments used in European countries

When comparing the experience with monetary instruments in the three largest EU countries – Germany, France and the United Kingdom –, then the special position of the UK is again striking¹⁰. The monetary instruments of the Bank of England differ considerably from those of the continental central banks as a consequence of the extreme degree of market orientation in UK monetary policy since the beginning of the 1980s. Since 1981, the Bank of England has not even had a formal official tariff, as the base lending rate is a commercial banking tariff. Moreover, neither does it use a cash requirement instrument for monetary policy purposes.

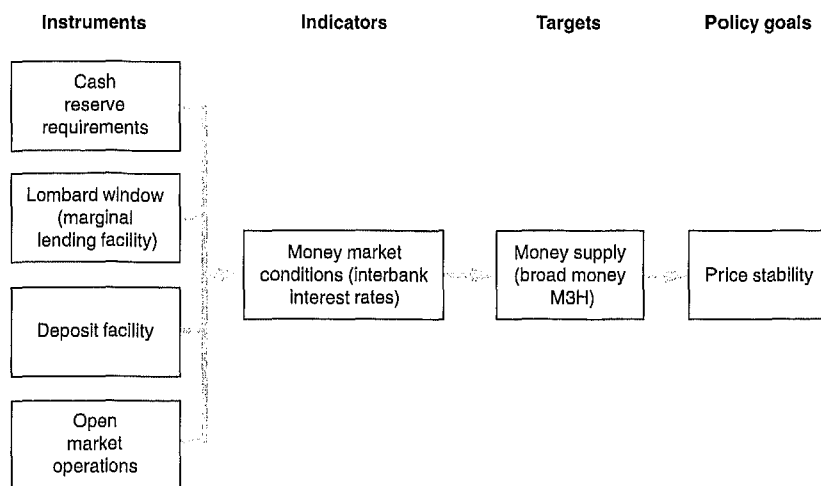
In Germany and France, on the other hand, the cash reserve requirements have played an important role in the conduct of monetary policy, although the actual level of reserve ratios has declined substantially since the middle of the 1980s. With this instrument the

central banks pursue two objectives. Firstly, this instrument has to provide for a structural money market deficit to make the money market operations sufficiently effective. Secondly, the cash reserves have to act as an “automatic brake” on monetary expansion. In contrast to the Deutsche Bundesbank, the Banque de France also has tried to use the cash reserve ratios as an “active” instrument to control money growth in the short run. In this respect, during the 1980s and early 1990s, the French central bank experimented several times with a contrary policy mix of both the official rates and the cash reserve ratios. However, these experiments – i.e. higher (or lower) official rates combined with lower (or higher) cash reserve ratios – showed that there was no independence between both instruments. So we may conclude that the cash reserve requirements should only be used as a passive instrument in the medium to long run, i.e. as an “automatic brake” on monetary expansion. Looking at the smaller European economies, we see substantial differences between countries in how they conduct their monetary policies.

3.5. *Monetary policy harmonisation*

In the EMU the set of monetary policy instruments in use by the ESCB must be fully harmonised. What arsenal of monetary instruments will be required to achieve price stability in the EMU area? In the Maastricht Treaty and in the Statutes of the European Central Bank, European policy makers have explicitly opted for a set of indirect, market-oriented instruments. It is very likely that the future ECB will have the following monetary instruments at its disposal (EMI (1997), Moutot (1996)):

1. Cash reserves requirements, the levels of which are set on a monthly basis. This instrument will include an averaging facility, giving the banks the opportunity to use their reserves at the central bank as working balances. This helps to smooth the banks' demand for central bank money, reducing the need for regular central bank interventions in the money market. At the time of writing, it is unclear whether the reserves will be remunerated or not;
2. a marginal lending or Lombard facility providing liquidity to the banks at rates usually above market rates, acting as a ceiling (upper limit) for money market rates;
3. a deposit facility for mopping up liquidity at rates below market rates, acting as a floor (lower limit) for money market rates;
4. an unsubsidised facility for smaller banks, based on a monthly repo tender with a three-month maturity. This facility, which will supply the banks with their basic need for central bank money, will have more or less the same function as the discount facility in Germany. The rate on this facility will turn out to be the actual floor of three-month interbank money market rates;
5. fixed-term, fixed-frequency open market operations for steering and fine-tuning money market rates in the (very) short run. According to EU central banks these open-market operations, in particular reversed transactions, should play the dominant role in money market management. In addition, the use of outright transactions, foreign exchange repurchase agreements (repos) and swaps, and the issuance of central bank paper should not be excluded.

Figure 3 The transmission mechanism in EMU

There has been a lively debate between European central bankers, both within and outside the EMI Council, about the need for cash reserve requirements (ratios) as a monetary instrument. On the one hand, the Bank of England sees cash reserve ratios just as a “tax on the banking system”. According to the British, this instrument would jeopardise the competitive strength of the European banks against the American and Japanese counterparts. Moreover, use of this instrument would stimulate further disintermediation of the banking system, eroding the basis for a policy of monetary targeting.

On the other hand, many European central banks – like the Bundesbank – consider the minimum reserve requirements as a necessary instrument of the outset of EMU. They would have to be maintained as an average of a specified period in order to smooth short-term interest rate fluctuations in the money market and to stabilise the demand for central bank money. In Germany, a system of cash reserve ratios acts, depending on the velocities (degree of liquidity) of bank deposits, as an “automatic brake” on monetary expansion. When targeting a broad monetary aggregate (M3H), the ECB may be confronted with large portfolio shifts within this aggregate, which could be offset by progressive cash reserve ratios. If, for example, there would be a shift from saving accounts to sight deposits, the aggregate could stay constant although its degree of liquidity and, as a result, its effect on spending would increase. As a result of the higher cash reserve ratio for sight deposits than for saving accounts, the banks will have less free (excess) reserves to create money and, as a consequence, monetary expansion will automatically be dampened. Of course, the instrument should be completely harmonized across countries and designed in such a way that it avoids disintermediation as much as possible.

Today, it looks almost certain that the arsenal of the ECB will include a cash reserve instrument, and the discussion focuses on the possibilities of remunerating the reserves at the central bank. In Germany, such reserves are not remunerated, as opposed to the Netherlands, where the central bank pays full market rates on the reserves. Harmonization of this instrument will therefore lead to a major shift in competitive positions within the European banking industry.¹¹

In addition to reserves, the core instruments of the ECB will certainly be the standing facilities (official rates) and the open-market policy. The standing facilities – i.e. the deposit and marginal lending facility – constitute a theoretical corridor for the money market rates, signalling the desired market rates in the medium term. Open-market operations are then used to steer and fine-tune money market rates in the (very) short run. There will be three kinds of repo transactions, viz. a fine-tuning facility, a weekly repo (with a maturity of two-weeks) and a monthly repo with a three-month maturity. As said earlier, this last facility will be the effective floor of three-month interbank money rates.

This flexible and market-oriented system of money market management is already widely used and will gradually be introduced by all national central banks. In the EMU, monetary policy will be formulated centrally by the ECB in Frankfurt, but national central banks will remain responsible for the operational aspects. Banks, therefore, will still have to deal with local central banks. In order to prevent differences in interbank money market conditions within the EMU, the ECB will operate a Real Time Gross Settlement (RTGS) System, named TARGET.¹² This system will link the various national money markets to create an EMU-wide homogeneous money market. However, many technical issues remain under discussion, two of the most important being the access to TARGET and the issue of remote access. The discussion about TARGET focuses on the position of banks in countries not participating in the EMU and the conditions under which they can use the facilities of this system. While the UK claims that, under Internal Market regulations, its banks must have access to TARGET under the same conditions as banks in the EMU-area, most continental (central) banks feel that TARGET is designed to facilitate EMU monetary policy and that only banks, carrying the “burden” of the policy of the ECB must have access to it under the most favourable conditions.

The issue of remote access focuses (1) on the use of collateral deposited at central banks in other EMU countries, while drawing on facilities at the local central bank, (2) remote access to facilities of central banks in other EMU countries and (3) remote access to the payments system in other EMU countries.

These highly technical issues which, however, are of extreme importance in designing the EMU-wide level playing field in banking, are not expected to be fully settled in the near future¹³.

4. The euro in world markets and G3 monetary policy coordination

If everything develops according to plan, the single European currency, the euro, will arrive on world financial markets early 1999. The euro will be a currency of substance right from the beginning. It will replace important currencies like the German mark and the French franc; in the longer run it may also replace the pound Sterling. To fully grasp the possible impact of the arrival of the euro on world financial markets, one should start by analysing the fundamentals of this currency.

Starting with a core group of converged economies, the EMU will, measured by its GDP, be the second largest industrial economy in the world, second only after the United States.¹⁴ Its financial markets also will rank second after those in the United States, being more important than those in Japan. The EMU will be by far the most important trading bloc in the world, making the euro a potential important currency in the invoicing of international trade. Finally, the euro will be guarded by a central bank which, by design, has a strong bias towards monetary stability. At first sight, one may conclude that the euro will be a serious challenge to the dollar in world markets.

Table 1 The fundamentals of the euro

	EMU (core)	EMU (all)	Japan	United States
GDP (using PPPs; 1994) (1)	53	100	39	100
Outstanding public debt (1994) (1)	58	119	79	100
Gross savings ratio (%GDP) (1) (2)	21	19	31	17
<i>Currency shares</i>				
Currency invoicing of international trade (3)	18	25	6	59
Outstanding international debt securities (1995) (4)	20	29	18	35
Net issue of international debt securities (1995) (4)	25	31	35	24

(1) Based on OECD data, USA = 100.
(2) Weighed by relative GDP.
(3) Share in world trade after correction for intra EMU-trade, 1992. Source: Hartmann (1996).
(4) Based on IMF-data.

It must be realised that the current position of the US-dollar in world markets is based on a long tradition of being a vehicle currency for international foreign exchange transactions. With the exemption of the German mark in European markets, no other currency has reached such a vehicle currency status in world financial markets [Hartmann (1996)]. Irrespective of the fundamentals of the euro, it will take time before the euro has acquired a similar position.

It may be expected, however, that the euro will immediately play an important role in the invoicing of international trade. It is estimated, that the share of the euro in world trade invoicing will be around 25% [Hartmann (1996)]. In the longer run, the euro stands to

benefit from expected increases in trade flows between the EMU and Eastern Europe, and between the EMU and Asia. Of course, the importance of the euro in world trade invoicing will also be reflected in its position as a reserve currency. In the run-up to the EMU, however, the US dollar is not unlikely to gain in importance as a reserve currency. European central banks may be expected to change the composition of their currency reserves by buying US dollars and selling European currencies, in order to prevent the latter from being automatically exchanged into euro, which at the time will be a domestic currency for these countries. Only in the longer run will the euro gain in importance relative to the US dollar.

The market for domestic bonds in euro will be one of the largest in the world. Moreover, it is important to note that the euro will play an important role in international bond markets. Already today, we can see a gradual decline in the position of the US-dollar and an increase in the share of the currencies of core Europe in the issue of international bonds.

In the longer run, the position of the euro will be influenced by the extension of the EMU by countries that initially will have to derogate. Moreover, the fundamental strength of the currency will be decided upon by the reputation the ECB will be able to acquire in world markets. Although, at least on paper, the ECB will be the most independent central bank in the world, completely geared towards price stability, the proof of the pudding will be in the eating.

With the arrival of the euro, the world will be confronted with a tri-polar currency system, with the US dollar, the euro and the Japanese yen dominating world financial markets. During the 1980s and early 1990s, the world has experienced several attempts to coordinate monetary policy on a global scale in order to stabilise the exchange rate of the most important currencies. For instance, during times of dollar weakness, European authorities tried to establish some kind of international arrangement in order to prop up the American currency, the most notable example being the Louvre Agreement of early 1987. A weak dollar not only deteriorates the competitive position of the European export industry, but also leads to intra-European currency instability, as currencies like the French franc, the pound Sterling and the Italian lira tend to weaken more or less in line with the dollar against the German mark. On the other hand, in times of dollar strength the Americans usually tried to stabilise exchange markets, as was illustrated by the Plaza agreement of early 1985 and the several occasions in which the Americans put upward pressure on the Japanese yen in order to redress bilateral balance of payments disequilibria.

After 1999, however, the world economy will be different, as two of the three largest economic entities, viz. the EMU and the US, will by then be relatively closed and inwardly oriented economies. Moreover, dollar weakness will not have a different impact across EMU-countries, as a flight into the German mark will no longer be possible within Europe. European economic policy will be geared towards economic stability in its broadest sense, with the ECB aiming at domestic price stability and

deflationary budgetary policies aiming at meeting the budgetary criteria formulated in the Maastricht Treaty, which will remain in force after 1999 as well as a consequence of the so-called Stability and Growth Pact. In this pact, which was negotiated at the Dublin Summit of December 1996, rules have been laid down for budgetary policy in stage three of EMU. The underlying philosophy is that a government should more or less balance its budget over the business cycle, although during periods of weak economic growth a deficit up to 3% of GDP is allowed. If a public deficit is higher than 3% of GDP, a country will be fined, unless it is suffering from a severe recession.¹⁵

Moreover, in the United States there has been a considerable shift in the orientation of economic policy. Today more exclusively than before, the Federal Reserve is pursuing a policy that aims at price stability, although its policy of "looking at everything" would not earn an award for transparency. On the fiscal side, the expansionary budgetary policies of the early 1980s were replaced by a broad political consensus that the federal deficit must be eliminated in the medium and long run.

It is most probable that both the Federal Reserve in the United States and the ECB will focus almost exclusively on domestic price stability, while in both blocs fiscal policies will also aim at fiscal consolidation. This could result in a relatively stable dollar/euro exchange rate, also given the fact that bilateral trade between the US and EMU is not substantially out of balance. The arrival of EMU, therefore, not only eliminates intra-European currency instability; by removing exchange rate policy from the political agenda in many European countries, it also contributes to stability on world markets. The structural trend between the two currencies will stem from relative inflation performances which will, given the fact that price stability is more strongly institutionally imbedded in Europe than it is in the United States, in our view make the euro the stronger currency of the two in the long run. The yen will be the less stable of the three currencies as a result of, on the one hand, the huge Japanese surplus in bilateral trade with the other industrial blocs, which at times may put the currency under strong upward pressure, and, on the other hand, the weakness of the Japanese financial system, which undermines the fundamental strength of the Japanese economy and therefore the stability of the yen.

6. About this volume

During the last decades, there have been remarkable changes in the behaviour of world financial markets. In many countries, the orientation of monetary policy also has changed considerably. Finally, the processes mentioned in this chapter have put financial systems under strain in many countries, leading to financial crises in the banking industry in Japan, France and Scandinavia, and in the Savings and Loans industry in the United States.

This book describes the developments in nine industrial countries, which combined will form the future world tri-polar currency system. The various chapters all have more or less the same structure. Firstly, after a short description of the economic background, the structure of the banking industry is described, including the most notable recent developments. Secondly, the book focusses on monetary policy, dealing respectively with the monetary strategy, the technical implementation of monetary policy and its results. Finally, a short forecast of future developments is made.

In spite of their more or less identical structure, the various chapters know remarkable differences in their approach to the subject. This variety reflects the different backgrounds in the countries under review: the various chapters are characterized by a substantial element of *couleur locale*. In Van Rixtel's chapter on Japan, for example, much attention is paid to the informal ties between the banking industry and the monetary authorities. Moreover, the precarious balance of power between the Ministry of Finance and the Bank of Japan receives much attention. On the other hand, De Jong's contribution on the United Kingdom strongly focuses on the impact of political conditions on the stance of monetary policy and on the struggle by the Bank of England to gain credibility in world markets. The contributions of Praet and Van Vuchelen on Belgium and Van den Berg on Italy highlight the difficulties a central bank will meet in pursuing a monetary policy aiming at price stability in an environment which is characterised by large fiscal imbalances. Van Campen and Van Dijk concentrate in their chapter on France on the difficult position of a large country, which in spite of being the fourth industrial economy in the world has the monetary characteristics of a small open economy. This forces the country to subject its monetary autonomy to the German Bundesbank in order to defend the French franc's ERM-parity. Custers and Van Gils describe the favourable effects of a successful policy of exchange rate targeting as pursued by the Netherlands, which should give hope to authorities in European countries that will not be able to join the EMU right from the start in 1999. The Dutch experiences show that it is certainly possible to successfully link one currency to another, as long as domestic economic policies do not conflict with the exchange rate target. The chapter on Spain, by Hilbers and Voorrips, illustrates the way this country has developed in two decades time from a backward economy on the periphery of Europe into a serious candidate for the EMU, if not in 1999, then very probably before the year 2002. Boonstra's chapter on Germany strongly focusses on the technical implementation of monetary policy in this country, as German monetary policy today will best reflect the practice of the ECB after 1999. Moreover, it sheds some light on the German model of corporate governance and the factors leading to change in this area. Finally, Biemans' chapter on the United States clearly illustrates the change in orientation of the US monetary policies, marking the change from an unsuccessful attempt to target monetary growth in the early 1980s to a much more eclectic, successful, though less transparent monetary policy today.

All in all, this volume shows the strong convergence that has occurred in monetary policy orientations between the countries governed by the Anglo-Saxon model and those in continental Europe. A major difference remains, however. Whereas in Europe the high priority given to monetary stability resulted in a trend towards politically more

independent central banks, and once the EMU has started the ECB will be the world's most politically independent central bank, the Anglo-Saxon countries have not come to the same conclusion as yet. In these countries, the relative importance of monetary stability relative to other policy goals depend on persons and is not institutionalised. Time will tell whether this difference in approach will lead to different monetary policy orientations or that the Anglo-Saxon countries will ultimately follow the example of the ECB.

Oisterwijk/Lelystad

Notes

- 1 Examples of these product innovations are: Note Issuance Facilities (NIFs), Revolving Underwriting Facilities (RUFs), Forward Rate Agreements (FRAs), Floating Rate Notes (FRNs), Zero Coupon Bonds, interest rate swaps and options, and currency swaps and options.
- 2 For a thorough analysis of these processes, see e.g.: M. Goldstein, D. Mathieson and T. Lane (1991) and Federal Reserve Bank of Kansas City (1993)
- 3 For an analysis regarding the European Union, see Lemmen (1996) and Lemmen & Eijffinger (1996)
- 4 Goodhart (1984) states that "... any observed statistical regularity will tend to collapse, once pressure is placed upon it for control purposes ..." (p. 96).
- 5 The Treaty on European Union agreed in the Conference of the Representatives of the Governments of the Member States which was signed in Maastricht on 7 February 1992, including the Protocol on the Statute of the European System of Central Banks and of the European Central Bank.
- 6 See for an analysis of the transmission process of monetary policy with regard to France, Germany and the United Kingdom: S.C.W. Eijffinger (1993).
- 7 For a survey of the academic literature in this field, see Eijffinger & de Haan (1996)
- 8 For a detailed analysis of the developments in the major European economies, see the contributions in the other chapters of this volume. See also Eijffinger and van Keulen (1995).
- 9 Moreover, an increase in the short-term interest rate has a perverse effect on spending and income in Italy because the majority of government debt is in the hands of the public.
- 10 An extensive comparison of the monetary instruments in these countries is given in: S.C.W. Eijffinger (1993). See also the contributions of Boonstra (Germany), Van Campen & Van Dijk (France) and De Jong (United Kingdom) in this volume.
- 11 See Van Gils (1995) for an examination of the consequences of monetary policy harmonisation for the competitive position of Dutch banks against their German counterparts. See also and Boonstra & Mulders (1996).
- 12 TARGET is an acronym for *Trans-European Automated Gross Settlement Express Transfer System*. Target will link the various national RTGS-systems into an EMU-wide RTGS. Target is established to process monetary policy transactions. See EMI (1995).
- 13 For a full overview of the discussions so far, see EMI (1997).
- 14 Our analysis is based on EMU starting with Austria, Belgium, Finland, France, Germany, Ireland, Luxembourg and the Netherlands.
- 15 The details are as follows. If a country's public deficit exceeds the 3% ceiling and its real GDP has declined by 2% or more during the preceeding year, it will not be fined. If real GDP has declined by less than 2%, but more than 0.75%, there will be negotiations to see whether the country should be fined or not. With an economic decline of less than 0.75%, the country concerned will be automatically fined. At first, it should place an unremunerated deposit (with a maximum of 0.5% of GDP) at the ECB. If the deficit is not redressed within three years, the deposit will be changed into a fine.

U.S. financial markets and monetary policy from monetary targeting to an eclectic interest rate approach

*By Corné Biemans**

Introduction

In the 1980s, the U.S. banking industry went through a very difficult period. The powerful processes that were unleashed by rising inflation, constantly improving information and communications technology at the end of the 1970s, caused financial markets and institutions to become increasingly deregulated. This substantially eroded the restrictive regulatory structure that had emerged from the 1930s onwards.

Through the process of deregulation, non-bank intermediaries such as pension and mutual funds, insurance companies and finance companies, started to play an important role in the institutionalisation of savings. Financial intermediation was increasingly carried out directly in capital markets, undercutting the traditional role of banks in the intermediary process. With traditional banking activity losing profitability and competition enhanced by deregulation, many banks started to diversify. As this did not always prove to be very successful, the number of bank failures increased dramatically. The harsh competition was further intensified by the process of securitisation. Securitisation not only made financial assets to become more liquid but also more exposed to market price fluctuations with implicit higher volatility. An increasing number of financial market participants - roaming the financial marketplace while using a wide variety of new financial products and constructions - contributed to this volatility by switching financial assets easily and frequently with often a very short term focus.

In terms of volume, value of transactions and development of new types of securities, U.S. capital markets have seen a tremendous growth. They have become deeper, broader and – helped by derivatives – also more efficient. Being the place of origin for financial innovations and many new financial instruments, U.S. financial markets still perform a leading role in the global financial arena.

With lower barriers to capital mobility increasing the links among financial markets, U.S. economic and monetary developments continue to have a large impact on global financial markets.

The growth of U.S. capital markets, the associated decline in the traditional role of commercial banks and the dramatic rise of capital mobility in response to financial

* I am grateful to my colleague Guy Verberne for helpful comments on an earlier version of this paper.

market liberalisation, have had important implications. For the U.S. central bank, the Federal Reserve System, the changes in the structure of financial markets and institutions have complicated the process of monetary policy and have altered the channels through which monetary policy affects the economy.

This paper deals with these issues, processes and developments. Section one gives an overview of the structure of the U.S. financial system and the developments that have taken place in this system. Section two concentrates on U.S. monetary policy and its instruments. Section three examines the process of formulating and implementing monetary policy since the end of the 1970s. The final section evaluates the conduct of monetary policy in recent years and identifies some areas of contemporary academic monetary discussions.

1. Structure of the U.S. financial system

Introduction

The U.S. financial system – encompassing the whole framework of financial instruments, financial markets and financial institutions – has become an ever more vital component of the U.S. economic system. The U.S. money and capital markets are among the largest and most developed markets in the world, enabling business companies and consumers to select from a wide array of financial products for their borrowing and lending. To understand the nature of the U.S. financial system it is important to consider the institutional and geographical character of the financial markets. Although New York City clearly is the financial centre of the country, several important regional market centres – including regional stock exchanges – exist in other major cities.

In this section the various types of financial institutions which collectively make up the financial services industry are reviewed first. Next, the structure of the financial markets' regulatory system is explained, followed by the process of deregulation and liberalisation that has been set up in reaction to these regulations. Finally, the consequences of these processes for the financial services industry are investigated.

1.1. U.S. financial institutions

In the United States, the financial services industry consists of a wide variety of financial institutions. These institutions can be distinguished in *depository* and *non-depository institutions*. Depository institutions include *commercial banks* and *thrift institutions*. Although their market share has declined, commercial banks still are the largest single class of all financial institutions, and a major force in commercial deposit-taking, lending activities and payment traffic. The consolidated balance sheet of U.S. commercial banks' domestic and foreign offices amounted to \$ 4,279 billion in June 1996. Thrift institutions

(thrifts) are specialised banking institutions that comprise savings banks, savings and loan associations, mutual savings banks and credit unions. From being the second largest of all financial services institutions in 1980, *savings and loan associations* – whose principal holdings are mortgages on residential dwellings – nowadays only account for less than 7% of the total assets of all financial institutions. *Mutual savings banks* are very similar to savings and loan associations but are less numerous and are geographically located only in some north-eastern states of the U.S. The smallest and the youngest thrift institutions are the *credit unions*. Credit unions are co-operatively owned associations, usually with membership exhibiting some particular institutional or professional affiliation. These institutions mostly provide consumer credit but are also engaged in mortgage loans. Since the early 1980s, depository institutions have become more and more similar in function, with the degree of specialisation diminishing. As figure 1 shows, depository institutions have lost a considerable share of the market compared to non-depository institutions in the period 1960-1995. Depository institutions have seen their market share fall dramatically from 58% in 1980 to 36% in 1995. Thrift institutions have seen their market share decline from more than 20% in the late 1970s to below 10% in the 1990s.

Figure 1 Relative shares of total financial intermediary assets, 1960-1995 (in percent)

	1960	1970	1980	1990	1995
Depository institutions					
Commercial banks	38.6	38.6	37.2	30.1	27.6
Savings and loans associations and mutual savings banks	19.0	19.4	19.5	12.3	6.3
Credit unions	1.1	1.4	1.6	2.0	1.9
Non-depository institutions					
Insurance companies	24.0	19.1	16.0	17.2	17.4
Pension funds	9.7	13.0	17.0	22.0	24.7
Finance companies	4.7	4.9	5.1	6.0	5.3
Mutual funds					
– stock and bond	2.9	3.6	1.7	6.0	12.2
– money market	0	0	1.9	4.4	4.6
Total	100	100	100	100	100

Source: Board of Governors of the Federal Reserve System, Flow of Funds Accounts

Unlike depository institutions, which are relatively homogeneous in nature, non-depository institutions offer a wide variety of financial services. They include money market funds, insurance companies, pension funds, finance companies, mutual funds, brokers / dealers, mortgage bankers, and non-financial organisations such as retailers. Over time, many non-depository institutions have substantially broadened their range of financial services, both in traditional and new markets.

The largest growth has been realised by (*money market*) *mutual funds*. These investment companies pool funds of generally small scale investors into liquid investment portfolios. So, although mutual funds are non-depository in nature, they do intermediate. Money market funds invest in money market instruments such as Treasury bills, Commercial Paper, Certificates of Deposit or other high-quality financial instruments and offer highly liquid and high-yielding accounts.

The mutual funds industry has become a significant competitor for depository institutions for household savings and have become a major source of funds in the capital markets. In response to the outflow of deposits, banks are increasingly participating in the mutual funds business through the mutual funds advisory services and through the brokering of mutual funds shares. The amount of total assets of the mutual funds industry has grown to about \$ 2,600 billion or a sum equal to about 90% of bank deposits. In the beginning of the 1980s, this was only 10%. At the end of 1995, the mutual fund industry had about \$ 1,080 billion of equities and \$ 850 billion of taxable and non-taxable bonds in addition to \$ 745 billion of money market funds¹. In recent years, mutual funds as a group have been the largest net purchaser of equities.

Contractual financial institutions, including *insurance companies* and *pension funds*, have also grown rapidly. These long-term investors obtain their funds under some form of contract. Increasingly, the services of contractual financial institutions are provided under the umbrella of a financial services holding company. The strong development of pension and mutual funds has increased competition for household savings.

Investment banks – security brokers and dealers – are not very important for their function as borrowers or lenders, but have become important financial institutions through their brokerage, market-making, and investment banking functions.

Also involved in financial servicing are *mortgage bankers*. They originate mortgages from individuals buying homes – for which the banks receive a fee – and then sell the loans to a permanent lender, such as a pension fund or to a government-guaranteed mortgage pool. Such mortgage-backed securities are a good example of securitisation. *Non-financial organisations* are enterprises whose principal activity does not involve providing financial services. Often originally aimed at enhancing the sales of principal products, several finance subsidiaries have expanded beyond their facilitating role and have begun to offer services to other customers. For example, *finance companies* – companies that provide credit to consumers to purchase durable goods such as automobiles – have gained considerable market shares. For example, General Motors, which – through its subsidiary – has become one of the largest providers of consumer instalment and revolving credit.

1.2. *The structure of the bank regulatory system*

The U.S. bank regulatory system has been sculptured in reaction to various financial crises and out of fear for concentration of power. The evolutionary nature of the

regulatory framework has prompted some observers to characterise the system as “*patch-work*” or “*crisis built*”. The most important elements contained in the U.S. bank regulations are price regulation, geographic regulation and the operation of the deposit insurance system. Commercial banking is the most heavily regulated part of the U.S. financial service industry.

The major force that shaped the current regulatory banking system was the traumatic banking crisis that accompanied the Great Depression in the early 1930s. At that time, the crisis was largely attributed to speculative activity and conflicts of interests resulting from the active participation of commercial banks in investment banking activities in the 1920s. As a result, comprehensive banking legislation was set up in the 1930s. To prevent citizens from rushing to banks to make withdrawals whenever they heard rumours of collapse, the government introduced *federal insurance*. This insurance unconditionally guaranteed deposits up to a certain amount. Most of the investment banking restrictions were imposed in *The Banking Act* of 1933, often referred to as the *Glass-Steagal Act*. This Act introduced the separation of commercial and investment banking. To effectively restrict competition, the Federal Reserve was given the authority to set interest rate ceilings on time deposits and to prohibit banks to make interest rate payments on demand deposits through – what has become known as – its Regulation Q. In 1933, the *McFadden Act* – which was introduced in 1927 – was only slightly liberalised. Afraid of excessive concentration and monopoly power, the *McFadden Act* effectively restricted national banks from establishing branches across state lines. The Act also stated that nationally chartered banks had to conform to any further restrictions imposed by state law in the states in which they operated². In 1956 this legislation was extended with the *Bank Holding Company Act*. Bank holding companies are companies that hold stock in one or more banks or other companies. The *Bank Holding Act* introduced barriers to the interstate expansion of bank holding companies.

1.3. Financial deregulation and liberalisation

To avoid the existing regulations and to fulfil customer needs, commercial banks began to introduce new products in the 1960s. In this period, a process started that sometimes has been described as the “*cat and mouse*” game between banks and regulators. In this process, banks first developed new funding sources or new products, which shortly after were “*attacked*” by the Fed. The Fed then marked these new instruments as deposits, making them subject to regulations, starting off a new round of financial innovations. During the 1970s it became apparent that the bank regulatory system of the 1930s was not an appropriate structure for the financial environment of that moment. This set off a deregulation and innovation process that would accelerate in the early 1980s³. Key innovations in this period were *Money Market Mutual Funds* (MMMFs), (*Super*) *Negotiable Order of Withdrawal* (NOW) accounts and *Automatic Teller Machines* (ATMs), products which quickly became very popular⁴. These products were of significant value as they were the first financial innovations for ordinary retail customers.

Intense political pressure for further deregulation of financial markets culminated in the passage of the *Depository Institutions Deregulation and Monetary Control Act (DIDMCA)* in March 1980. This watershed legislation was the most comprehensive banking law enacted by Congress since the Banking Act of 1933. The most important provisions contained in the Act were the gradual abolishment of interest rate ceilings over a six-year period, considerably more possibilities for depository institutions to invest in financial assets, and the extension of Federal Reserve reserve requirements from member banks to all deposit-taking institutions. In addition, it was decided that by 1987 all banks would be subject to the same requirements for keeping deposits at the Fed. In December 1982, the *Garn-St. Germain Depository Institutions Act* allowed banks and thrifts to offer MMDAs (*Money Market Deposit Accounts*). These accounts paid competitive interest rates on small sums and competed strongly and successfully with MMMFs⁵.

Geographical restrictions were also gradually abolished. The Garn-St. Germain Depository Institutions Act of 1982 amended the Bank Holding Company Act of 1956 to allow for the interstate acquisition of large failed banks, regardless of state laws. By the end of 1994, every state but Hawaii had enacted laws allowing some degree of interstate banking. The passage of the *Riegle-Neal Interstate Banking and Branching Efficiency Act* in 1994 completed the move to nation-wide banking by overriding all remaining restrictions on bank holding company expansion. In September 1995, bank holding companies were given the right to purchase banks throughout the United States for the first time since the passage of the Bank Holding Company Act in 1956. Thrift institutions had already been allowed interstate branching rights in 1992. As of June 1997, when the Riegle-Neal Act became effective, banks were allowed to branch across state lines⁶.

In the summer of 1996, attempts to amend the Glass-Steagall Act did not pass Congress. But in September 1996, the Fed decided to abolish the “firewalls” between banks and their investment bank affiliates, allowing banks to increase activities of their *section 20 subsidiaries*. Section 20 of the Banking Act governs the securities trading activities of banks. In recent years the Fed has increased the number of section 20-rights to banks. Dutch bank ABN-Amro was one of the few non-U.S. banks who acquired these rights. In the years to come it may be expected that the Fed will take further measures to ease restrictions imposed by the Glass-Steagall Act.

1.4. Consequences for the banking industry

Deregulation was accompanied by a process of *disintermediation* and *securitisation*. Deregulation and liberalisation allowed a growing number of large firms to turn directly to the capital market and the commercial paper market, diminishing the role of traditional commercial banks and other depository institutions in the intermediation process. Simultaneously, banks had to meet higher minimum requirements for bank capital-to-asset ratios. To retain their volume of business, profits and client bases, banks were encouraged to move business off their balance sheets and to focus increasingly on fee-generating activities. Securitisation provided such fee-based income. In the process of

securitisation, banks started to package and sell loans in the form of securities. In the U.S., securitisation was encouraged by the large number of small banks and the lack of geographic dispersion. As generally high-quality assets were pooled and taken off the balance sheet, this increased banks' risks. Loans to which securitisation applied could be anything from mortgages, credit card receivables, to automobile loans and so forth. This made banks shift loans to permanent investors. The market for mortgage-backed securities took off at the end of the 1980s when financially troubled banks wanted to improve their balance sheet. At the end of 1995, there was \$ 200 billion outstanding in consumer loan asset-backed securities, up 40 % from 1994. At the end of 1995, 20 % of the dollar volume of consumer loans originated by banks, was securitised. As a share of total bank income, non-interest income derived from off-balance sheet activities, such as fee and trading income, has grown from an average 19% of total bank income in the 1960-80 period to about 35% in 1994. By becoming increasingly engaged in off-balance-sheet activities and trading activity in financial markets, banks have partly offset the effects of disintermediation. Instead of providing credit, banks supplied backup credit lines to issuers of commercial paper and acted as an agent to place this paper.

In the 1980s, the process of financial innovations caused significant structural changes in the banking sector. Squeezed by the higher cost of funds, lower returns from lending, and declining market share, banks and thrifts were pushed to seek new lines of business. As a part of the deregulation process, thrifts were permitted broader lending powers. Banks increased their real estate lending and loans to developing countries and attempted to offer a broader range of financial services, including underwriting and distribution of securities, sponsoring mutual funds, and selling insurance products. This process added to the deterioration of the banking system's balance sheets in the 1980s. Whereas from World War II up until the 1970s, U.S. banks generally were able to generate stable earnings – with only few bank failures occurring in any year –, the number of bank failures increased sharply in this decade, reaching a high of 233 in 1988. But several other factors had also attributed to this development. Firstly, in the Mexican Debt Crises in 1981-1982, many developing countries defaulted on their foreign debt as interest rates on these loans increased sharply in the early 1980s, creating panic and causing severe financial difficulties to many U.S. financial institutions. Simultaneously, a severe downturn in the U.S. farm economy sent many farming communities into deep recession. Declining agricultural income and a collapse of energy and oil prices resulted in the insolvency of many banks. In Texas, Louisiana, Oklahoma and other energy-producing states, real estate developers and energy producers defaulted on their loans.

1.5. Savings and loan crisis

Savings and Loan associations (S&Ls) in particular were hit by the sharp rise in non-performing real estate loans as the fall in real estate values dramatically hit their major collateral. The possibility to invest in these new lending areas – made possible by the 1980 Monetary Control Act – pushed these associations into areas which many of them did not have adequate expertise in. While the best firms increasingly turned directly to

the financial markets to fund their needs, the S&Ls often had to take lower quality debt on their books. This caused the average quality of bank assets to deteriorate, a process that has been described as “*adverse selection*”. Other specific factors also contributed to the losses incurred by the S&Ls in the late 1970s and 1980s, such as insufficient geographic diversification. The structure of the deposit insurance system, together with a policy that allowed insolvent and poorly capitalised institutions to remain in operation, also attributed to the crisis.

Based on the experience of the Great Depression that the failure of large banks could be contagious, large banks benefited from the policy known as “*too-big-to-fail*”. This well-intentioned policy – that implicitly had been in practice at least since the early 1970s – had the unfortunate side effect in that it unduly subsidised risk-taking by large banks. Furthermore, U.S. banks had an incentive to take additional risk because of *federal deposit insurance*, while insured depositors had little incentive to monitor banks. Although the 1991 *Federal Deposit Insurance Corporation Improvement Act (FDICIA)* has reduced this so-called *moral hazard problem*, it has not entirely been eliminated. According to a study of the Congressional Budget Office, the economic impact of the savings and loan crisis amounted to an estimated \$ 200 billion, corresponding to 3.2% of GDP⁷.

1.6. Concentration of U.S. banking industry

Relative to the size of the economy, the large U.S. banks hardly grew at all in the 1980s. By 1990, large U.S. banks had the worst credit ratings by far, compared to other big industrial countries. However, helped by low short-term interest rates and an upward sloping yield curve, financial institutions recovered strongly from the crisis. In 1995, net income of U.S. commercial banks reached a record high of \$ 49 billion⁸. Since the beginning of this decade, U.S. banking has also become more concentrated. Whereas in 1990, the ten largest U.S.-based banking organisations held less than 20% of total deposits – equal to 1960 – these banks had increased their market share to 25% in 1993. At present, the top five U.S. banks account for almost 30% of total deposits. In spite of this concentration, the largest U.S. banks still do not rank very high in the list of the world’s largest banks. Although a few recent mega-mergers have resulted in some American banks increasing their ranking, of the fifty largest banks in the world only six are U.S. banks. Chase – with total assets of \$ 304 billion, the largest U.S. bank after the merges with Chemical Bank – only nearly equals total assets of Netherlands-based ABN-Amro Bank (\$ 341 billion)⁹.

In spite of the recent flow of mergers, the U.S. banking system is still very decentralised and far less concentrated than in other big countries. To a large extent this stems from the still relatively tightly regulated banking system, which restricts expansion both geographically and into insurance and securities businesses. The relatively decentralised structure is most apparent in the case of commercial banks. At the end of June 1995, the U.S. had included 10,168 commercial banks. Although this is 25% less than in 1984, it is very high compared to the few hundred banks in the United Kingdom and Germany¹⁰. Compared to most other big countries, the role of U.S. banks in the financing of

corporations is considerably smaller. Especially compared to Germany and Japan, U.S. banks are very restricted in holding equity positions in client non-financial firms and in taking the initiative to renegotiate debt¹¹. Although restrictions on banking have gradually been lifted, the U.S. banking system is more tightly regulated than European banking systems, albeit less than the Japanese system¹². The enactment of the 1994 Riegle-Neal Act and the gradual abolishments of restrictions imposed by the Glass-Steagall Act will likely spur more and larger interstate bank acquisitions. This legislation is likely to lead to a continuation of the consolidation of the U.S. banking industry that has occurred over the past ten years.

As large loan losses led many thrifts and banks to fail, the momentum for deregulation clearly slowed down towards the end of the 1980s. Much of the recent emphasis on regulation has been on rebuilding capital and reducing risk-taking. Regulatory capital requirements have been strengthened as the risks inherent in innovation and deregulation have been recognised.

2. U.S. monetary policy and instruments

In this section the Fed's monetary policy-making procedure will be analysed. The *intermediate target strategy*, comprising the Fed's policy goals, its intermediate targets, and its policy instruments, will be reviewed. To get a better understanding of the decision-making process, the structure of the Federal Reserve System is looked at first.

2.1. *The Federal Reserve System*

The central bank of the United States is the Federal Reserve System. Founded in 1913, when Congress approved the *Federal Reserve Act*, it has been entrusted by Congress with the responsibility for conducting monetary policy. In August 1914, the first members of the Board were appointed and in November 1914 the twelve District Banks opened their doors. The reason such an organisational structure was chosen can be traced back to the fear of centralised power and the belief that a country as large as the U.S. had no need for a single money centre. Regional diffusion of power resulted in the evolution of the Federal Reserve System to include the following entities: the *Federal Reserve Banks*, the *Board of Governors*, the *Federal Open Market Committee (FOMC)*, the *Federal Advisory Council* and more than 4000-member commercial banks.

2.2. *Federal Reserve Banks*

The twelve Federal Reserve districts each own one main Federal Reserve Bank. Some of them have several additional branches – 25 in total – in other cities in the district. The New York Bank is the most important Federal Reserve Bank as its district contains the

largest commercial banks and is in direct contact with the major financial markets. Each Federal Reserve Bank is a quasi-public incorporated institution, owned by the member private commercial banks in the district¹³. The twelve Federal Reserve Banks are involved in monetary policy in several ways, the most important being that five Federal Reserve Bank presidents each have a vote in the FOMC. Each Bank can also select one commercial banker to serve on the Federal Advisory Council. This Council consults with the Board of Governors and makes recommendations on the conduct of monetary policy. In reality, this Council mostly serves a ceremonial function. In addition, each Federal Reserve Bank sets the discount rate. However, this is also a pure formality, as it has to be reviewed and determined by the Board of Governors.

2.3. Board of Governors

The Federal Reserve System is headed by the Board of Governors, and is headquartered in Washington, D.C. The seven members are appointed by the President and confirmed by the U.S. Senate. To promote regional diversity, only one governor can come from a given Federal Reserve district. To insulate the members from short-term political pressures, the members serve for a non-renewable fourteen-year term. The appointments are staggered: one term expires on January 31 of each even-numbered year. The Chairman and the Vice-Chairman are appointed by the U.S. president and confirmed by the Senate for a term of four years. The Chairman sets the agenda for the FOMC, advises the president of the United States on economic policy, testifies in Congress, acts as spokesperson for the Fed, and supervises the Board's staff of professional economists and advisors. As the Chairman ultimately decides the outcome of both the meetings of the Board of Governors and the *Federal Open Market Committee* (FOMC), the Chairman – albeit depending on his personal prestige – holds great power.

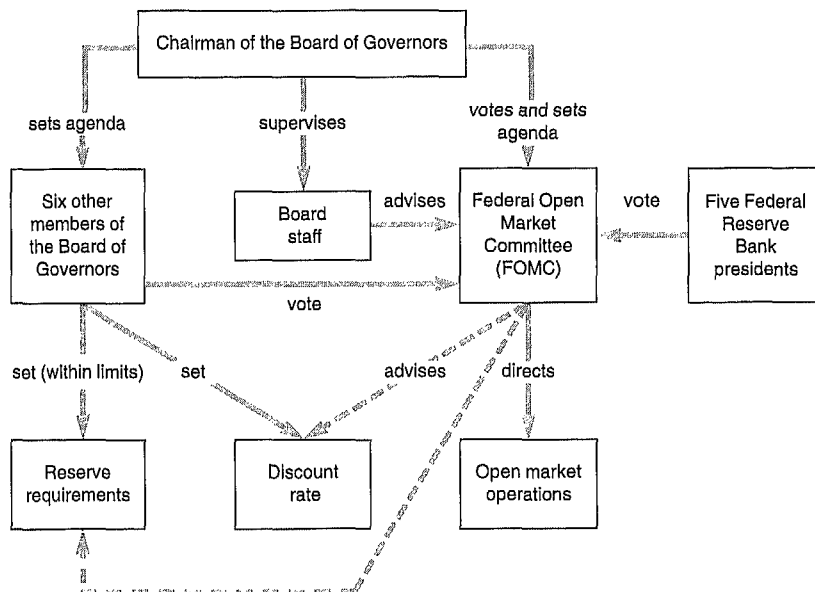
In addition to their membership of the FOMC, the Board sets reserve requirements which are imposed on banks against their deposits and effectively controls the discount rate, the floor of the money market rate. The decisions regarding these policy tools are made in the FOMC.

2.4. Federal Open Market Committee (FOMC)

The larger FOMC is the policy-making arm of the Federal Reserve System. It decides on the conduct of open market operations¹⁴, its most important policy instrument. The FOMC usually meets eight times a year. The FOMC is comparable to the Zentralbankrat of the Bundesbank. The Committee has twelve voting members and consists of the seven Board of Governors members and five Federal Reserve Bank presidents. The Chairman of the Board of Governors is, by tradition, chairman of the FOMC. The president of the New York Fed is a permanent member of the FOMC and, also by tradition, its Vice-Chairman. The four remaining memberships rotate among the FRB-presidents and are held for one-year terms beginning March 1 of each year. All Federal Reserve Bank

presidents attend the meetings and present their views, but only those who are members of the FOMC have voting power. About two weeks before each meeting of the FOMC, the “*beige book*” is released. This book, which is also made public, provides detailed information on the economic conditions in each of the 12 different districts¹⁵. Open market operations – the buying and selling of government or agency securities – are carried out by the Federal Reserve Bank in New York. Under the direction of the FOMC the New York Fed also conducts the interventions on the foreign-exchange markets for the U.S. Treasury, which has statutory authority over exchange rate policy¹⁶. As the FOMC sets the level of short-term interest rates, it is arguably the most powerful group of economic policymakers in the U.S.

Figure 2 The Power Structure of the Fed



Source: Mishkin (1992)

2.5. *Announcing FOMC-decisions to the public*

The FOMC-minutes are made public, including any dissenting statements, on the Friday after the following meeting. They also contain the Committee’s assessment of the country’s economic and financial position and the discussion by the members on the appropriate course for policy during the period ahead. Although the minutes do not reveal who said what, dissenting votes can often easily be traced back to individual members. For example, inflation-“hawk” Wayne Angell always aimed for monetary tightening when commodity prices – his favourite indicator – had soared. The reason for

the public version of the minutes being released only after the next meeting used to be that the current operational directive would never be made public. Confidentiality of this policy disclosure was maintained to avoid the possibility of financial market instability, as well as to give the FOMC more flexibility in the implementation of policy. But recently the Fed has become less secretive¹⁷. In February 1995, the FOMC officially endorsed the practice of having the Chairman issue a brief statement describing policy actions after each meeting – including inter-meetings – as a regular practice. If the FOMC decides to alter interest rates, it now issues a short statement immediately after the meeting. Full transcripts of FOMC meetings for an entire year are now also released – with a five-year lag.

2.6. Independence of the Federal Reserve

From the outside, the Fed is usually viewed as one of world's most independent central banks. The Fed itself likes to say that it is "independent *within*, rather than, independent of government"¹⁸. The structure of the Federal Reserve has been designed to incorporate significant independence in its operations. Firstly, both the regional structure and the mixture of public and private elements help in providing insulation from short-term political and public pressures. Secondly, the Fed's decisions do not have to be ratified by the President or the government. Thirdly, the members of the Board of Governors are appointed for a fourteen-year term, and their term is non-renewable. Fourthly, the Federal Reserve is self-financing. The Fed has high net earnings, stemming from interest income on the portfolio of government securities it holds and from loans to banks. This means that the Fed is not subject to approval of its budget by Congress.

Although the Fed enjoys significant independence from political and public pressures and it has the ability to embark on a monetary policy course of its own liking, the independence of U.S. monetary policy is constrained in several respects. The existence of multiple policy goals, the lack of a priority for these goals, and the elaborate accountability to Congress limit the Fed's ability to sustain a broadly unpopular policy course without help from the President and/or Congress. Congress is very watchful in maintaining the Fed's accountability, as mandated in its charter. Senior officials regularly appear before congressional committees and subcommittees and have numerous informal contacts. Under the *Humphrey-Hawkins Act*, the Board of Governors is required to submit a report on the economy and the conduct of monetary policy to Congress by February 20 and July 20 of each year. The Chairman is called to testify on the report before the Senate Committee on Banking, Housing, and Urban Affairs and the House Committee on Banking, Finance and Urban Affairs. Bi-annually, the Chairman explains to Congress how its policy objectives are consistent with the economic plans of the U.S. president. The Fed is under the influence of the U.S. president in the sense that the president appoints members to the Board of Governors during his presidential term and ultimately is able to appoint a new Chairman of the Board every four years. Beyond that, Congress can constrain the Federal Reserve by passing new legislation. In fact, during the 1980s, some 200 Congressional bills sought to alter different aspects of the Federal Reserve System¹⁹. Periodically throughout its history, Congress has threatened the Fed

with tighter supervision and more control of its budget to curtail its independence. Also there have been some Congressional bills which required the immediate public disclosure of changes in monetary policy and bills to impeach the Chairman.

In recent years, several studies have been conducted to quantitatively measure the degree of central-bank independence²⁰. According to the Eijffinger-Schaling index of central bank legal independence, the Federal Reserve ranks three in a scale of one to five (Australia, Canada, the least independent central banks and Germany, the most independent central bank)²¹.

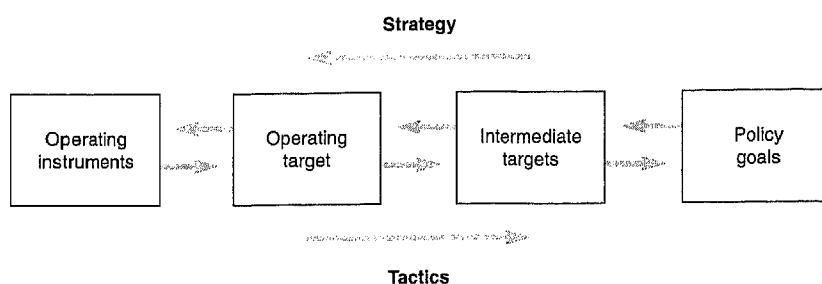
2.7. Federal Reserve supervision and regulation

The Federal Reserve System is responsible for the supervision and regulation of the activities of depository institutions in the United States. The Federal Reserve has supervisory responsibility for domestic and international operations over all member banks and over many of the U.S. activities of foreign banking organisations. The Fed also has regulatory authorities for the foreign activities of U.S. commercial banks. The Federal Reserve System shares this supervision responsibility with other federal banking agencies²². In part, this supervisory structure has evolved out of the complexity of the U.S. financial system, but it is also a product of the wide variety of federal and state laws. Three federal bodies – the Federal Reserve, the Office of the Comptroller of the Currency (OCC), and the Federal Deposit Insurance Corporation (FDIC) share authority with bank supervisors of the fifty states. Although this structure involves overlap, several arrangements have been established to reduce the effects of this overlap.

To protect small individual depositors and to prevent systemic risk (i.e. to protect the system as a whole, not individual banks), the Federal Reserve has installed a “safety net”. This safety net is composed of the discount window, federal deposit insurance and an extensive framework of supervision and regulation.

2.8. The intermediate target strategy

Traditionally, the analysis of the Federal Reserve’s monetary policy is based on a multi-stage framework that distinguishes policy goals, intermediate targets, operating targets and policy instruments. This framework or procedure is often referred to as the *intermediate target strategy*²³. The underlying assumption of such a process is that a set of observable economic variables are able to serve as *indicators* or as *intermediate targets* of monetary policy, in such a way that it provides information about the links between specific policy actions and the ultimate goals of policy. Figure 3 illustrates the process - which has been described as “*monetary engineering*” – in a step-by-step manner, indicating the links among the various stages. The strategic decisions of the FOMC are represented by the directional arrows running from ultimate goals back towards the tools (operating instruments) of monetary policy. The tactical decisions of short-run policy implementation run in the opposite direction.

Figure 3 The Fed's Intermediate Target Strategy

2.9. The ultimate goals of monetary policy

Congress has legislated a number of goals for the Fed to pursue. According to the *Federal Reserve Act of 1977*, U.S. monetary authorities are required “to maintain long-run monetary and credit aggregates commensurate with the economy’s long-run potential to increase production so as to promote effectively goals of maximum employment, stable prices, and moderate long-term interest rates”. This is often referred to as the Fed’s “*twin objective*”, being a typical objective of the Keynesian School. Although the existence of multiple goals raises the possibility that two or more objectives may come into conflict, congressional legislation has not set an order and has not given any guidance on how possible conflicts should be resolved. In recent years, price stability as the ultimate goal of monetary has gained growing support within the FOMC. Congress however continues to remind the FOMC of the other goal of the “*twin objective*”.

2.10. Instruments of monetary policy

Similar to other major central banks, the Federal Reserve implements monetary policy by controlling the aggregate level of reserves available to the banking sector as an *operational variable*. The instruments or tools that the Fed can use in setting its monetary policy – i.e. to affect the cost and availability of the bank’s reserve –, include *minimum reserve requirements*, the *discount rate* and *open market operations*. Changes in open market operations and in the discount rate affect total reserves, while a change in reserve requirements affects the money multipliers. The money multipliers link changes in the monetary aggregates (M1, M2, M3 and so on) to changes in the monetary base, of which bank reserves are a part²⁴. *Reserve requirements* place a limit on the amount of deposits banks can create for a given amount of reserves and hence influence the size of the multiplier; the smaller the reserve requirements, the larger the multiplier will be, and vice versa. To ease the burden on depository institutions and to allow them to become more competitive – reserves are a cost as they typically do not earn interest – the Federal Reserve has been lowering reserve requirements considerably. Changes in reserve

requirements for the purpose of adjusting the monetary policy stance have been absent since 1979²⁵.

The second operating instrument is the use of the *discount window* at each Federal Reserve Bank. Commercial banks and thrifts can use this credit facility – which is charged against the discount rate – at their own initiative²⁶. However, as credit at this window is subject to administrative constraints, access to this facility is limited by restrictions on frequency and amount of use²⁷. Before coming to the discount window, depository institutions are expected to draw on available funds in the money markets or from usual lenders. Therefore, the discount window is to be regarded as a marginal source of funds with most borrowing being done for very short periods, often just overnight. Hence, it differs substantially from the discount window facility in Germany, where discount window-lending provides banks with relatively large subsidised funds to offset the costs of required reserves²⁸.

The primary and most actively employed instrument of monetary policy is *open-market operations*²⁹. Through buying or selling treasury securities the Fed can add or drain the banking system's reserves (see 2.12).

2.11. *Intermediate targets*

To assess the impact of policy decisions on the ultimate objectives of monetary policy, the Fed is using intermediate targets. In theory such intermediate targets can be reserves (total reserves, borrowed reserves, and non-borrowed reserves), monetary aggregates (the quantity or its growth rate) or interest rates (i.e. the federal funds rate). Necessarily, an intermediate target is a variable which must be affected by the actions of monetary policy. Changes in this *intermediate variable must have a close and predictable relationship to the ultimate goals of policy*. Ideally, such a target provides timely information on the implications of policy actions to enable policy-makers to make mid-course corrections in response. Over the years, various monetary aggregates have been used as intermediate targets in the conduct of monetary policy. But the role of the aggregates has varied. These aggregates have been downgraded from intermediate target status to pre-eminent variables among the many that provide information about the economy and inflation.

Monetary aggregates developed as the intermediate targets of Federal Reserve policy in the mid-1970s³⁰. In the *Full Employment and Balanced Growth Act of 1978* – also known as the Humphrey-Hawkins Act –, Congress mandated that the FOMC set annual target ranges for growth in monetary and credit aggregates and that it evaluate its longer-term objective twice a year. Implicitly it was assumed that the relationship between changes in monetary growth and economic activity was sufficiently reliable. Although today the Fed continues to set annual target ranges for monetary aggregates, the Fed's current strategy corresponds more to an interest-rate (federal funds rate) policy inspired by the wish to fine-tune the economy. In doing so, it makes use of a wide variety of economic

and financial variables such as monthly statistics on employment, production, trade and commodity prices, trying to get some insight into future movements of its ultimate policy goals³¹.

2.12. Open market operating procedure

Financial institutions need to hold a certain level of minimum – interest free – reserves at the Federal Reserve. This is necessary for banks to meet solvency requirements against their holdings, and to handle clearing transactions among banks. To avoid overnight overdrafts, banks have developed a market for these reserves among themselves. This market is called the *federal funds market*. The *federal funds rate* is the rate that banks charge each other for these overnight loans (*federal funds*). At each of its eight meetings a year, the FOMC makes its strategy operational by providing a *directive* to the Manager of the System Open Market Account of the Federal Reserve Bank of New York. This directive indicates whether the FOMC desires to increase, maintain, or decrease the degree of reserve pressure, i.e. its operational target. The directive may also indicate that potential developments could call for adjustments to the degree of reserve pressure during the period between meetings. The Open Market Desk of the New York Fed tactically carries out the policy directive by arranging the day-to-day purchases or sales of Treasury securities – government securities and federal agency obligations – to achieve the FOMC's objective for the intermediate target, either a monetary aggregate or the federal funds rate. Such open-market transactions may be made outright, but usually they are made under a temporary arrangement in which the transaction is reversed after a specified number of days, so-called *repurchase agreements*. These agreements usually are arranged overnight or for specific periods up to 15 days. When reserve projections indicate a need to drain reserves on a temporary basis, the Desk arranges *matched sale-purchase transactions* (a reverse repo) with primary dealers.

The *directive* that is released to the public does not specify any (specific) target for the federal funds rate. Rather, in somewhat opaque language, it uses phrases such as “reserve constraint” or “pressure on reserve positions of depository institutions”. So, when the FOMC in its directive speaks of “a greater degree of reserve restraint”, it means it has decided to tighten monetary policy. When implementing a policy of monetary constraint, the Federal Reserve increases the degree of pressure on the reserve positions of depository institutions by meeting less of their reserve needs through open-market operations. When the Fed wants to lower interest rates, it increases its purchases of securities, pumping liquidity into the market. To obtain the needed reserves, institutions respond initially by bidding more aggressively for funds in the market-place, with the result that they bid up the federal funds rate.

Earlier it was up to *Fed-watchers* to determine whether a policy move had taken place. Generally this was the case when the federal funds rate changed by 25 basis points or more in more than two trading days. As mentioned in section one, this practice was changed in 1994.

Clearly, the policy-making of the Federal Reserve has evolved over time as its mechanics and the economic and financial structure have changed. In the following section an overview is given of the economic and monetary developments since the 1970s, and how the Fed has responded to the changing circumstances.

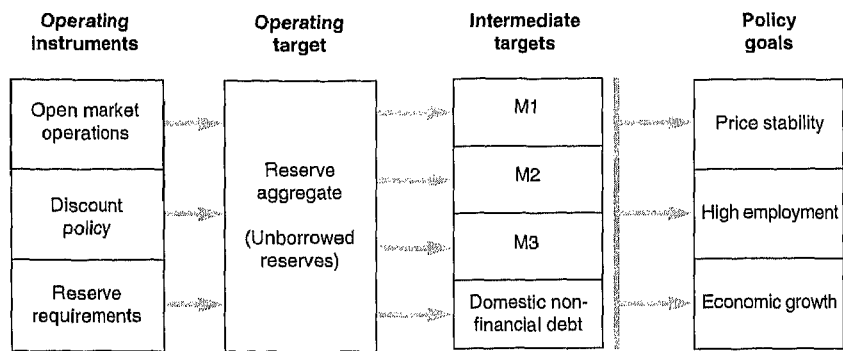
3. Conduct of U.S. monetary policy

In the 1970s, the implementation and control of monetary policy focused on the federal funds rate. However, the policy of adjusting interest rates to recent and projected performance of the economy proved to be unsatisfactory. With inflationary pressures consistently being underestimated, real interest rates were kept too low, which contributed to an acceleration of inflation. These developments made the Federal Reserve susceptible to the empirical studies of the Monetarists. According to them, the Federal Reserve should monitor monetary aggregates and let interest rates be determined by market forces. In 1975, Congress passed a resolution requiring the Fed to report on its monetary growth objectives. This requirement was embodied in law with the 1978 Humphrey-Hawkins legislation, which also mandated semi-annual reports to Congress³².

3.1. *The era of monetary targeting (1979-1982)*

In August 1979, with inflation running near 15%, Paul Volcker replaced William Miller – who only served for a very short period – as Chairman of the Federal Reserve. In an effort to reverse the trend of rampant inflation and to gain credibility for its policy, in October 1979 the Federal Reserve announced its intention to adopt a change in monetary policy through enhanced control of monetary growth. Since most reserves were held against transactions deposits, the narrow money stock M1 was chosen, as this aggregate included only assets used for transactions purposes. New operating procedures were implemented, that were based on using non-borrowed reserves, as an operating target. This procedure allowed for wider short-term fluctuations in the federal funds rate. If M1 were to grow faster than its target path, this would result in the demand for reserves growing faster than the supply of non-borrowed reserves. This would then automatically lead to higher interest rates and dampen inflationary pressures. In 1979, the Fed increased the discount rate by a full percentage point and raised the federal funds rate from 11.5% to a range from 11.5% to 15.5%, giving this rate less tight control. Under pressure from Congress the monetarist experiment ended in the autumn of 1982. Because of monetary innovations such as the growth of NOW-accounts, M1 had grown sharply in late-1981. In reaction to this the federal funds rate moved up sharply from 12% to its upper limit of 15% in May 1982. This led the Federal Reserve to abandon M1 as an intermediate target.

Figure 4 The Fed's Operating Procedure 1979-1982



3.2. Towards an eclectic approach (1982-1992)

Interpreting the rapid increase of narrow monetary aggregates as a portfolio shift, the Fed lowered the discount rate from 12% to 8.5% in December 1982. As the relationship of M1 to overall economic activity had changed too much, the FOMC removed M1 from its policy directives in October 1982 and altered the guidelines for M1 from targets to *monitored ranges*. This gave the Federal Reserve more autonomy in steering money market rates. In fact, in 1985 and 1986, M1-growth skyrocketed while short-term interest rates plummeted in May 1985 as the economy slowed. In 1987, with M1-growth not commensurating with economic activity, the Fed was forced to abandon its target for M1 completely.

In the mid-1980s, a sluggish economy, low inflation, financial difficulties in the agricultural and banking sector and a strong dollar prompted the Fed to tolerate high M1-growth. The funding problems of Continental Illinois Bank were casting a shadow over financial markets, while international debt problems after the Mexico-crisis in 1982 continued. With new financial instruments distorting M1, the Fed shifted its attention to M2 in the mid-1980s. Although the FOMC also set annual growth rates for M3 and domestic non-financial debt³³, M2 clearly was the most important aggregate, both in its policy implementation as in communicating monetary policy to Congress and the public³⁴. However, the (sluggish growth) behaviour of M2 also raised questions about whether it had become too unreliable to serve as a variable for monetary policy. Theory and evidence suggested that M2 velocity was likely to be more stable than M1 velocity, as the interest-rate elasticity of M2 should be lower than for M1 because a large fraction of M2 was paying a market sensitive rate.

The improved inflation outlook – the collapse of oil prices in early 1986 – and better budgetary prospects, boosted by the passage of the Gramm-Rudman-Hollings Act, resulted in the U.S. experiencing a prolonged stock and bond market rally until the stock

Definitions of U.S. monetary aggregates

M1 is made up of various types of money commonly used for making payments. M2 includes M1 plus balances that generally are similar to transaction accounts and that can be converted fairly rapidly and cheaply to M1. M2 is thought to be held primarily by households. The aggregate M3 includes M2 plus certain accounts that are held by entities other than individuals. The debt aggregate is the outstanding credit market debt of the domestic non-financial sectors. By definition:

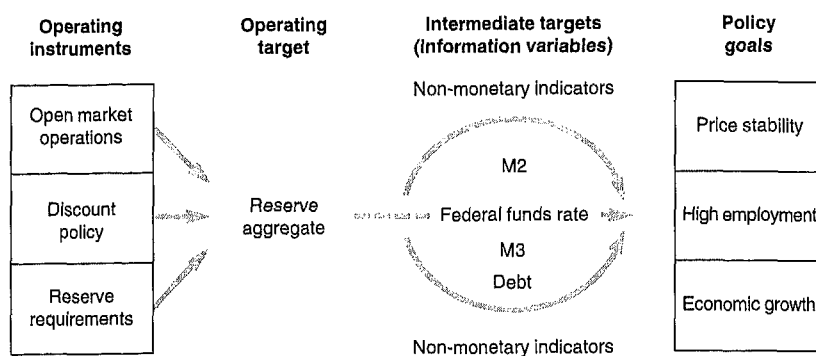
M1	M2	M3	Debt owed by (credit extended to) Federal government
Currency and traveller checks	M1	M2	State and local governments
Demand deposits	Savings deposits (including MMDAs)	Large time deposits	Households
Other checkable deposits (OCDs), such as (NOW) and similar interest-earning checking accounts	Small time deposits Retail-type money market mutual funds Overnight repurchase agreements (RPs)	Wholesale-type money market mutual funds term RPs liabilities term Eurodollars	Nonfinancial business

Source: Federal Reserve Bank

market crash in October 1987. The successor of Paul Volcker in August 1987, Alan Greenspan, responded to this crash by providing cash for a brief period, showing the Fed's role of *lender of last resort* to the financial system. Except for the months following the crash, interest rates rose from late-1986 to March 1989. In the period until 1992, the FOMC endorsed a policy of easing reserve restraint, permitting rapid growth of bank reserves and facilitating 25 distinct declines in short-term interest rates. This was in part initiated by the crisis in the savings and loan industry. From previous peaks, money market rates fell seven percentage points on a cumulative basis to around 3% in late 1992.

During the course of the late 1980s, the relationship between money growth (M2) and nominal GDP seemed less and less reliable, and the Fed's attention to money growth waned to the point of nearly vanishing. In the beginning of the 1990s, a very large drop in interest rates failed to stimulate M2-growth relative to income growth. In part, the slowdown of M2 resulted from special factors³⁵. Demand for M2-deposits was reduced by the progressive steepening of the yieldcurve, reflecting higher inflation rate expectations as a result of the expansive monetary policy. Long-term financial assets became more attractive, while investment possibilities in these assets were enhanced by the increased availability of bond and mutual stock funds. Simultaneously, the supply of M2-deposits decreased due to the long-term trend towards a declining role for banks and thrifts in providing credit. The slowdown in credit growth was further enhanced by failures in the savings and loan industry (*credit crunch*) and the recession that started in

Figure 5 The Fed's operating procedure 1982-1992



1990. All in all, the abandonment of monetary aggregates was primarily a result of the deregulation of rates on bank and thrift deposits and innovation in deposit markets. The ongoing process of deregulation had changed the character of monetary aggregates and their relationship to spending and interest rates.

3.3. Greenspan's "watch-everything" approach (1992-present)

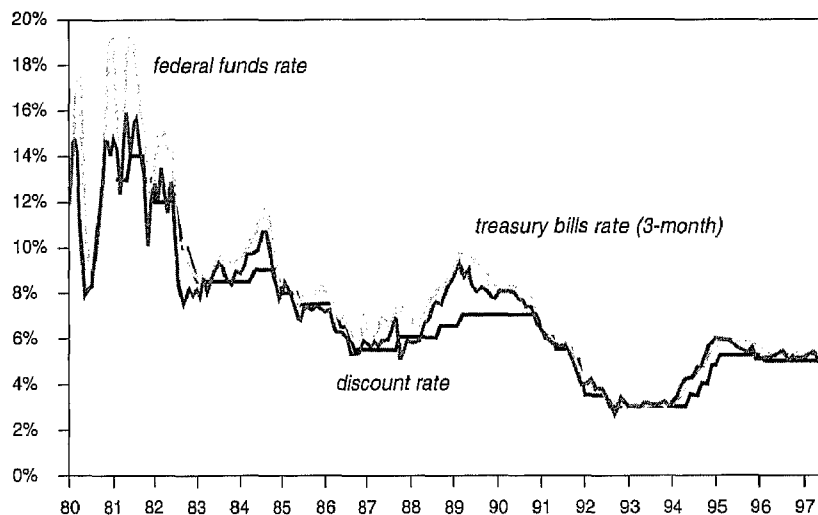
In spite of monetary easing, the U.S. economy only slowly recovered from its recession that lasted nine months and in which GDP declined by 1.6% from its previous peak in the second quarter of 1990. As both businesses and consumers were struggling with high debt burdens due to over borrowing at the end of the 1980s, the economy hardly responded at all to the lower interest rates. At the start of October 1993, yields on 30-year Treasury bonds fell to 5.8%, their lowest level since 1973.

Mid-1993, the FOMC adopted a so-called asymmetric directive, suggesting an inclination towards monetary restraint. But at each of its meetings in 1993, the FOMC kept the federal funds rate and the discount rate unchanged at 3%, leaving real short-term interest rates close to zero percent³⁶. When the figures for economic growth in the last quarter of 1993 were released at the start of 1994 and showed that 1993-94 had registered the highest economic growth in recent history – GDP rose 6.3% at an annualised rate –, FOMC-members expressed concern about a build-up of inflationary pressures. On February 4th, the FOMC agreed upon a slight interest rate increase to 3.25%. This 25 basis points upward adjustment of interest rates – in tandem with a very strong fourth quarter 1993 GDP figure – was interpreted as a harbinger of future increases in U.S. interest rates and an indicator of stronger-than-expected inflationary pressures. The revised interest-rate outlook of investors led to a sell-off in bond positions causing interest rates to rise further. On April 18th, the federal funds rate was increased another quarter percent, being the only inter-meeting interest-rate increase that year. With interest-rate-sensitive sectors only reacting

mildly to the rate increases and with capacity utilisation rates rising to levels that historically were accompanied by higher rates of inflation, both the federal funds rate and the discount rate were increased by 3/4% on November 18th. Investors rewarded this move and yields on longer maturities (8.2% in November 1994) reversed their rising trend.

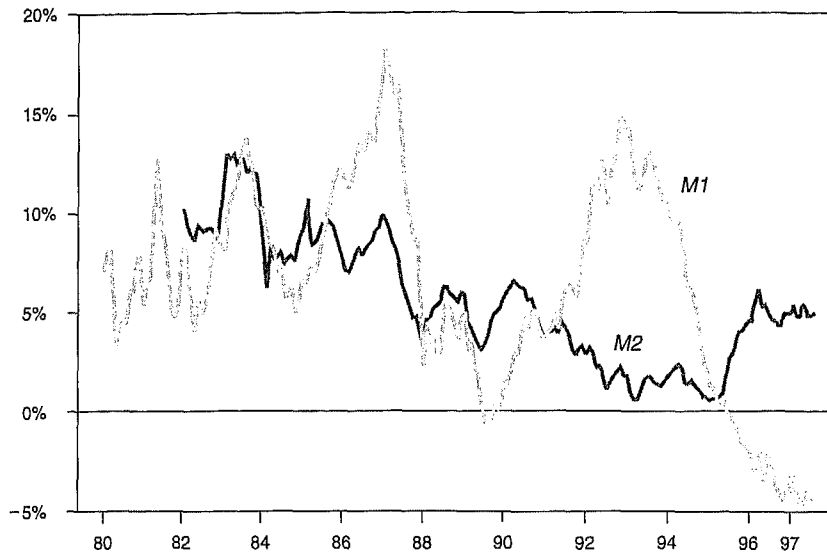
The continued decline of long-term interest rates in 1995 was accompanied by a slowdown of economic activity and continued discussions in Washington about a balanced budget. At the July meeting - noting that inflation was slowing after a pick up earlier in the year - the FOMC decided to lower the federal funds rate from 6.0% to 5.75%. With inflationary pressures abating further, the Committee lowered the federal funds rate to 5.5% on December 19th, 1995 and to 5.25% on January 31st, 1996. They were kept at this level for the rest of the year, with no clear signs of inflation moving either upwards or downwards. In light of continued rapid growth of demand and a greater risk of an upturn in inflation in the first quarter of 1997, the FOMC increased the federal funds rate back to 5.5% on March 25th, 1997.

Figure 6 U.S. money market rates



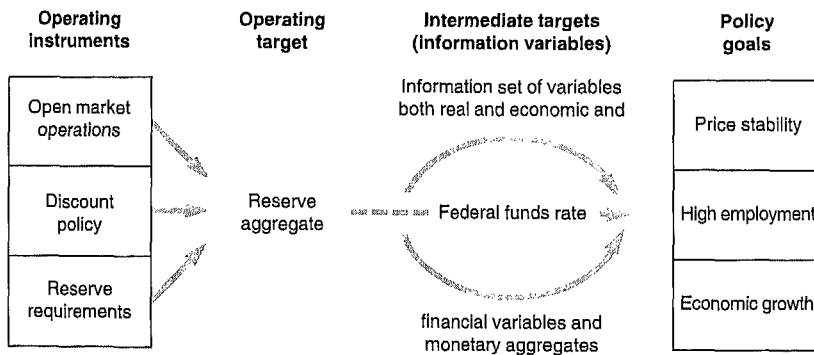
Over the past five years monetary targets as a guidance tool towards monetary policy, have moved ever-more into the background. In its semi-annual report to Congress in July 1993, Chairman Alan Greenspan stated boldly that M2 "has been downgraded as a reliable indicator of financial conditions in the economy, and no single variable has been identified to take its place". What's more, FOMC-members added that if historical relationships were restored or new relationships were found, these could not be predicted with any degree of confidence. In spite of less emphasis being given to the monetary aggregates, they finished well within the specified target ranges during most

Figure 7 U.S. monetary aggregates



years. Figure 7 shows the growth of the monetary aggregates. Although the Fed continues to set target-ranges for money and credit growth under the Humphrey-Hawkins legislation, the ranges are so wide that effectively this has amounted to a de-facto abandonment of monetary aggregates as intermediate targets. At most, they serve as an information variable. The present operating procedure could therefore also be called an information variable procedure (see figure 8)³⁷.

Figure 8 The Fed's operating procedure 1992-present (information variable procedure)



4. Evaluation of U.S. monetary policy in recent years

In the last 25 years, many of the discussions on U.S. monetary policy have revolved around the place of monetary aggregates in guiding monetary policy. Having entered the 1980s with a policy of targeting monetary aggregates, the accelerating pace of innovation in financial markets complicated money demand forecasting and money stock control. This caused traditional relationships between money, economic activity and prices to break down. Deregulation and financial innovations have led to distinctions between financial assets fading, while the definitions for these assets groups have become more arbitrary. These developments have eliminated the value of monetary aggregates as a policy target.

The Federal Reserve, as a means of assessing whether its policy stance is consistent with its objectives, has extensively broadened the scope of variables that it monitors in formulating and evaluating policy. FOMC-members are now reacting to information from a wide variety of sources, with various members favouring their own indicators. *In other words, the Fed is following a reaction function with many variables with changing weights.* Such variables / leading indicators for the economy and inflation include various measures of incipient pressures in the real economy, commodity prices and the yield curve. Indicators that are said to be useful as a first approximation of inflation pressures are for example the capacity utilisation rate, employment (non-farm payrolls), industrial production, the (NAPM) supplier-deliveries index, the inventory / sales-ratio and unfilled orders. The Fed also monitors option prices on futures contracts to assess the market views on changes in short- and long-term interest rates, spot exchange rates and commodity and stock prices. The de-emphasis on the aggregates in short-term policy implementation has left the Federal Reserve with a more *eclectic, discretionary policy*. In practical terms, Alan Greenspan's "*looking-at-everything*" approach means that the Fed is operating in such a way that whenever the economy is getting close to full employment or inflation is rising, the Fed stands ready to slam on the brakes by restricting reserves growth and raising interest rates until inflationary pressures subside.

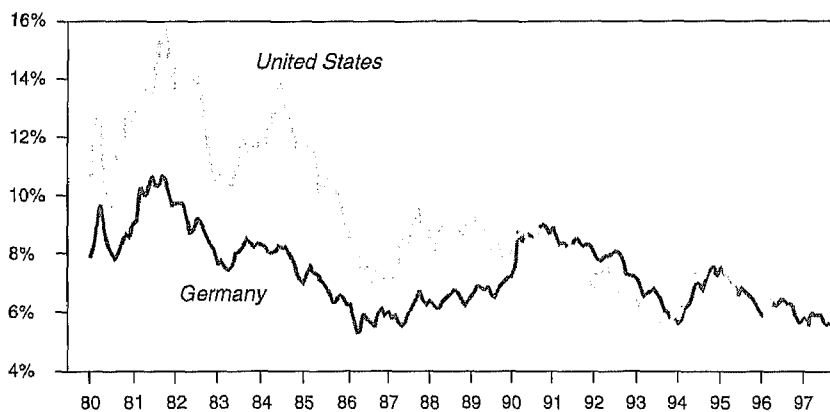
The de-emphasis on monetary aggregates has made it more difficult to communicate long-term policy intentions and has led the public to focus more on short-term adjustments in the federal funds rate and discount rate. As a possible solution to this, Greenspan has mentioned the real short-term interest rate as a possible candidate for a medium-term policy indicator. However, so far the Fed has not come up with a consistent policy framework based on real money market rates³⁸.

Also outside the Fed, academic interest has grown in developing operational rules for setting monetary policy. Such proposals do not represent rigid rules, such as the 4% money growth rule once proposed by Milton Friedman, but prescribe activist rules with a "feedback" element. Policy changes are then derived from the deviation of the actual from the desired behaviour of the target. Supporters of such a rules-oriented policy approach have been motivated by a growing acceptance of price stability as the primary goal of monetary policy, but believe that a discretionary policy imparts a significant

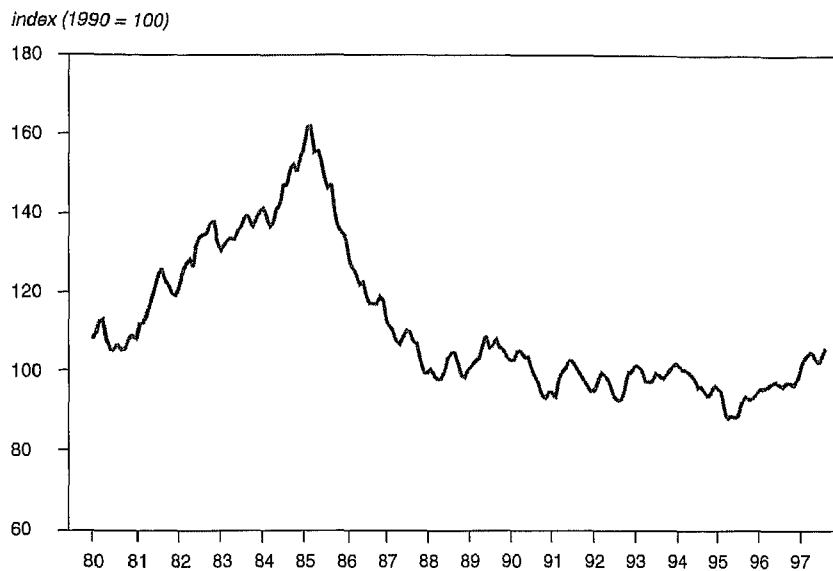
inflationary bias to policy. According to them, a systematic approach to policy would keep short-term decisions better in line with the long-term objective of inflation. Such policy feedback processes, also called "rules", generally are referred to by their authors' names. Well-known rules are the "Taylor rule", the "McCallum rule" and the "Judd & Mudley rule"³⁹. Although it is difficult to tell how the economy would have developed if such a rule had been followed, a rules framework might be a useful tool for analysing policy, and it may shed light on a certain policy stance, for example whether current monetary policy is relatively tight or easy or may even signal turning points in policy direction.

Since 1982, the FOMC has continued to shift monetary policy goals. Obviously it has been trying to achieve several goals simultaneously. Goals that were cited in the minutes of the FOMC during the 1980s were – in random order – the strength of the business expansion, the rate of (expected) inflation, conditions on the financial markets and credit market behaviour. Stimulated by the aim for central bank independence, FOMC-members have given growing support to price stability as the ultimate policy goal. However, price stability is not regarded as an objective per se, but as a means to accomplish higher growth and welfare. Notwithstanding, the Fed has not introduced an explicit long-range inflation target, even though the Fed recognises that a clear commitment to a specific objective could enhance credibility in monetary policy⁴⁰. As supported by the improved scientific understanding associated with game theory and the rational expectations approach to monetary policy, credibility is the key to an effective anti-inflationary monetary policy.

Figure 9 U.S. and German 10-year interest rates



In terms of macro-economic performance, U.S. monetary policy in the 1990s should be rated higher than in the 1980s. Average inflation rates have declined, money growth is better under control and inflationary expectations have been curbed. In the past six

Figure 10 U.S. dollar trade-weighted index

years, the trade-weighted U.S. dollar has remained unchanged and U.S. inflation has averaged 3.1%, exactly equal to (West-)Germany. This is due for a significant part to the improvement of the Fed's reputation. Gradually the U.S. monetary authorities have been able to build considerable credibility in reducing inflation and in keeping inflation low and stable. This is reflected in low U.S. long-term interest rates. Only in some cases might the Fed be criticised for not taking the appropriate stance on monetary policy. In the years 1985-86 and 1993, monetary policy may have been too expansionary as the Fed was facilitating financial constraints in the banking sector.

The ongoing changes in technology and financial innovations may further alter the monetary transmission mechanism. Securitisation has affected the link between monetary policy and non financial activity. For example, the former link between deposit flows and mortgage financing has now become less distinct as securitisation has increased the availability and choice of sources of funds for mortgage borrowers. Traditional banks are now playing a smaller and different role in the financial system. The growth of pension and mutual funds is reflected in a shift away from traditional forms of intermediation and a significant restructuring of household balance sheets. With a larger part of the private sector's net wealth invested in mutual funds, monetary policy has to give more weight to conditions in financial markets, as changes in asset prices now have a stronger effect on consumption and investment decisions and borrowing intentions⁴¹.

In addition, with international capital flows surging, foreign investments and trade expanding significantly and exchange rates increasingly influencing U.S. economics and financials, the Federal Reserve will increasingly have to face the challenge of balancing domestic policy considerations against international obligations. The increasingly deregulated and integrated global financial environment is adding a new dimension to the Fed's monetary policy. Certainly in a derivatives-influenced environment, it is important to pursue a policy that does not contribute to uncertainty, but rather enhances the formation of stable non-inflationary expectations.

Notes

- 1 See Hale (1994) and Sellon (1994).
- 2 The federal regulatory structure for commercial banks in the U.S. is complex. Since the introduction of the National Banking Act in 1864, a system of dual banking is in place. According to this Act, banks can be chartered either by a state or by the federal government.
- 3 See Akhtar (1983), Broaddus (1985), and Goodfriend and King (1988).
- 4 Money Market Mutual Funds were not subject to reserve requirements and interest rate ceilings, and were introduced to savers as an alternative to time and savings deposits. NOW-accounts are functionally equivalent to demand deposits but bear interest and can be used for transaction purposes.
- 5 MMDAs – which grew explosively following their introduction in 1982 – are high-yield saving deposits with limited transactions purposes, and are not subject to reserve requirements.
- 6 See Amel (1996).
- 7 See Congressional Budget Office, January 1992.
- 8 See Nelson and Reid (1996).
- 9 *Euromoney* (1996).
- 10 The role of foreign banks in the U.S. has increased significantly. At the end of 1993, branches and agencies of foreign banks in the United States accounted for about 18 percent of the assets of all banking offices in the U.S., up from 3 percent in 1973. Japanese banks accounted for more than one-half in total foreign bank branch and agency lending in the U.S. See Terrell (1993).
- 11 For an international comparison of the banking systems see Frankel and Montgomery (1991).
- 12 One reason why Japanese banks are so much larger than their U.S. counterparts is that, unlike in the U.S., low-risk Japanese corporations use bank loans as a major source of funding.
- 13 That the Federal Reserve is a regionally dispersed institution with both government and private sector represented in its ownership and control follows from the long-standing belief that formal private sector involvement is essential to the credibility and management of the central bank.
- 14 The FOMC may have a conference-call meeting in between the scheduled meetings, to re-evaluate monetary policy at any time.
- 15 The “*beige book*” is one of the three basic briefings books that FOMC-members obtain for a meeting. The “*green book*” is the Board staff review on the current and prospective economic and financial developments. The highly secret “*blue book*”, which is prepared by the senior staff, is the most important one, as this book describes the policy options.
- 16 See Broaddus and Goodfriend (1996).
- 17 In February 1994, for the first time in its history the Committee announced its short term policy decision directly after the meeting. As it was the first tightening action since 1989, huge media interest was expected and the Committee wanted to avoid any misinterpretation.
- 18 Apart from the discussion what degree of independence is optimal. Empirical evidence tends to confirm the negative correlation between inflation and the degree of central bank independence. See also Eijffinger (1992), McDonough (1994) and Debelle and Fischer (1994).
- 19 See Akhtar and Howe (1991).
- 20 For a thorough discussion on theoretical and empirical literature on central-bank autonomy, see Eijffinger en De Haan (1996).
- 21 Eijffinger and Schaling (1993).
- 22 See The Federal Reserve System (1994) and Spong (1994).

- 23 See for example Meulendyke (1989).
- 24 The components of the monetary base – cash (held as vault cash) and reserve balances at the Federal Reserve System – are the only financial assets that can be used to satisfy reserve requirements.
- 25 See *Feinman (1993)* or *Weiner (1992)*.
- 26 To secure the advance, the borrower must pledge collateral in amounts and types that are satisfactory to the lending Reserve Bank.
- 27 The Federal Reserve has three different discount window programs under which it can make credit available: Adjustment Credit, Seasonal Credit and Extended Credit. For emergency circumstances Emergency Credit is available. See also *The Federal Reserve (1990)* and *Clouse (1994)*.
- 28 For a comparison of monetary policy implementation techniques in the six major countries see *Eijffinger and Gerards (1990)*, *Kasman (1992)*.
- 29 See *Roth (1986)*.
- 30 For a review of the history and construction of the Federal Reserve monetary aggregates see *Anderson and Kavajecz (1994)*.
- 31 Although the federal funds rate is usually considered to be an intermediate target, it could as well be called a policy instrument, as the Fed has considerable control over this interest rate (which is closely linked to the reserve availability). Arguably the Fed has even greater control over the federal funds rate than over the reserve position of banks, which are usually considered a policy instrument. As defining policy instruments and intermediate targets is somewhat confusing, the Fed's current intermediate target may well be described as a hybrid. One reason to continue pursuing intermediate targets is that these are helpful in explaining policy to the general public. It improves transparency of monetary policy.
- 32 In February of each year the Chairman of the Federal Reserve reports to Congress the growth of various monetary and credit measures, in addition to its projections for economic activity. In July the Chairman reports on any deviations in that year's objectives, among with preliminary goals for the subsequent year. In this bi-annual exercise the Fed establishes the objectives and strategy of policy.
- 33 In 1983 the Fed introduced a new credit variable; the growth of domestic non-financial sector debt. Although the Fed did not set targets for credit growth, it did announce annual monitoring ranges for a particular indicator of total credit behaviour. This variable proved to be useful in evaluating the impact of fiscal policy on credit markets and in assessing possible balance sheet pressures in the private sector. See *Van der Burg (1990)*.
- 34 The target range for M2, M3 and total nonfinancial debt was widened from 3%-points to 4%-points in 1988, remaining at this width ever since.
- 35 See *Higgins (1992)*.
- 36 Afterwards, FOMC-members recognised that in 1993 policy was remained purposely accommodative to facilitate the need for balance sheet restructuring by households and firms and corporate restructuring, and to compensate the contractionary effects of cuts in federal defence spending.
- 37 An information variable need not to be as closely and reliably related to policy goals as a target variable must be. It has to shed a light on the future course of the economy. See *Friedman (1993)*.
- 38 Although such a real short-term interest rate can be used as an indicator, it has several practical and conceptual flaws. First of all, instead of calculating real interest rates on the basis of the actual inflation rate it would better be calculated on the basis of the expected inflation rate. Secondly, the Fed should know the level of the real interest rate that is consistent with a neutral policy stance.
- 39 The "Taylor rule" ties the federal funds rate to a hybrid inflation and output level target. The "McCallum rule" uses monetary base growth as the instrument and targets the nominal income level. The "Judd & Motley rule" calculates the change in short-term interest rates as a function of the difference between actual and targeted nominal income growth.

- 40 In this context a quote of Alan Greenspan is illustrative: “..price stability does not require that measured inflation literally be zero but rather is achieved when inflation is low enough that changes in the general price level are insignificant for economic and financial planning”. Before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, February 19, 1993. Federal Reserve Bulletin (April 1993, p. 300).
- 41 See Biemans and Boonstra (1993).

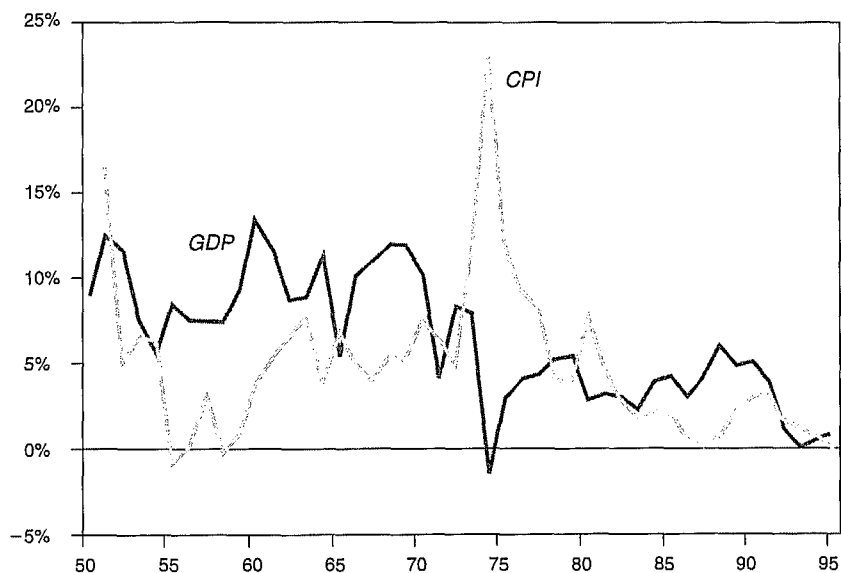
The evolution of the Japanese financial system and monetary policy: the rise and collapse of the new financial superpower myth

By Adrian A.R.J.M. van Rixtel

3.1. Introduction¹

By almost any economic standard, the postwar economic development of Japan can be characterised as a success. Figure 1 shows the development of economic growth and inflation during the 1950-1995 period. Very few industrialized countries have boasted a similar persistent combination of low inflation, high economic growth and low unemployment.

Figure 1 GDP and inflation



Source: Monetary and Economic Policy Department, De Nederlandsche Bank.

As a result, Japan became (and still is) the second largest economy of the world. Its financial institutions acquired important and sometimes dominant positions in the international financial markets. And its savings surpluses were recycled and used to

finance international investment projects and government fiscal deficits. In particular during the second half of the eighties, Japan's economic and financial success gave rise to large numbers of publications which declared Japan the new economic and financial superpower of the world.² Especially in the United States, these publications stirred a fierce debate within the academic and political communities that concentrated on the perceived threats of a possible Japanese economic and financial dominance to American interests.³

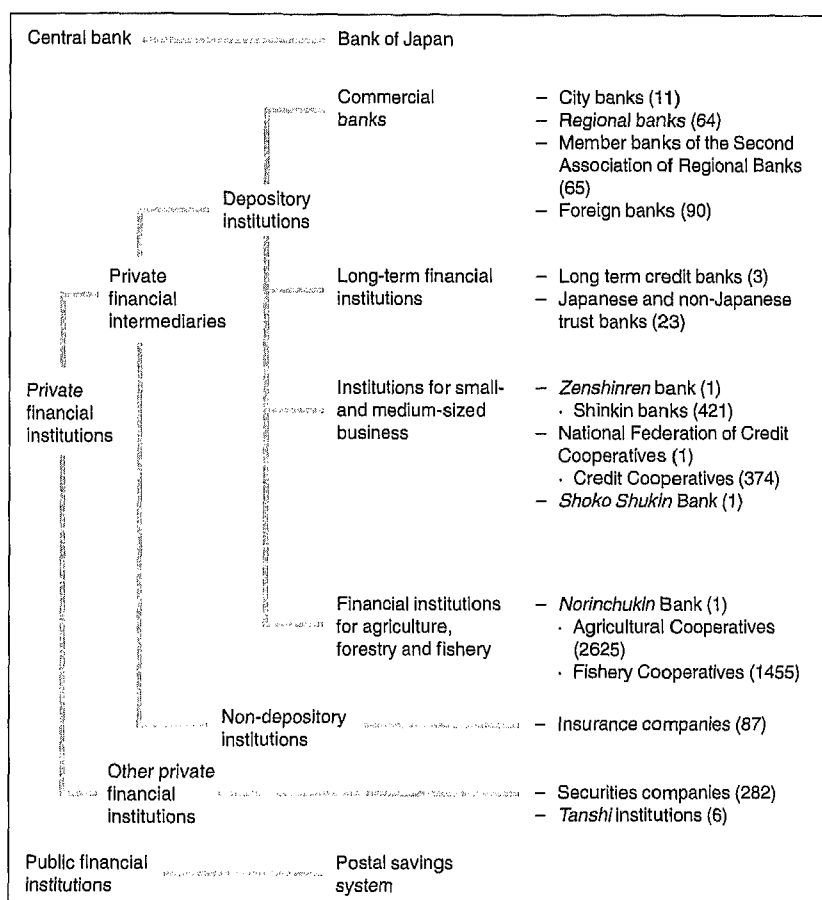
However, figure 1 shows also that during the past five years, the Japanese economic success story has lost some of its appeal. As a result of the collapse of the "Bubble" economy, Japanese banks have become saddled with huge amounts of non-performing loans. Economic growth has fallen sharply, and unemployment figures are at record levels. Increasingly, international monetary authorities and economic organizations show their concern with the present situation of the Japanese economy and financial system. The turnabout in Japan's economic and especially its financial fortunes is reflected in the growing number of publications that doubt the "superpower" status of the Japanese financial system.⁴

This chapter discusses the evolution and structure of the Japanese financial system, the characteristics of the so-called macro and micro monetary policy and the actual problems in the Japanese banking industry. First, section 3.2 sets out the structure of the Japanese financial institutions with, because of their relevance for macro and micro monetary policy, emphasis on depository institutions. Second, section 3.3 pays attention to financial markets. Given their central position in the implementation of macro monetary policy, we shall concentrate on interbank and open money markets. Third, attention is paid to the so-called "Bubble" economy of the second half of the eighties, characterized by a speculative boom in asset prices, and its collapse. The aftermath of the "Bubble" is still causing great problems for the Japanese monetary authorities. Fourth, in section 3.5 we describe the progress of the process of financial reform in Japan, a process of a gradual step-by-step character. Fifth, the monetary policies of the Ministry of Finance (MoF) (3.6.1) and the Bank of Japan (BoJ) (3.6.2) will be discussed. Traditionally, investigations of Japanese monetary policy are limited to the policies of the BoJ. However, the MoF is the main actor with respect to the prudential supervision of the banking industry, while it is also active on the macro front. Therefore, this chapter will also analyze the policies of the MoF, using exclusive Japanese language material. Finally, the last section (3.7) is devoted to some conclusions regarding the causes of the present problems in the Japanese banking industry and possible remedies.

3.2. Financial Institutions⁵

Financial institutions can be divided into financial intermediaries and other institutions; the intermediaries can be subdivided into depository and non-depository institutions. A classification of Japanese financial institutions according to their business features and customers is given in figure 2.

Figure 2 Financial institutions (as of end of March 1995)



Source: Federation of Bankers Associations of Japan (1995)

Together with the Ministry of Finance (*Ookurasho*) and the Ministry of Posts and Telecommunications (*Yuseisho*), the Bank of Japan (*Nihon Ginko*) constitutes the monetary authorities in Japan.

The commercial or ordinary (*futsu*) banks, whose activities are set by the Banking Law (*Ginko Ho*) of 1927 (New Banking Law enacted and promulgated in June 1981, and implemented in 1982), consist of the city, regional, Second Association of Regional Banks and foreign banks.

The city banks (*toshi ginko*) are the largest of all commercial banks (also among the largest in the world in terms of assets) and hold approximately 21.5% of total deposits and

around 25.3% of total loans of all financial institutions at the end of January 1996.⁶ Their funding consists basically of deposits, direct credit from the Bank of Japan and borrowings from the interbank markets. There is no legal definition of city banks but they are customarily understood to have the following characteristics. First, city banks are based (headquarters) in large cities. Second, traditionally city banks provide the greater part of short-term finance to domestic companies. It has to be mentioned that about 70% of the outstanding loans of city banks has a maturity of longer than one year, i.e. the traditional orientation of city banks on short-term lending is fading. This orientation has also been eroded by the development of yen-swap business. Finally, the degree of concentration within the group of city banks is increasing, as can be seen from the merger between Mitsui Bank and Taiyo-Kobe Bank into Mitsui Taiyo Kobe Bank in 1990 (present name Sakura Bank), and the merger between Kyowa Bank and Saitama Bank of April 1, 1991 into Kyowa Saitama Bank (name later changed in Asahi Bank). As a result of the merger of April 1, 1996, between Mitsubishi Bank and the Bank of Tokyo, the number of city banks (including the Bank of Tokyo) has further decreased, i.e. from 11 to 10.⁷

The regional banks (*chiho ginko*) have their headquarters predominantly not in the major metropolitan areas but throughout the country in smaller cities. These banks mostly operate in local areas, i.e. their prefectures. The different classification of city banks and regional banks is not based on any clear legal or other criterion, but is done only for reasons of convenience [Nippon Finance (1986)]. The branch network (number and places) of regional banks is controlled by administrative guidance, which makes it very difficult for regional banks to compete with other regional banks and city banks.

The member banks of the Second Association of Regional Banks (*Dai-ni Chiho Ginko Kyokai*), commonly called the Second Tier regional banks, are former *sogo* or mutual savings banks, all of which were changed in commercial (regional) banks pursuant to the Law Concerning Merger and Conversion of Financial Institutions after February 1989.⁸

The long-term credit banks (*choki shinyo ginko*) or LTCBs are the most important group within the long-term financial institutions. The three LTCBs were organized under the Long-Term Credit Bank Law of 1952 to provide long-term finance to domestic manufacturers. They carry out their funding mainly by debentures, but are also allowed to accept deposits from the Japanese government, local governments, private companies, and from individuals when the deposits are related to the purchase of debentures.

The trust banks (*shintaku ginko*) are another group of long-term financial institutions. These banks numbered originally seven and were, unlike the LTCBs, under the Law Concerning Joint Operation of Ordinary Banking and Trust Operations permitted to conduct both ordinary banking and trust businesses under separate accounts. Their trust activities consist of the management of loans and funds and include e.g. money trusts, securities investment trusts and pension funds.⁹

The financial institutions for small businesses comprise three groups: credit associations (*shinyo kinko*) or *shinkin* banks and their central institution (*Zenkoku Shinyo Kinko Rengokai*

or *Zenshinren* Bank), credit cooperatives (*shinyo kumiai*) and their central organization (*Zenkoku Shinyo Kumiai Rengokai* or National Federation of Credit Cooperatives), and the Central Cooperative Bank for Commerce and Industry (*Shoko Kumiai Chuo Kinko*) or *Shoko Chukin* Bank.

The financial institutions for agriculture (*nogyo*), forestry (*ringyo*) and fishery (*gyogyo*) are organized on national, prefectorial and municipal level. They provide financial services to farmers, foresters and fishermen on a mutual base. The *Norinchukin* Bank acts at the national level as the central bank for these institutions. At the prefectorial level, credit federations provide deposit-accepting and loan services for the agricultural and fishery cooperatives.

Of the other private financial institutions mentioned in figure 2, in particular the *tanshi* institutions are important in the implementation of monetary policy. These institutions are money market dealers which are according to Suzuki (1987a) active as specialized transaction intermediaries in the short-term money markets. Banks cannot deal with each other for most purposes, and have to conduct most money market transactions through the *tanshi* institutions. The money market operations of the Japanese central bank are performed through these intermediaries. According to Hollerman (1988), a significant number of high level staff members of the *tanshi* are former BoJ officials who are strongly sympathetic to the policies of the Bank.¹⁰

The most important public financial institution is the Postal Savings System (*yubin chokin*), the largest financial institution in the world in size of deposits. The Postal Savings System has a network of approximately 24,000 local post offices and a market share of around 18% of all deposits by Japanese households.¹¹ The main objective of the Postal Savings System is to collect funds from small depositors for social infrastructural investments. Most Postal Savings' funds are entrusted to the Trust Fund Bureau (*Shikin Unyo Bu*) of the MoF, which uses them to finance the major part of the investments and loans of the Fiscal Investment and Loan Program (FILP) or *Zaisei To Yushi Keikaku* (*Zaito*). FILP is a kind of secondary budget under the administration of the MoF's Financial Bureau, that provides funds for public works, public corporations and local governments. The size of the program is about half the size of the official Japanese government's annual budget. The Postal Savings System is under the supervision of the Ministry of Posts and Telecommunications.

3.3. Financial Markets

The Japanese financial markets are to be divided into the money markets for (very) short-term finance and the capital markets for medium- and long-term finance. The capital markets with assets of more than one year maturity may be split up into the primary and secondary markets for stocks and bonds and other markets based on these markets, such as the bond futures market. Hence, we shall concentrate on the money markets because of their importance for macro monetary policy.

The money markets with assets of less than one year maturity can be subdivided in the interbank and open money markets. The interbank market is usually defined as the "... market in which only financial institutions participate" [Osugi (1990), p.35], whereas in the open money market participation is open to non-banks as well.¹²

The heart of the money market constitutes the interbank markets where only financial institutions borrow and lend short-term funds. The interbank markets comprise three parts: the call (money) market, the (commercial) bills (*tegata*) market and the dollar call (money) market.

Since 1927 the call market requires as collateral government bonds or bills emitted by corporations. However, in July 1985 an uncollateralized call market was created which became attractive for foreign banks because of the lack of collateral of foreign banks. The uncollateralized call market was created mainly because competition from international financial markets with no collateral requirements threatened to "hollow-out" the Japanese call market and consequently the effectiveness of monetary policy. Both on the collateralized and uncollateralized call market funds were traded with a very short maturity, from overnight till three weeks. However, with the money market reforms of November 1988 and April 1989, the maturity range of collateralized call money transactions has been shortened to the overnight-six days range, and uncollateralized transactions have now maturities between overnight and one year.

The bills market began in 1971 as a market for discounting commercial bills with a maturity from one to six months. The Bank of Japan is the main buyer in the bills market and uses this market for its money market operations. In recent years, with the money market reforms, the maturity range for bills transactions has been enlarged to one week - one year. Furthermore, in April 1989 1-year uncollateralized bill transactions were established.¹³

The dollar call market was created in 1972 to borrow and lend foreign currency funds (mostly US dollars) with a (very) short maturity in Tokyo. Only domestic and foreign banks and brokers have access to this market.

Besides the interbank money markets, also open money markets exist in which both financial and non-financial institutions can participate. The open markets include eight different submarkets (between brackets the date of establishment): the *gensaki* market (1949), a market to sell/buy temporarily securities, the certificate of deposit (CD) market (*yokin shosho*) (May 1979), the Euro-yen market, the banker's acceptance (BA) market (June 1985), which became de facto defunct in November 1989, the financial bills (FB) market (*seifu tanki shoken*), the treasury bills (TB) market (*tanki kokusai*) (February 1986), the Japan Off-shore market (December 1986) and the commercial paper market (*shogyo tegata*) (November 1987).¹⁴ Some of the liberalization measures regarding open money markets, for example the establishment of the BA market and lowering of the minimum unit of issuance of CDs, were a direct result of the report issued in May 1984 by the U.S.-Japan Ad Hoc Working Group on Yen-Dollar Exchange-rate Issues. This Working Group

was formed to address American dissatisfaction with the speed and degree of liberalization of the Japanese financial system and the internationalization of the yen, and consisted of representatives from the Japanese Ministry of Finance and the US Department of the Treasury [Frankel (1984)]. Given their importance for the implementation of present monetary policy, we shall focus explicitly on the FB and TB markets.

On the FB market seasonal or temporary shortages of government funds are covered by discount bills with a maturity of mostly 60 days. The FB rates are below the level of the discount rate and money market rates and therefore virtually all issued FBs are subscribed by the Bank of Japan. The volume of this market is relatively limited.

Treasury Bills have been introduced in Japan in February 1986, especially to refinance the large amounts of long-term Government bonds coming due from 1985 onwards. Originally TBs had a maturity of six months, but in August of 1989 the MoF introduced three month bills. To stimulate private investment in both FBs and TBs, the minimum unit of these securities has in March 1990 been lowered by the Ministry of Finance from 50 to 10 million yen.

3.4. The Rise and Collapse of the "Bubble" Economy

During the eighties, in particular the second half, Japan experienced a strong surge of asset prices. The Nikkei 225 Stock Average rose from the Yen 13,000 level at the end of 1985 to a maximum of Yen 38,915 on the last trading day of 1989. During the 1985-1990 period, property prices surged on average with 22% compared with a year earlier [Nakajima and Taguchi (1995), p.51]. In 1989, it was calculated that the property value of Metropolitan Tokyo exceeded the value of the entire United States of America [Werner (1992), p.22]. This situation of excessive asset price inflation gave rise to the terminology of the "Bubble" economy. It is generally believed that the following factors were behind the boom in asset prices.¹⁵

First, the process of financial reform, to be discussed in the next section, increased competition not only among banks but between banks and non-depository institutions (insurance companies) and other private financial institutions such as securities companies as well. The increased competition put heavy pressure on the banks' profit margins. As a result, banks started to look for more profitable, less traditional, but riskier projects: they expanded their lending to real estate and non-bank financial institutions such as consumer credit institutions and leasing companies. Because of existing regulations, these institutions were virtually denied access to the open financial markets (direct finance), and therefore relied heavily on bank credit.¹⁶ The figures show clearly this development: according to Nakajima and Taguchi (1995), p.59, "Between 1985 and 1992, bank loans to the real estate industry grew 13.7 percent annually, compared with 6.6 percent for total bank lending, and the share of such loans in total bank lending rose from 7.5% percent in 1985 to 12.1 percent in 1992. ... Lending to 'non-banks' also grew

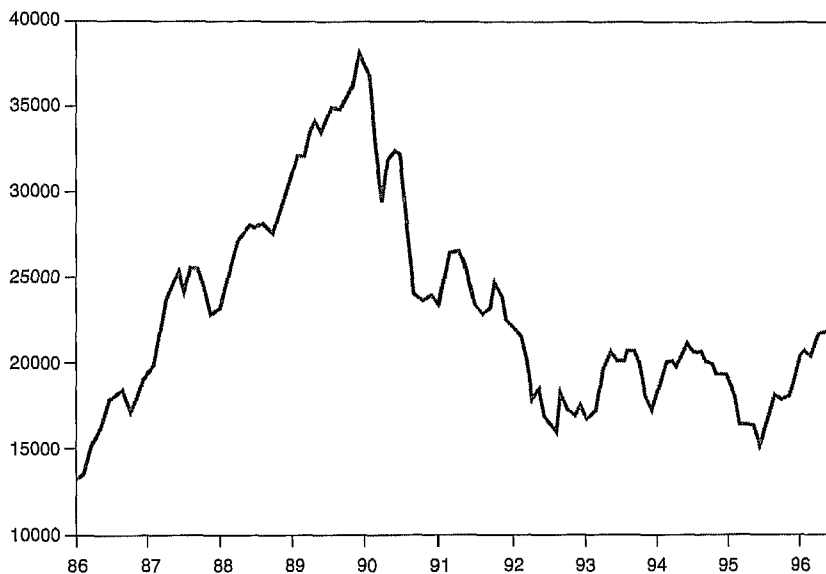
rapidly, from 10.4 percent to 14.0 percent of total bank lending". It has to be mentioned that a number of these institutions were established by the banks themselves or were members of the same industrial groupings (*keiretsu*), thereby increasing the exposure of the banks to these risky sectors. Furthermore, Japanese banks extended considerable amounts of credit to the corporate sector for investment in stocks and other financial assets. This development of financial investments by non-financial private companies was called "financial engineering" [*zaitech* or *zaiteku*], and became a major profit-generating activity for these companies.¹⁷ In the end, Japan experienced a credit-induced asset prices boom, fuelled by a vicious spiral of rising asset prices and more bank credit: as asset prices went up, the collateral value of these assets increased, which enabled borrowers to borrow more, invest these funds in the booming sectors, etc.

Second, the credit-induced "Bubble" economy was fuelled by the accommodative stance of Japanese macro monetary policy, partly caused by international exchange rate considerations.¹⁸ The Louvre Accord of February 1987 aimed at stabilizing the dollar and preventing a further depreciation against the major other currencies. Consequently, the BoJ eased its policies: in February, the official discount rate was reduced to a (at that time) historic low of 2.5 percent. It remained at that level until the end of May 1989. The low-interest rate policy resulted in the creation of excess liquidity, and enabled the banking industry to keep the asset price boom going.

However, as inflationary pressures started to mount, the BoJ changed its policy stance, and started to tighten its policy in May 1989. This change would mark the start of the collapse of the "Bubble". After some delay, the rise in interest rates deflated the value of assets such as land, real estate and stocks. Asset prices came down sharply. From its peak of around Yen 39,000 in 1989, the Nikkei 225 Stock Average dropped to the Yen 14,000 range in August 1992 (figure 3). A similar development took place regarding real estate and land prices. The burst of the "Bubble" caused severe problems for the Japanese banking industry [Takeda and Turner (1992) and Hamada (1995)]. First, a significant number of real estate companies and other "non-banks" found it increasingly difficult to service loans. Furthermore, the decline of asset prices diminished the value of the collateral of extended loans, in many cases below those of the loans they secured. Consequently, banks became saddled with non-performing loans, interpreted by the Ministry of Finance (MoF) as loans on which interest has not been paid for six months or more. As of September 1995, the latest official estimate of Japanese banks' bad debts is a figure of Yen 50,000 billion (\$500 billion), whereas some unofficial estimates are close to Yen 80,000 billion.¹⁹ Second, the asset deflation caused problems regarding meeting the BIS solvency requirements. According to the 1988 Basle Accord, international operating banks would have to meet by the end of 1992 a capital to (weighted) assets ratio of eight percent. The MoF has interpreted this date as the end of Fiscal Year 1992, i.e. the end of March 1993.²⁰ The capital that is taken into consideration consists of core or Tier I capital (equity and disclosed reserves), and supplementary or Tier II capital (subordinated debt and revaluation reserves). In the case of Japan, up to 45% of banks' latent gains on securities holdings were allowed to be counted as Tier II capital. According to the Anti-Monopoly Law, Japanese banks may hold up to 5% of the equity of a single firm. Given

the rise in share prices during the "Bubble" period, these cross-shareholdings embodied substantial revaluation reserves, and consequently the unrealized gains on these securities holdings were included in Tier II capital [Frankel and Morgan (1992), p.588]. However, the burst of the "Bubble" and the sharp drop in stock prices eroded this part of Japanese banks' Tier II capital, causing concern among Japanese and international supervisory authorities. Figure 3 shows the development of the Nikkei 225 Stock Average from January 1986 until April 1996. In table 1 the erosion of banks' revaluation reserves, caused by the drop in the Nikkei, is presented for the major banks at the end of Fiscal Years 1990, 1991 and 1992. Table 1 shows also the rise in the issuance of subordinated debt, that was issued to compensate for the decline in Tier II capital that resulted from the decline in revaluation reserves.

Figure 3 **Nikkei 225**
Index, monthly averages from January 1986 to April 1996



Source: Monetary and Economic Policy Department, De Nederlandsche Bank.

The aftermath of the collapse of the "Bubble", i.e. the (continuing) problematic situation of Japanese banking industry, has forced the Japanese monetary authorities to take action. As we shall see in the next section, this action has resulted in new developments in the process of financial reform.

Table 1 Revaluation reserves and subordinated debt of major banks
(in trillions of yen)

	Revaluation reserves			Subordinated debt		
	March 1991 ¹	March 1992 ¹	March 1993 ¹	March 1991 ¹	March 1992 ¹	March 1993 ¹
City banks	22.2	10.8	10.9	3.9	6.0	8.3
Long-term credit banks	6.4	3.4	3.6	0.8	1.0	1.6
Trust banks	6.4	3.1	3.22	—	0.1	1.6
Total	35.0	17.3	17.8	4.7	7.1	10.6

¹ As of the end of March 1991, 1992 and 1993.

Source: International Monetary Fund (1993), p.11.

3.5. Process of Financial Reform²¹

Until the end of the sixties the pace of financial reform in Japan was slow. From 1973 this changed by the transition to floating exchange rates and the rise of inflation rates throughout the world. Furthermore, the first oil crisis marking the end of the high growth period in Japan resulted in large issues of government bonds to finance public debt. The shift to lower economic growth and higher levels of public debt, combined with the increasing accumulation of financial assets by individuals and the growth of internal reserves of Japanese companies, and high levels of monetary growth, raised the degree of interest rate sensitivity in the private non-financial sector. In addition, there was a development towards open money and capital markets, in particular Euro-currency markets. Furthermore, the shift to the floating exchange rate system stimulated the internationalization of money and finance and resulted in a substantial increase of international capital flows. Finally, the rapid progress of computer and information technology resulted in lower costs of financial innovations and higher profit opportunities for financial institutions.²² With respect to the process of financial reform, from a Japanese perspective five interrelated sub-processes can be distinguished, i.e. financial innovations, financial liberalization, financial globalization, concentration of financial institutions, and rebuilding of financial reputation in the aftermath of the large number of recent scandals.

With respect to financial innovations, the most important were the introduction of CDs in May 1979 and money market certificates (MMCs) in March 1985 by banks, and the creation of so-called *chukoku* funds, i.e. portfolios containing medium-term government bonds, in January 1980 by securities companies [Suzuki and Yomo (1986)].

The process of financial liberalization changed the regulatory structure of the Japanese financial system drastically. At first this meant a gradual relaxation and abolishment of interest rate regulations, i.e. interest rate ceilings, for large bank deposits. Hence, interest

rates for deposits of three months to two years maturity with a minimum amount of one billion yen were fully liberalized in October 1985. Furthermore, this minimum for large time deposits was gradually reduced to 10 million yen in October 1990. According to the schedule for liberalization of deposit interest rates published by the Ministry of Finance in December 1992, interest rates on time deposits were completely deregulated in June 1993 [Ministry of Finance (1992a)]. In October 1993, MoF gave permission to introduce floating rate time deposits with terms of up to three years and fixed rate time deposits (so-called medium- and long-term time deposits) with maturity of up to four years. The maximum maturity of fixed interest rate time deposits was expanded to five years in 1994 and over five years in 1995. Other types of deposits have been liberalized as well. In June 1992 new deposits with interest rates linked to open market interest rates were introduced. The liberalization of interest rates on demand and time deposits was completed in 1994: in October, MoF liberalized the interest rates of demand deposits excluding current accounts.

A complete liberalization of all deposit interest rates had been hampered by the existence of attractive savings accounts with the non-profit oriented Postal Savings System. However, study groups from the Ministry of Finance and the Ministry of Posts and Telecommunications (MPT) reached an agreement on the deregulation of interest rates in December 1992 [Ministry of Finance (1992b)]. According to this agreement, the determination by the MPT of interest rates on specific Postal Savings deposits would be consequently in line with interest rates on similar deposits offered by private financial institutions. In April 1994, further agreement was reached on the interest rate setting on ordinary Postal Savings deposits and the liberalization of interest rates on demand deposits.

Furthermore, with respect to liberalization of lending interest rates the introduction in January 1989 of a new short-term prime rate system has to be mentioned [Kuroda (1989), p.10]. Under the new short-term prime rate system, interest rates are related to market developments and determined by the weighted average of funding costs. Also the long-term prime rate system, i.e. interest rates on loans with a maturity longer than one year to most preferred customers, has been changed: as from April 1991, the long-term prime rate is linked to the short-term prime rate by adding a certain spread.

As examples of new financial techniques, the increased use of funding instruments with market related interest rates (liability management) and spread based lending rates (asset management) and the introduction of securitization in the banking sector can be mentioned.²³

The problematic situation of the Japanese banking industry in the aftermath of the collapse of the "Bubble Economy" has caused the monetary authorities to take action. As a result, various regulations have been liberalized and new institutions created. In general, the measures taken by the MoF consist of improving the solvency ratios of banks by enlarging their capital and introducing new methods to dispose of non-performing or bad loans (i.e. the writing off bad debt).

As a measure to enlarge banks' Tier II capital, the Ministry of Finance permitted banks for the first time (June 1990) to issue subordinated bonds with a maturity over five years. In August 1992, the MoF issued a memorandum regarding its stance on prudential policy and announced measures to secure the stability of the financial system [Ministry of Finance (1992c)]. Part of the announced policy package was the MoF's promise to help to develop additional measures to raise capital including perpetual subordinated bonds. These yen denominated perpetual bonds were allowed under the February 1993 package that was aimed at ensuring the financing of small- and medium-sized businesses. As a result, in March 1993 Japanese banks issued for the first time yen denominated perpetual subordinated bonds in the Euroyen market. Furthermore, the MoF announced in February 1993 measures to make it easier for banks to issue preferred stock.

Furthermore, to help banks to improve their capital adequacy ratios against the background of the BIS requirements, the MoF allowed banks to securitize various assets and thereby reducing their asset exposure. Banks were permitted to securitize housing loans (October 1988), loans for municipal governments (July 1989) and corporate loans with the consent of the borrowers (March 1990). Banks were allowed to sell loans without the consent of borrowers in November 1991. In December 1992 the Ministry of Finance issued a circular (*tsutatsu*) authorizing the liquidation of loans by using trusts. This method allows for the liquidation of bank loans by transferring them to a trust.

Besides these new methods of raising Japanese banks' Tier II capital and securitization of bank loans, MoF permitted the introduction of new institutions which would make it easier for Japanese banks to handle problem assets. Basically these institutions aim at disposing of non-performing loans secured by real estate and of so-called reduced interest loans (i.e. loans on which interest has been reduced or waived, excluding rescheduled loans).²⁴ The first of these institutions was the Cooperative Credit Purchasing Company (CCPC), jointly established by 162 private financial institutions in January 1993. The purpose of the CCPC is to buy up non-performing loans secured by real estate, to promote sales of such real estate and to provide information on real estate transactions [*Zenginkyo* Financial Review (1993), no.15]. Participating financial institutions sell their real-estate collateral to the CCPC, which then attempts to recover the original debt or to sell the real estate. Furthermore, in June 1994 the Ministry of Finance approved the establishment by banks of subsidiaries which through auctions can buy real estate that functioned as collateral of the parent banks' non-performing loans, with the aim to sell this real estate in the future. The first of these realty subsidiaries was established by Dai-Ichi Kangyo Bank. The problem with both the CCPC and the realty companies is the fact that because of the big slump in the real estate market the demand for real estate is very weak and consequently these institutions encounter great difficulties in disposing of their property holdings.

To assist banks to write off so-called restructured or reduced interest loans, which are extended to real estate companies and other non-banks, the Ministry of Finance approved in January 1994 the creation of so-called special purpose companies (SPC). Reduced interest loans, which are not included in officially declared non-performing loans, are believed to be equal to the total amount of official bad debt. The SPCs buy the

banks' reduced interest loans and therefore are instrumental in trying to bring about a solution for the problems in the non-bank industry.

With respect to the regulation of the structure and activities of financial institutions, it is clear that the functional segmentation of Japanese financial institutions has been blurred by financial innovations, liberalization and globalization. The traditional segmentation between short-term and long-term financial activities, between trust and ordinary banking activities and between banking and securities business has increasingly lost its importance. Therefore, it can be said that the Japanese financial system is slowly but steadily moving towards an universal banking system.²⁵

In June 1992, the Japanese parliament (*Diet*) enacted and promulgated the Law Concerning the Realignment of Relevant Laws for the Reform of the Financial System and the Securities Trading System, abbreviated as the Financial System Reform Act (FSRA), which became effective on April 1, 1993.²⁶ The aim of this Law was the breaking up of the functional segmentation of Japanese financial institutions, i.e. enabling mutual entry into each other's traditional areas of business activity through the establishment of subsidiaries [Semkow (1993), p.435]. Under the FSRA, commercial and long-term credit banks and various credit federations and their central organizations have been given the permission to establish securities and trust subsidiaries, trust banks may engage in securities business through a separate subsidiary, and securities companies in trust banking business. Furthermore, the cooperative financial institutions and their federations and/or central organizations were allowed to expand their banking services. Regarding the entry of financial institutions into each other's traditional areas of business, to ensure a balanced process the Ministry of Finance has adopted a step by step approach: that is, the weaker (i.e. fewer branches and less capital) financial institutions have been allowed to enter first [Semkow (1993), p.442].

The internationalization of the Japanese financial system has developed rapidly since the end of the seventies.²⁷ In particular the enactment of the new Foreign Exchange and Foreign Trade Control Law in December 1980, which provided freedom of international transactions unless explicitly prohibited (freedom in principle), promoted this process.²⁸ The process of financial internationalization with respect to the money market in Japan has been stimulated by two important reforms. First, the removal in June 1984 of the so-called swap limits or yen conversion limits, which restricted the amount of foreign currency that could be converted into yen by financial institutions, increased arbitrage between interbank markets and Euromarkets. Second, the internationalization of Japanese money markets has been stimulated by the abolition in April 1984 of the so-called real demand doctrine, which allowed forward exchange transactions only for trade (or real) finance. Under financial globalization Japanese financial markets have become more and more integrated with world markets, and both Japanese financial institutions and corporations can now freely choose among various national financial systems to conduct their transactions [Kuroda (1989), p.1].

As a result of the internationalization of the Japanese financial system and the development of the Japanese economy, Japanese financial institutions have advanced into the ranks of the world's largest banks and securities houses.²⁹ Instrumental to this development were the protected domestic financial markets, de-facto largely closed to foreign financial institutions. Furthermore, because of certain regulatory and institutional factors such as fixed equity trading commissions, rigidities in domestic bond markets and the relative scarcity of attractive domestic instruments, foreign institutions seldom raised funds in the Japanese financial markets and residents often preferred to use overseas capital markets [Takeda and Turner (1992), p.94]. Also the liberal attitude of the Japanese monetary regulatory authorities with respect to the international financial activities of Japanese financial institutions supported their international advance. For example, Japanese banks were allowed to operate as universal bank in various countries with universal banking systems and consequently could conduct various activities, such as securities business through securities subsidiaries, which were not permitted in Japan. By using low-spread/high-volume strategies to gain market share and acquiring established institutions in the international financial centres Japanese financial institutions became major players in the international financial markets [Düser (1990)]. This was particularly true in the Euro-markets. The issuance of Euro-bonds by Japanese corporations grew from \$21.6 billion in 1985 to a peak of \$97.5 billion in 1989, the issues in the latter year for 66% consisting of equity warrant bonds [Takeda and Turner (1992), pp.75-76]. The equity warrant bonds were popular with issuers given their low interest rates and with investors because of the expectations of further rises of Japanese stockprices. Furthermore, the share of Japanese banks of international bank assets rose from about 20% at the end of 1983 to almost 40% by early 1989. However, due to the further liberalization of the Japanese financial system, the collapse of the "Bubble" and the greater emphasis on rates of return than on market share, reinforced by the need to meet the BIS capital adequacy ratios, Japanese banks cut back their Euro-market operations in the early 1990s.³⁰

It has been widely accepted that during the seventies the Japanese monetary authorities often changed their stance towards capital controls, depending on exchange rate objectives.³¹ When the yen was under depreciating pressure, measures were taken to encourage capital inflows and to discourage capital outflows; and conversely when the yen came under heavy upward pressure. During the eighties the liberalization of international capital flows was more fundamental than the ad hoc measures of the seventies. As a result, capital outflows were considerably strengthened. However, the liberalization of the domestic financial markets was much slower, a development which discouraged capital inflows into Japan's financial markets. As Takeda and Turner (1992), p.91, have called it, this "sequencing" of financial reform would, other things being equal, probably have implied a temporary depressive effect on the value of the yen.

Another aspect of financial reform in Japan is the process of financial concentration. As a result of the bad loan problems facing the Japanese banking industry in the aftermath of the collapse of the "Bubble", not only the small but even the largest banks are looking increasingly for partners to strengthen their position. In addition to the problems of bad

loans, small financial institutions have furthermore been hit by the ongoing reform of the financial system, with interest rate liberalization narrowing interest margins and larger financial institutions taking away their traditional business. Consequently, the Japanese financial system has experienced in recent years a severe rationalization process. Hence, the number and diversity of financial institutions in Japan has decreased significantly: a significant number of financial institutions has been acquired by bigger institutions, merged or converted their status to ordinary bank.³² The process of rationalization in the Japanese banking industry is clearly shown by the diminishing number of small financial institutions: as of the end of March 1995, compared with the situation as of the end of June 1990, the number of *shinkin* banks has declined from 453 to 421, credit cooperatives from 384 to 374 and agricultural cooperatives from 3,635 to 2,625.³³

Furthermore, it is expected that the merger (as of April 1, 1996) between Mitsubishi Bank and the Bank of Tokyo will have an important impact on the structure of the Japanese financial system. The new Bank of Tokyo-Mitsubishi Ltd. is the largest bank in the world in terms of assets. This new city bank has been allowed to issue debentures, own a trust bank (i.e. Nippon Trust Bank which was taken over by Mitsubishi Bank), have securities subsidiaries and operate worldwide: in other words, it is literally an universal bank. Without any doubt, this merger will force some of the smaller city banks such as Daiwa Bank or Hokkaido Takushoku Bank to merge as well, and will further break down the segmentation walls in the Japanese financial system.

Finally, the scandal-ridden Japanese financial system will have to restore its reputation amongst Japanese and international investors and depositors. The list of major scandals of the last four-five years, which have been well-described in Wood (1993), has become quite substantial: among many others, it includes the stock-losses compensation scandal of the summer of 1991 involving the largest Japanese securities companies and institutional investors, the scandals surrounding the near bankruptcies of Tokyo Kyowa Credit Association and the Anzen Credit Bank in the beginning of 1995 which showed the involvement of not only politicians but even of Ministry of Finance officials, and the recent scandals involving one of the smaller city banks, i.e. Daiwa Bank, which was forced to terminate its operations in the United States. Furthermore, the huge bad loan problems, which have undermined the stability and credibility of the Japanese banking system, have caused panic-runs on some of the largest credit cooperatives and their subsequent closures (Kizu Shinyo Kumiai in August 1995, and Cosmo Shinyo Kumiai in July 1995), resulted in the liquidation of seven mortgage or housing lending companies (*jusen*) in September 1995 and caused the failure of the largest member of the Association of Second Tier Regional Banks (Hyogo Bank in August 1995). The international financial community's confidence in the Japanese banking sector has been badly shaken: as a result, Japanese banks have to pay higher interest rates in the international money markets (the "Japan premium"), and the Federal Reserve and the Japanese monetary authorities reportedly discussed emergency arrangements. It will be clear that the Japanese supervisory institutions will have to take strong actions to restore domestic and international confidence. As a result of the stock-losses compensation scandals and other scandals in 1991, the MoF established in July 1992 the Securities and Exchange

Surveillance Commission (*Shoken Torihiki To Kanshi Inkai*), whose primary objective is to supervise the compliance with market rules by the stockmarket's participants, and changed its internal organizational supervisory structure to improve its supervision of the financial system. The concrete actions taken by the Japanese monetary authorities aimed at maintaining the stability of the Japanese banking industry will be discussed in the following section.

3.6. Monetary Policy

Following Goodhart (1995), we distinguish between macro and micro monetary policies. Macro monetary policy is aimed at the realization of the macro-economic policy goals such as price stability or full employment. In most countries, this policy is the domain of the central bank. By micro monetary policy is meant the monetary authorities' "... concerns with the structure and stability of the banking system" [Goodhart (1995), p.231]. As main elements of micro policy can be mentioned structural policy and prudential policy. Structural policy is related to the structure of the financial system, i.e. the whole structure of financial institutions and markets. Examples of structural policy are decisions regarding the kind of business various financial institutions are allowed to perform (for example, banking versus securities business) and listing procedures at stock exchanges. Prudential policy deals according to Wessels (1987) with "... the way financial institutions operate as firms and is ultimately aimed at maintaining the continuity of the banking system".

In this section we shall discuss the macro and micro monetary policies of the two major monetary authorities in Japan, i.e. the Ministry of Finance (MoF) (3.6.1) and the Bank of Japan (BoJ) (3.6.2). That is to say, no attention will be paid to the Ministry of Posts and Telecommunications, which is responsible for the Postal Savings System, and other ministries and lower governments which are involved in the supervision of specific financial institutions.³⁴

3.6.1. The Ministry of Finance (MoF)

According to Article 3 of the Ministry of Finance Establishment Law (MoFEL) (*Ookurasho Setchi Ho*), the general tasks of the MoF are the following:

"The MoF is the administrative organization which has the responsibility of undertaking the administrative business and operations of the government relating to the following items: finance of Japanese state, currency, finance, foreign exchange, trade of securities, currency creation and printing".³⁵

The specific responsibilities of the MoF are explained by the 129 paragraphs of Article 4. Regarding macro and micro monetary policy, the MoF is among other things responsible

for the structure of the financial regulatory framework, the supervision of the Bank of Japan and other public and private financial institutions, the adjustment of the interest rates of financial institutions and foreign exchange rate policy. In the following subsections, we shall discuss the MoF's macro (3.6.1.1) and micro (3.6.1.2) policies.

3.6.1.1. Macro Monetary Policy

Regarding macro monetary policy, the MoF is active on two fronts.

First, according to the MoFEL, the Ministry is responsible for the formulation of exchange rate policy. More specific, the International Finance Bureau, in particular its Foreign Exchange and Money Market Division, is charged with the formulation of exchange rate policy, as is explained in paragraphs 4.107 and 4.108 of the Establishment Law, and in the following paragraphs of the Ministry of Finance Organization Ordinance. According to Article 78 of this Ordinance, paragraph 2, the MoF decides and supports the level of the foreign exchange rate. Paragraph 3 states that the Ministry is responsible for the control and operation of the Foreign Exchange Fund and matters concerning the Foreign Exchange Fund Special Account (*Gaikoku Kawase Shikin Tokubetsu Kaisai*). The Foreign Exchange Fund Special Account manages the foreign exchange reserves of the Japanese government. Under the Foreign Exchange Fund Special Account Law, in particular Article 6, the BoJ conducts the administration of this Special Account's funds and intervenes in the foreign exchange market by using these funds, in both cases operating as agent for the Ministry of Finance. Regarding the foreign exchange market interventions, the MoF mostly takes the initiative and consults the BoJ about the timing and amount of the intervention. Then the BoJ starts the actual interventions, using funds from the Foreign Exchange Fund Special Account, and reports back to the MoF about the market's reaction.

Second, with the exception of exchange rate policy, the BoJ is officially in charge of macro monetary policy, which aims through day-to-day adjustments of the money markets to influence interest rates and consequently to achieve the intermediate and ultimate goals. However, the MoF has a number of possibilities to implement directly policies which affect macro monetary policy variables as well. These actions, which are traditionally not included in investigations of Japanese macro monetary policy, are a consequence of the broad and vaguely defined powers entrusted to the MoF under its Establishment Law. For example, Paragraphs 4.100 and 4.101 of the MoFEL state that the Ministry regulates and supervises financial institutions in the use of their funds and adjusts their interest rates. According to various former MoF-staff members and private bankers it is not clear what this authority means exactly and what the range of this authority is.³⁶ As a result, the MoF's officials' own interpretation of this authority constitute a set of instruments without clear and explicit legal backing. In other words, their interpretations establish a set of informal instruments: from a legal perspective compliance of affected parties with these instruments can not clearly be coerced. The grey zone of the MoF bureaucracy's interpretations of the MoFEL constitutes consequently an additional set of monetary policy instruments. In the words of a former high-ranking MoF staff member: "... in the MoF's Establishment Law many grey zones exist. These grey zones play an important role in monetary policy".

The macro monetary policies of the MoF are implemented according to the view of a senior MoF staff member "... from the perspective that the MoF has to take into account the interests of the entire Japanese people" [interview senior MoF staff member, May 1993]. In our perspective, besides exchange rate policy, the macro monetary policies of the Ministry are those policies aimed at influencing interest rates and bank lending and consequently the development of the overall macro-economic situation. Following this definition, the MoF's macro monetary policies consist of operations in the bond market, the issuance of circulars or notifications (*tsutatsu*) aimed at influencing bank lending and lending rates, and reportedly non-published administrative guidance regarding bank lending and interest rates.

Regarding MoF's interventions in the bond market, the MoF's Financial Bureau has in the past conducted several types of transactions. First, the Financial Bureau has bought on several occasions government bonds from the private sector with the purpose of lowering the rates of new government bond issues. These transactions are called "fund adjustment operations" (*Seiri Kikin no Ope*). Although according to a non-official MoF mimeograph the National Debt Consolidation Fund's operations may not affect interest rate movements in the market, bond market participants have seen clear evidence of bond market support operations carried out through the Special Account of this Fund [Ministry of Finance (1993b), p.1]. For example, in February 1990, the MoF conducted the first buying operations since 1987 (of about Yen 100 billion per operation) using funds from the NDCFSA under the management of its Government Debt Division, which were interpreted by the market as an expression of its disagreement with the restrictive monetary policy stance of the BoJ.³⁷ Second, the Trust Fund Bureau (TFB) frequently invests funds in the secondary bond market. These investments are both *gensaki* type transactions (for example from November 1991) and outright purchases (since January 1993). The transactions of the TFB, which are actually implemented by the BoJ as the MoF's agent, are officially conducted primarily to invest its surplus funds until they are incorporated into the FILP and to recycle surplus postal savings and not to influence long-term interest rates. However, the monthly outright purchases of Yen 100 billion of government bonds which started on January 18th, 1993, resulted in bringing down bond yields in the short term and were seen as deliberately intended by the MoF as part of the August 1992 and April 1993 policy packages to stimulate the economy.³⁸

The various transactions of the MoF conducted in the secondary bond market do not worry the BoJ too much. First, possible monetary effects are sterilized immediately and completely through its daily money market operations.³⁹ Second, the BoJ regards the impact on long-term interest rates as temporarily and short-lived, and believes that basically the movement of these rates is in line with the BoJ's expectations and policy stance as reflected in the movement of short-term money market rates. The major problem of the Financial Bureau's operations aimed at influencing bond yields is that these operations create confusion in the financial markets: market participants become unsure of the macro monetary policy intentions of Japan's monetary authorities and consequently might change their expectations with respect to interest rates and bond market developments. Given the huge amounts of funds under its control, the Financial

Bureau could easily and possibly unexpectedly give signals to the financial markets which differ from those of the BoJ. This was clearly the case during the first quarter of 1990. Therefore, the BoJ prefers that these operations are stopped.⁴⁰

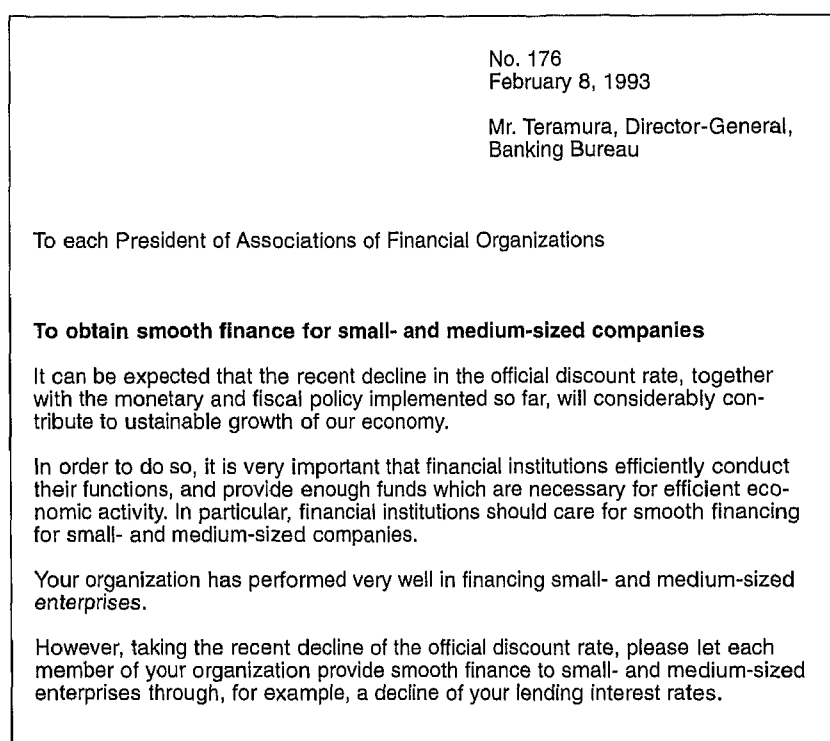
The second aspect of the MoF's macro monetary policies is the issuance of circulars or notifications (*tsutatsu*) which are directly aimed at influencing bank's lending behaviour and lending rates from the perspective of a specific desired economic development. The *tsutatsu*, which are by the MoF's staff members regarded as "... interpretations of the law", are forms of moral suasion or administrative guidance.⁴¹ These circulars are issued as general guidelines by the Director-General in case of important issues such as structural changes or shocks, or as lower-level business contacts (*Jimu Renraku*) at the Director level when more routine matters are involved. The *tsutatsu* are related to a wide range of topics, and consequently the MoF issues each year a large number of them: until April 1992 the monthly average of issued *tsutatsu* was about 200-300. The MoF's Banking Bureau's *tsutatsu* that are in force each calendar year are published in a voluminous appendix to its Annual Review [*Kinyu Zaisei Jijo Kenkyu Kai* (1992)].

The MoF issues these circulars to the external organizations and institutions under its jurisdiction: in case of Japanese financial institutions, the major part of the *tsutatsu* are sent to their umbrella associations, whereas foreign banks located in Japan, which are not members of these associations, receive these circulars individually. The major part of the *tsutatsu* issued exists of notifications which are forms of structural and prudential policy, such as regulations related to new financial instruments and banking activities, and solvency and other financial ratios. The issuance of these micro policy circulars is specifically related to the laws which govern different types of financial institutions, such as the Banking Law or the *Shinkin* Bank Law. The micro policy *tsutatsu* which are interpretations of specific banking laws and Cabinet and ministerial orders (*Meirei*) are regularly amended and remain valid during a significant number of years.

A much smaller part of the external circulars issued by the MoF are expressions of specific behaviour that MoF would like banks to follow from the point of view of a specific desired macro economic development. That is to say, these circulars are forms of moral suasion related to the implementation of macro monetary policy by the MoF. The macro policy *tsutatsu* are much more situational (ad-hoc) and reactive than most micro policy *tsutatsu*, less clearer related to specific laws, and in force during much smaller periods of time and consequently less often revised. As an example of the macro policy circulars which are issued by the MoF we have translated *tsutatsu* No.176 of Fiscal Year 1993, dated February 8, 1993. A provisional translation is presented in figure 4. This macro policy *tsutatsu* was issued one week after the lowering of the official discount rate by the BoJ (February 4th) and aimed at making it easier for small- and medium-sized businesses to obtain funds by, among other things, urging financial institutions to lower their lending rates. In the view of the MoF, banks were reluctant to extend new loans given their difficulties in meeting the BIS solvency ratios. Their hesitant stance hit small and medium companies particularly. The circular was accompanied by a statement that contained measures to improve bank's solvency ratios and asset structure which had to

secure a quick response of financial institutions to the demand for credit.⁴² The content of this *tsutatsu* seems to be related to paragraph 4.101 of the Establishment Law which states in general terms that the MoF is allowed to adjust the interest rates of financial institutions at its discretion.

Figure 4 *Tsutatsu* financing of small- and medium-sized businesses¹



1. Provisional translation *Tsutatsu* "Chusho Kigyō Kinyū no Enkatsuka ni tsuite".

The macro monetary policy *tsutatsu* of the MoF's Banking Bureau are not issued frequently: our investigation of various issues of the supplement to the Annual Review of the Banking Bureau, which contains the current *tsutatsu*, did not result in finding large numbers of macro policy *tsutatsu*. Besides the circular of February 8th, 1993, the MoF issued a macro policy *tsutatsu* on October 8th, 1993, to various government financial institutions, such as the Small Business Finance Corporation (*Chusho Kigyō Kinyū Koko*) and the People's Finance Corporation (*Kokumin Kinyū Koko*), which was intended to promote their lending to small- and medium-sized businesses.⁴³

Finally, reportedly the MoF's macro monetary policy consists also of the use of non-published administrative guidance regarding bank lending and interest rates. Contrary to the *tsutatsu*, the non-published administrative guidance is very specific and aimed at individual banks, extremely non-transparent and very confidential. Reportedly, this type of bureaucratic intervention has been used with respect to bank lending and bank lending rates. For example, representatives of some long-term credit banks reported strong and successful opposition from the MoF in a number of cases when they wanted to raise their long-term prime rate or the coupon rates on their debentures.⁴⁴ Interviewees of other types of financial institutions provided anecdotal evidence of non-published administrative guidance on various issues related to bank lending and bank lending rates. It was frequently stated that as a result of the processes of financial deregulation and financial innovations, MoF's *kyokaninka* (permissive authorization) has decreased and consequently its possibilities to enforce this type of administrative guidance. In general, staff members of the MoF denied substantial presence of non-transparent administrative guidance in macro monetary policy implementation.

3.6.1.2. Micro Monetary Policy: Prudential Policy

The formulation and implementation of Japanese micro monetary policy, whose main elements were described as structural and prudential policy, are the main tasks of the MoF. They are also mainly its tasks: some minor parts of Japanese micro monetary policy are the responsibility of the BoJ, but the MoF is the main actor with respect to its formulation and implementation. This subsection will investigate the specific instruments that are used by the MoF to carry out prudential policy. As will be shown, this part of the MoF's monetary policies is implemented through the combination of an explicit legal framework and the use of administrative guidance.

The legal framework of the MoF's prudential policy is constituted by the Ministry of Finance Establishment Law (MoFEL), and more detailed by the Banking Law. The supervisory tasks of the MoF are explained by various paragraphs of Article 4 of the MoFEL: the task of general supervision of depository financial institutions is authorized to the MoF by paragraph 4.90, their licensing and control by paragraph 4.92. Regarding the banking industry, the general framework of the MoFEL has been explained more specific in the Banking Law of 1927. This law, that was amended in 1981 and consequently implemented in 1982, explains in Chapter IV the supervisory tasks of the MoF, in particular in Articles 24 and 25.⁴⁵ The latter authorizes the MoF to conduct the on-the-spot inspection (*kensa*) of banks, since 1992 mainly the task of the Financial Inspection Department of the Minister's Secretariat; the Banking Bureau remains in charge of general supervision. The MoF's inspection of a specific bank is conducted every 2-3 years, without prior notice. The city and other major banks are inspected by MoF's officials from the main office in Tokyo, the smaller regional banks and *shinkin* banks are inspected by the inspectors and investigators of the Local Finance Bureaus. The inspection takes into account aspects such as net worth ratios, asset quality, management control systems, profitability and liquidity [Hall (1993), p.151]. Another article in the Banking Law that is important from the perspective of prudential policy is Article 13 that limits the amount of lending to a single borrower: the amount may not be

in excess of an amount which is the product of the total of the bank's net worth and a percentage which is determined by Cabinet Order [Friesen (1986), p.33].

Despite being more detailed than the MoFEL, the Banking Law does not specify clearly the scope and content of bank supervision: similar to the Establishment Law, the details are left to the discretion of the MoF's officials, and thereby give rise to the use of administrative guidance. As stated by MoF officials and reported in Ueda (1993), p.4., this was done on purpose:

"Enforcement by law should be the last resort. Therefore, it would be better to persuade banks as patiently as possible relying only on administrative guidance, but not on law."

Consequently, the implementation of prudential policy by the MoF involves administrative guidance in the form of the issuance of *tsutatsu* and reportedly the use of non-published administrative guidance.

The prudential policy of the MoF was greatly facilitated by the existence of the regulated financial system, that existed during most of the post-WWII period. The functional segmentation of financial institutions, the regulation of interest rates and other regulations such as entry control limited competition and promoted stability in the banking industry. This regulated Japanese banking system has been typified as a "convoy system", in which the efficient banks followed the slower pace that had been set for the smaller and inefficient banks [Mabuchi (1993), p.4]. Furthermore, the Japanese monetary authorities implicitly guaranteed that no bank would be allowed to go bankrupt. In case a bank would get into a situation of severe financial distress, it would receive financial assistance of its main banks and/or the BoJ, or would be merged with another bank. Also, often staff members of the MoF and/or BoJ would be sent to this bank in the ex-post monitoring sense: this sending could be on a temporal basis (*shukko*) or definite in the form of *amakudari* (retirement).

During the eighties, the implementation of prudential policy by the MoF has been put under pressure by two inter-related developments. First, the process of financial reform, as described in section 3.5, has increased competition between banks and deteriorated their profitability. Second, the creation and subsequent collapse of the "Bubble Economy", which have been reported in section 3.4, have saddled Japanese banks with huge amounts of non-performing loans.

The MoF's response to the problems caused by the process of financial reform has consisted mainly of an expansion of the safety net, in the form of increased deposit insurance arrangements and enhanced powers for the MoF to arrange mergers, tougher capital requirements and enhanced supervision of private financial intermediaries.⁴⁶ The reaction of the MoF to the problematic situation of the Japanese banking industry in the aftermath of the collapse of the "Bubble" has shaped present prudential policy. First, the MoF has amended existing circulars (*tsutatsu*) and in addition has issued new circulars, i.e. used published administrative guidance, from the perspective of preventing too risky behaviour of banks. On April 30th, 1992, the Banking Bureau

amended for the 36th time (as of the end of 1992) the *tsutatsu* No.901 (*Futsu Ginko no Gyomu Un-ei ni kan suru Kihon Jiko To* [Standard Items related to the Management of the Operation of Commercial Banks]), which was originally issued on April 1th, 1982.⁴⁷ The last amendment of this *tsutatsu* states the following explicit targets for various ratios related to the financial position of commercial banks.⁴⁸ First, internationally operating Japanese banks have to meet the BIS solvency-requirement of eight per cent, whereas domestically active banks have to observe a minimum solvency ratio of four percent. Second, the ratio of current assets to total deposits should be at least 30%. Third, the ratio of fixed assets for business use to net worth should not exceed 40%. Fourth, to stimulate the formulation of reserves, the maximum dividend payout ratio, defined as dividend payments divided by current profits, has been set at 40%. Finally, in combination with Cabinet Order No.40 of April 1th, 1982, the maximum amount of bank lending (defined as loans and bills discounted) to a single borrower as a percentage of own capital is 20% for commercial banks, 30% for long-term credit and trust banks, and 40% for foreign exchange banks (i.e. Bank of Tokyo).

Second, in response to the growing exposure of banks' lending to the real-estate industry during the "Bubble" years, since 1986 the MoF has used non-published administrative guidance to urge banks and life insurance companies to refrain from extensive lending to the real-estate sector. This non-transparent guidance, which according to reports from the BoJ was not very successful, was changed in published administrative guidance in the form of *tsutatsu* No.555 of March 27th, 1990 (*Tochi Kanren Yushi no Yukusei ni tsuite* [On Restraining Real Estate Related Finance]). Under this *tsutatsu*, issued to the associations of Japan's main financial institutions, the growth of real-estate related loans was required not to exceed the growth of total overall lending.

Third, measures aimed at improving the bad-loan problems of banks included the creation of new institutions to assist in the writing-off of non-performing loans, and increasing the bank's capital, as described in section 3.5.

Fourth, the 1986 revision of the Deposit Insurance Law enhanced the powers of the MoF to facilitate mergers involving troubled banks [Hall (1993), p.145]. Even if the problem bank ("failing financial institution" in the law) has not applied for assistance, the amended law authorizes the MoF under the so-called "emergency merger" provisions to start merger proceedings. The bank that merges with or takes over the "failing" bank, the so-called "relieving financial institution", may receive financial assistance in the form of money grants, loans or other arrangements from the Deposit Insurance Corporation (DIC) to facilitate the merger or take-over. To finance this assistance, the DIC may borrow up to a maximum of Yen 500 billion from the BoJ and borrow from financial institutions to repay the BoJ funds. A substantial number of the mergers and take-overs of recent years have been arranged by the MoF involving DIC assistance. These take-overs and mergers were mostly part of a larger rescue-package, involving support from the BoJ, banking associations and individual banks.

Fifth, prudential policy in recent years has also seen assistance by main banks: in a number of cases, large banks that function as main bank of smaller banking institutions have provided financial assistance. In these cases, the main banks were the banks with the largest equity stake in the problem bank. Main bank involvement has been clearly present in the rescue-packages for Taiheiyo Bank and Hyogo Bank (both Second Tier regional banks) and the establishment of Tokyo Kyodo Bank. For example, regarding the problems of Hyogo Bank, in December 1992 an assistance operation was made public including cheap loans from its three top shareholders (Sumitomo Bank, IBJ and Long-Term Credit Bank of Japan).

Finally, the MoF's prudential policy has included the sending of staff members on a temporal basis (*shukko*) and / or on a permanent basis (*amakudari*) to troubled institutions. Quite often, for example in the case of Hyogo Bank, the *amakudari* appointments received considerable attention in the media, and seemed to be used by the MoF as a signal to restore confidence among deposit holders (signalling function). However, the *shukko* appointments are not disclosed.

3.6.2. The Bank of Japan (BoJ)

In February 1942 the BoJ was reorganized under the Bank of Japan Law (*Nihon Ginko Ho*). The BoJ Law, which was (and still is) based on the German 1939 Reichsbank Act, further strengthened the already dominant role of the government and defined the role of the BoJ as an instrument of militarist control [Tsutsui (1988), p.15]. The main tasks of the BoJ are set out in Article 1:

*"The Bank of Japan has, for its object, the regulation of the currency, the control and facilitation of credit and finance, and the maintenance and fostering of the credit system, pursuant to the national policy, in order that the general economic activities of the nation might adequately be enhanced."*⁴⁹

The following subsections analyze the BoJ's macro (3.6.2.1) and micro (3.6.2.2) monetary policies.

Regarding macro monetary policy, the transmission mechanism is important. Given both the uncertainty regarding the ultimate effects and the possibility of lagged effects of policy actions on the ultimate policy goals, in addition to the policy instruments and ultimate goals central banks use intermediate variables, i.e. indicators and targets [Eijffinger (1986)]. The indicator such as an interbank interest rate is directly under the control of the central bank and is directly affected by the policy instruments. However, the relationship of the indicator with the ultimate goals of macro monetary policy is somewhat unstable. Therefore, the target, for example a monetary aggregate or exchange rate, is used as an intermediate objective.

3.6.2.1. Macro Monetary Policy

Macro monetary policy in Japan consists predominantly of the macro monetary policy of the BoJ. In this subsection, a brief analysis of the BoJ's macro monetary policy will be presented. First, the indicators and the various policy instruments and operational procedures will be described. The main instruments of the BoJ are its lending policy and securities and bills operations. Second, following the terminology of the transmission mechanism of monetary policy, the historical development of this policy will be described. This historical development can be divided in two main periods, i.e. the traditional monetary policy (until 1975) that coincided with most part of the postwar period of high economic growth (1953-1972), and the post-1975 money oriented macro monetary policy.

3.6.2.1.1. *Indicators, Instruments and Operational Procedures*

The starting point of the postwar BoJ's macro monetary policy has always been the interbank markets. The BoJ has used interbank interest rates, i.e. the call rate and after 1971 two and three months bill discount rates, as indicators. The BoJ exerts great influence on the interbank markets through its lending policy. Of great importance in this policy is the reserve system of the Bank.⁵⁰ Banks are under the reserve system required to hold non-interest bearing deposits at the BoJ against their private deposits. The required reserves are calculated as the product of the required reserve ratio and the average outstanding balance of deposits during one calendar month, with a "maintenance period" beginning on the sixteenth day of that month and ending on the fifteenth of the next month. The financial institutions are free to decide the daily amount of reserve deposits, if at the end of the "maintenance period" the compulsory amount of reserve deposits is attained. The reserve deposits consist mainly of credit of the BoJ, so the lending policy of the Bank has a great impact on the reserve position of financial institutions. The BoJ's lending policy consists of lending on bills and the discounting of bills. Loans on bills are loans to financial institutions collateralized by bills or securities which are accepted as collateral by the BoJ. Discounting of bills is "... the rediscount of bills that have already been discounted by a financial institution for the clients of that institution" [Suzuki (1987a), p.309]. The total amount of lending is subject to an upper limit under a credit ceiling system. The interest rates on the BoJ's lending on bills and the discounting of bills are known as the official discount rates; when the term "official discount rate" is used, it generally refers to the rate on discounting of bills. It is important to stress the focus of the lending policy of the BoJ at the so-called reserve progress ratio, i.e. the ratio of the actual amount of reserve deposits to the compulsory amount of reserve deposits. By changing the amount of its credit, the BoJ exerts great influence on the amount of reserves at financial institutions and so on the interbank interest rates. For example, rationing of credit by the BoJ decreases the sum of the individual reserve progress ratios of the various financial institutions. When the end of the reserve period draws nearer, financial institutions with an insufficient amount of reserve deposits (i.e. below the compulsory level at the end of the reserve period concerned) are forced to borrow in the interbank markets. As a result, interbank interest rates will rise.

Besides its lending policy, the BoJ uses other policy instruments to control interbank interest rates. Securities and bills operations, i.e. the buying and selling of securities and bills by the BoJ, are focused on neutralizing money market surpluses and shortages. Traditionally, these operations have been taking place between the BoJ and depository financial institutions, hence have not been causing a direct effect on the money supply. Consequently, these securities and bills operations of the BoJ have not been open market operations in the true sense [Suzuki (1987a), p.320]. A better qualification might be quasi-open market operations. Changes in the official discount rate are intended to give signals about the policy intentions of the BoJ (so-called announcement effect). Changes in the reserve ratios, which determine the amount of reserves banks have to deposit at the BoJ in relation to their deposits and other liabilities, in general have had a modest effect on interbank interest rates [Suzuki (1980), pp.198-200]. First, the effects of changes in reserve ratios ultimately depend on the BoJ's loan policy's stance: if reserve ratios are raised, banks will try to compensate for their shortage of liquidity by resorting to additional BoJ credit, which, if granted, would make the reserve ratios changes meaningless. Second, changes in reserve ratios have always been very small and consequently have generated only limited cost effects. Finally, changes in reserve ratios have not been used very actively as an instrument to influence interbank interest rates because they are not flexible enough to deal with seasonal fluctuations or irregular changes. However, during some periods of monetary tightening, when the BoJ's loan policy's stance was very restrictive, reserve requirements were changed relatively frequently and influenced the adjustment of banks' liquidity position, always together with lending policy and securities and bills operations. Reserve requirement ratios are applied to time deposits, CDs, other deposits, outstanding debentures of long-term credit banks and the Bank of Tokyo-Mitsubishi, the principal outstanding of money in trust, foreign currency liabilities and yen deposits of non-residents, and foreign currency deposits of residents. Table 2 shows the reserve requirement ratios for time deposits (including CDs) and other deposits.

Table 2 Reserve requirement ratios (percentages), as of January 1995¹

Time deposits (including CDs)				Other deposits			
> Yen 2.5 trillion	Y1.2-2.5 trillion	Y0.5-1.2 trillion	Y0.05-0.5 trillion ²	>Yen 2.5 trillion	Y1.2-2.5 trillion	Y0.5-1.2 trillion	Y0.05-0.5 trillion ²
1.2	0.9	0.05	0.05	1.3	1.3	0.8	0.1

1. Ratios applied to city, regional, Second Tier regional, foreign, long-term credit and trust banks, and *shinkin* banks with deposits of more than Yen 100 billion at end of fiscal year.
2. No reserves required for amounts of Yen 50 billion or less.

Source: Economic Statistics Monthly, Bank of Japan, January 1995.

Regarding the set of instruments at the BoJ's disposal, the year 1981 brought a major innovation: in May the Bank started to sell financing bills (FBs) on the open market to absorb liquidity surpluses. According to Suzuki (1987a), p.322, "... This was the first time since the end of the Second World War that the BoJ had engaged in an open market operation in the true sense of the term". In the true sense, open market operations are the purchasing or selling of securities by the central bank on the open market from non-depository financial institutions and the non-financial private sector, which consequently influence directly the money supply. However, various interviewees stressed that the BoJ's FB operations were and are conducted predominantly with depository financial institutions, mainly city banks.⁵¹ Therefore, it would be more precise to typify these operations as quasi-open market operations.

The need to introduce open market instruments by the BoJ became apparent by the development of the open money markets, as described in section 3.3. The interest rates on these markets are relatively free. As a result, the share of the open markets in the total money market increased from 1984 onwards. To counter this development, the attractiveness of the interbank market was improved in July 1985 by the introduction of an uncollateralized call market. However, as a result of increasing open market rates, compared with relatively stable interest rates in the interbank market, until the autumn of 1988 the volume of the interbank market kept shrinking. The decreasing volume of the interbank market reduced the influence of the BoJ on money market rates and compelled the BoJ to deregulate the interbank market as from November 1988. The elements of this introduction of the so-called new monetary control regime can be summarized as follows. Firstly, the Bank liberalized the interest rate of commercial bills which was regulated until then. Secondly, the range of maturities for the collateralized call market and the bill market was adjusted in order to realize more fine tuning in the money market.⁵² Thirdly, the quantitative restrictions and quotation system for the uncollateralized call market were abolished and the permitted maturity for this market was extended from overnight-three weeks to overnight-six months to reinforce the arbitrage between interbank and open markets. These swift and radical measures by the BoJ resulted in more than a doubling of the interbank market volume during the period November 1988-July 1989. Moreover, the arbitrage between interbank and open markets strengthened in that period as appears from the narrowing difference of interbank and open market rates [Eijffinger and Van Rixtel (1992), p.304]. The November reforms permitted the BoJ to maintain the effectiveness of its macro monetary policy in spite of the ongoing process of financial reform. Under the new monetary control regime, the Bank concentrates on the shortest maturities, in particular overnight call rates, and leaves the rates of longer maturity instruments to move freely in accordance with market conditions and expectations.

With respect to open market interest rates, the BoJ could influence them to a certain extent through the mechanism of interest rate arbitrage between interbank and open markets. However, the mechanism of interest rate arbitrage alone is not sufficient to control the interest rates on the open markets. Other factors, including differences in market expectations and different characteristics of various segments of the open

markets, determine also open market interest rates. Furthermore, the declining share of the interbank markets in the total money market made it more difficult for the BoJ to influence the interest rates on the open markets only by use of interest arbitrage. Therefore, the last decade saw the introduction of instruments by the BoJ to exert more direct influence on open market developments. In this respect, in addition to the sales of FBs with repurchase agreements (first in May 1981), the Bank introduced operations in CDs (first in March 1986 but not used anymore since February 1989), purchases of CPs with repurchase agreements (firstly May 1989, but has not been used since November 1991) and purchases of TBs with resale agreements (first in January 1990).⁵³ The development of real open market operations in FBs and TBs has been a long-standing point of conflict between the BoJ and the MoF.⁵⁴ First, the BoJ wants the FBs, which carry interest rates set by the MoF below the official discount rate, to be issued through tender, i.e. to deregulate their interest rate. Second, in particular the BoJ intends to extend the use of TBs as a real open-market instrument. Therefore, the BoJ would like to see an increase in the amount of TBs issued at market prices. The MoF has been reluctant to issue attractive FBs and TBs, i.e. against market conditions, out of fear of a rising interest burden and consequently higher government fiscal deficit. However, slowly but steadily the MoF has eased its position and has taken measures to develop in particular the TB market [De Brouwer (1992), p.10]. To facilitate the open market policy of the BoJ, the MoF introduced in August 1989 three month TBs, promoted the development of a secondary market by increasing the number of TB issues from one to two when the monthly issue volume exceeds two trillion Yen, and reduced in April 1990 the minimum denomination from 50 million yen to 10 million yen. The BoJ facilitated operations in FBs and TBs by commencing an on-line system for these instruments through its own on-line settlement system (BoJ-Net or BoJ Financial Network System) in November 1991. Furthermore, it introduced same-day settlement for TB operations in June 1995.

Another new development in the operating procedures of the BoJ was the introduction in December 1987 of purchases of long-term government bonds with repurchase agreement to supply credit during periods of short-term fund shortages. This instrument has not been used anymore since November 1994. The Bank has used outright purchases of government bonds from financial institutions since November 1962, as an instrument to provide the Japanese economy with additional base money without directly disrupting the growth of the money supply. Furthermore, the BoJ has continued to liberalize the money markets, in particular the interbank market. These reforms in the interbank markets enable the BoJ to fine-tune its operations more precisely.

The on-going liberalization of the interbank markets and the greater use of interest rates in the transmission process culminated in the change of the BoJ's operational procedures in March 1995. On March 31, the BoJ set for the first time a public target for the overnight call rate. With this move, the BoJ followed the Federal Reserve, which started to announce public targets for the federal funds rate in 1994. The BoJ's new procedure allows it to operate more flexibly and to reduce the uncertainty in its policies. Under this procedure, the official discount rate will be even less important than it already had become. The increased use of interest rate movements in the transmission of monetary

policy has made it necessary to stimulate the further development of open market instruments such as TB operations. However, the Japanese TB market is still small compared to the US market: its size was as of the end of May 1995 12.5% of the money market. A well-developed TB market that would allow direct transactions with the non-monetary sector would certainly improve the speed and effectiveness of monetary policy transmission.⁵⁵ It would also give the BoJ a homogeneous instrument: the BoJ would no longer have to combine various different instruments such as FB, TB, CP and *gensaki* operations which have their own specific drawbacks.

Concludingly, the present set of policy instruments is used by the BoJ as follows. Its lending (lending on bills and discounting of bills) and bill operations are used to adjust daily money market surpluses and shortages. The BoJ conducts purchases and sales of bills, sales of FBs with repurchase agreements and purchases of TBs with resale agreements to adjust seasonal fluctuations in the surplus or shortage of funds of a two to three month duration [Suzuki et al. (1988)]. Finally, outright purchases of bonds are used to supply additional base money for economic growth.

The BoJ used in an additional fashion an informal instrument to control the broadly based lending by banks. This instrument was the so-called window guidance (*madoguchi shido*), in the words of Suzuki (1987a), p.325, "... guidance to the financial institutions to keep the increase in their lending to clients within limits that the Bank of Japan feels to be appropriate". Window guidance was a kind of moral suasion, and was officially abolished in June 1991.

3.6.2.1.2. Transmission Channels

The traditional macro monetary policy coincided with the postwar period of high economic growth (1953-1972). During this period the main source of corporate finance was bank credit. The heavy dependence of the corporate sector on credit from depository financial institutions, i.e. the situation of overborrowing and the predominance of indirect finance, was mainly caused by the underdevelopment of the capital markets. It will become clear from the following analysis that the heavy dependence of the corporate sector on bank credit and the situation of overloan were of great importance for the implementation of the traditional monetary policy.

The lending policy of the BoJ was very effective during the period 1953-1975, mainly as a result of the macro situation of overloan. This situation implied that banks were heavily dependent on central bank credit, and therefore changes in the amount of credit of the BoJ had great consequences for the reserve and funding positions of banks and consequently for interbank interest rates.

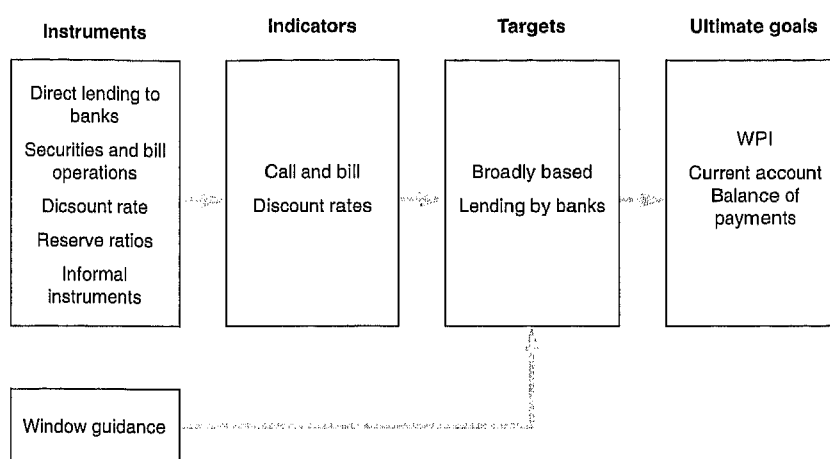
The target of the traditional macro monetary policy, i.e. the macro monetary policy during the high growth period, was the broadly based lending by banks, mainly to the corporate sector [Suzuki (1987b), p.3, and Cargill and Royama (1988), p.85]. In other words, the BoJ's macro monetary policy followed the so-called credit paradigm which stresses that the amount of credit extended by commercial banks determines private

investment, and that the control of credit is most crucial to the control of the money supply [Hamada and Hayashi (1985), p.92]. Broadly based corporate credit included ordinary bank credit to the corporate sector and the absorption of corporate bills and securities by banks. The main argument in favour of this specific target was the situation of overborrowing and predominance of indirect finance. Because of these situations broadly based corporate credit was a good proxy for the volume of business investments and the level of economic growth. The process by which the interbank interest rates (the indicators) affected the direction of broadly based lending by banks was very clear and stable and can be presented as follows. Interest rates on broadly based bank credit were, mainly as a result of legal regulations, informal agreements and main-bank relationships, inflexible compared with interbank interest rates. The rigid structure of credit interest rates resulted in substitution effects between on the one hand activities of banks in the interbank money markets and on the other hand the amount of broadly based lending by banks. For example, when as a result of the BoJ's monetary policy actions interbank interest rates rose and consequently the differential between interbank rates and lending rates and bond subscriber's yields rose as a result of the inflexibility of the latter two, banks would reduce their lending and absorption of bonds and increase their investments in the interbank money markets. This increase of funds in the interbank market would be neutralized without delay by offsetting operations of the BoJ.

The last stage of the transmission process is the link between the target(s) and the ultimate goal(s). The main goals of the traditional macro monetary policy were the achievement of price stability (wholesale price index or WPI) and equilibrium in the current account of balance of payments. Through regulation of the broadly based lending by banks, the BoJ was able to control the level of business investments, i.e. the main impetus of the high economic growth, and therefore aggregate demand, inflation and the current account of the balance of payments. The four stages in the transmission process of traditional monetary policy are described in figure 5.

During the first part of the seventies the collapse of the Bretton Woods system and the oil crisis had a great impact on the world economy. Economic growth in Japan slowed down and the government was forced to introduce an accommodating Keynesian oriented monetary and fiscal policy. As a result, the rate of inflation increased rapidly. The crisis in the Japanese economy had great consequences for the economic and financial structures. The shift to lower growth reduced the corporate demand for credit and resulted in a sharp decline in the situation of overborrowing. The large-scale issues of government bonds, necessary to finance the increase in government budgetary deficits, stimulated the development of the securities market and decreased the predominance of indirect finance, i.e. increased direct finance in Japan. The decline of overborrowing and indirect finance decreased the importance of credit in the monetary policy process. Furthermore, the process of financial reform, as described in section 3.5, which started around 1975, increased the flexibility of interest rates. This development decreased the effectiveness of the channel between interbank interest rates and broadly based lending by banks of the traditional macro monetary policy. Another problem for the effectiveness of the BoJ's policies was caused by the large-scale issues of government bonds. The main part of

Figure 5 The traditional monetary policy



these issues was absorbed by banks, i.e. money creating financial institutions. As a result, the money supply increased rapidly. It will be clear that the (intermediate) target of the traditional macro monetary policy, i.e. the broadly based lending of banks to the corporate sector, neglected the money creating effect of the government bond issues. It was mostly for this reason that the BoJ introduced in 1978 a new target variable, namely a monetary aggregate: from July 1978 to the third quarter of 1979 the broad based money supply M_2 , and from the third quarter of 1979 the monetary aggregate M_2+CDs .⁵⁶ This monetary aggregate includes cash currency plus demand deposits (=M1), quasi-money and CDs. Quasi-money consists of all general deposits, public deposits and instalment savings of the financial institutions subject to observation less demand deposits; national government and financial institution deposits are excluded, but non-resident yen deposits and all foreign currency deposits are included. The financial institutions concerned are all commercial banks, long-term credit and trust banks, *shinkin* banks, the *Shoko Chukin* Bank and the *Norinchukin* Bank. The BoJ started to publish its forecast of M_2+CDs in 1978. These forecasts have the status of projections and should not be regarded as targets in the context of a strict monetarist policy. Officials of the BoJ have stressed this fact in several publications and mentioned the pragmatic attitude of the Bank towards the control of the money supply.⁵⁷

It has already been mentioned that the process of financial reform decreased the effectiveness of the influence of interbank interest rate changes on broadly based lending of banks, and therefore also decreased the impact of changes in interbank interest rates on the money supply. Financial reform caused the creation of more open, relatively non-regulated financial markets with more flexible interest rates. As a result, two additional channels of transmission between interbank interest rates and money supply were established.

The first was the channel of financial disintermediation. Because open market interest rates were more flexible than deposit interest rates, which were still regulated, changes in interbank interest rates had a greater impact through interest rate arbitrage on open market interest rates. Depositors were more inclined to invest funds on the open markets when a rise in interbank interest rates caused open market interest rates to rise. As a result, the funding position and consequently the amount of bank lending deteriorated. Of course, for the supply of funds to the open market increased. These funds could be borrowed directly from the market by big corporations through the issue of securities or commercial paper to replace the decrease of bank credit (increase of direct finance). However, given the fact that small and medium-sized companies and individuals cannot issue securities monetary conditions would tighten. Furthermore, selling operations of the BoJ absorbed the additional funds in the open market [Suzuki (1989), p.163].

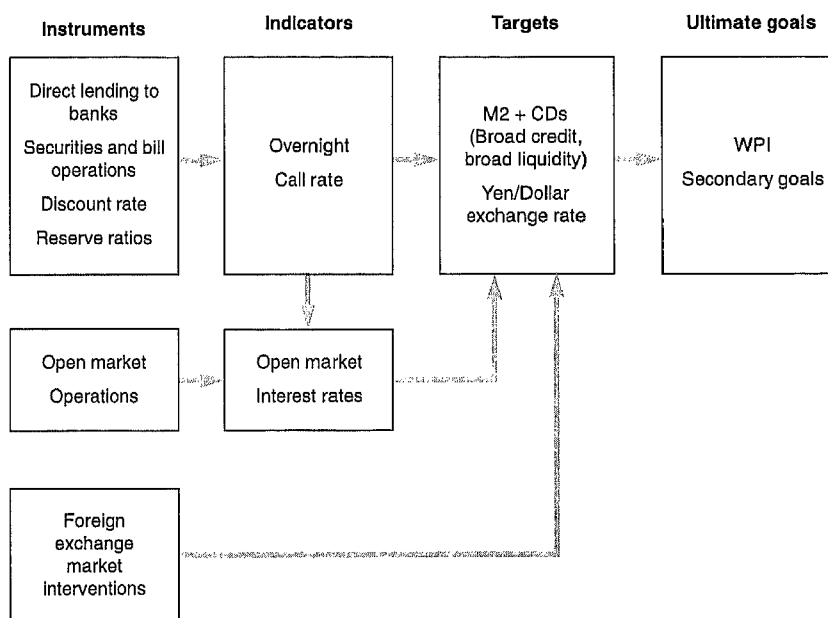
The second channel included the effects of changes in interest rates on private expenditure. Interbank interest rate changes caused open market interest rates to change and eventually influenced even interest rates of broadly based lending by banks. Hence, the opportunity costs of expenditures by surplus sectors (i.e. the yields on open market investments) and the costs of financing of expenditures by deficit sectors changed. These changes influenced the amount of private expenditures and eventually the level of national income, money demand and money supply.

With respect to the transmission channels of macro monetary policy, the exceptional rise during the "Bubble" years of asset-prices strengthened the importance of wealth effects. Changes in interest rates influence the value of various assets and consequently the amount of private non-financial sector expenditures. The process of financial reform, especially the liberalization of interest rates, has made the effects of interest rate changes on private expenditures (direct channel) and these effects on asset values and consequently on private expenditures (indirect channel) much more important. The new short-term and long-term prime rate systems and the increased use by banks of funding instruments with money market related interest rates have made the transmission of changes in money market interest rates to lending and borrowing behaviour of the non-financial sector more effective [Royama (1989/1990), p.8]. Thus, the transmission of monetary policy will increasingly take place through the effects of interbank and open market operations of the BoJ on interest rates in all markets [Suzuki (1989), p.166]. The focusing of the BoJ on market interest rates has been mentioned in Tamura (1991), Nakao and Horii (1991) and Okabe (1995). Furthermore, as a result of the financial reform process these officials of the Bank of Japan mention an increased number of caveats applying to the interpretation of the money supply since the mid-1980s. Wealth effects in the aftermath of the rise and collapse of the "Bubble", the process of financial reform, in particular interest rate liberalization and changes in the behaviour of private financial institutions, and the shift of funds from banks to the Postal Savings System, destabilized at least temporarily the relationship between M_2 +CDs and various economic indicators [Bank of Japan (1992)]. Consequently, the BoJ announced in August 1992 that it would follow more closely other financial aggregates as well: the most broadly-defined credit aggregate (financial debt of domestic non-financial sectors) and broad liquidity, which

includes M_2 +CDs, postal savings, credit association deposits, loan and money trusts, outstanding repurchase-pledged bonds, bank debentures, government bonds and investment trust.⁵⁸ Hence, the BoJ uses, in addition to the aggregate M_2 +CDs, credit and liquidity aggregates to provide predictive information regarding the development of economic activity. The BoJ believes that the use of a larger set of intermediate targets will be temporary, and hopes to be able to return to M_2 +CDs only.⁵⁹

The present macro monetary policy of the BoJ is presented in figure 6. As a consequence of financial globalization, exchange rates have gained importance. Furthermore, the BoJ is following a set of monetary, credit and liquidity aggregates. Therefore, it is shown that both the (yen/dollar) exchange rate and these aggregates are used as intermediate targets. Regarding the ultimate goals, reaction function analysis has shown that changes in interbank interest rates react most significantly to developments in the WPI.⁶⁰ Furthermore, the eclectic attitude of the BoJ is reflected in the significance of a number of other ultimate goals, in particular the current account of the balance of payment and unemployment. The Japanese central bank wants to achieve the goal of price stability (WPI) on the one hand by controlling the growth of the money supply or liquidity (the internal track) and on the other hand by keeping the yen sufficiently strong against the US dollar to prevent import inflation (the external track). For example, according to Hutchison (1986), the Bank of Japan has not relied fully on the internal track but has also systematically focused on the external track.

Figure 6 Present macro monetary policy



3.6.2.2. Micro Monetary Policy: Prudential Policy

In addition to the MoF's prudential policy, among other things consisting of the inspection (*kensa*) of banks, the BoJ supervises the banking industry as well. According to Article 1, Bank of Japan Law, the prudential policy of the BoJ is aimed at maintaining a safe and sound financial system. This responsibility is concretized by its provision of payment services, its monitoring and supervision of private financial institutions and its function of lender of last resort. The general supervision of the payment system and prudential behaviour of private financial institutions is the task of the BoJ's Financial and Payment System Department. The monitoring of daily activities of private financial institutions is conducted by the Bank Relations and Capital Markets Divisions of the Credit and Market Management Department, while the on-the-spot examination (*kosa*) of the major banks is the responsibility of the Bank Supervision Department and its 35 Bank Supervisors. The examination of local banks, i.e. regional, Second Tier regional and *shinkin* banks, is done by the BoJ's local branches and offices.

Contrary to the MoF, the BoJ's actual examination is not based on legal statutes (i.e. the Banking Law), but is a consequence of the contracts it makes with banks when they open an account with it. This dual monitoring system was established after the financial crisis of the 1920s, when the BoJ was granted the right to supervise banks under the idea that "... four eyes see more than only two".⁶¹ Traditionally, the examination of the BoJ has the character of advise regarding matters such as portfolio allocation and loan positions, whereas the MoF's inspection is focused more on strictly checking whether banks are obeying the law. However, in practice the differences between the BoJ's *kosa* and the MoF's *kensa* are a matter of nuance. Contrary to the inspection by the MoF, the BoJ's examinations have to be announced beforehand. The on-the-spot investigations of individual major banks by the BoJ and the MoF are conducted alternately every 2-3 years, so that on a regular basis the large banks are inspected every year or so. Of course, in case the BoJ suspects that a specific bank is in a bad shape, it will depart from this regular scheme. These examinations have to be prior announced as well. In its examinations, the BoJ uses a standard guidebook (check-list).

Just like the MoF, the BoJ has paid more attention in recent years to the development of the banks' lending to the real estate, construction and non-bank financial sectors. Basically, the BoJ tried to limit the growth in this lending by tightening its own lending to the banking industry and used administrative guidance to persuade banks to improve their risk-control systems. The BoJ tightened its window guidance as well: according to Hoshi, Scharfstein and Singleton (1991), p.10, "... for seven consecutive quarters since the third quarter of 1989, the BoJ has set lending growth limits lower than the results for the same period of the previous year". The BoJ also fulfilled its role of lender of last resort: most of the rescue-packages for troubled banks discussed in subsection 3.6.1.2 involved extra funds and other financial assistance from the BoJ. Finally, reportedly the Bank has sent its staff members on a temporal (*shukko*) and / or permanent basis (*amakudari*) to troubled financial institutions. For example, several *shukko-sha* from the BoJ were sent to Tokyo Kyowa Credit Association, one of the two credit associations which were liquidated early 1995.

3.7. Conclusions

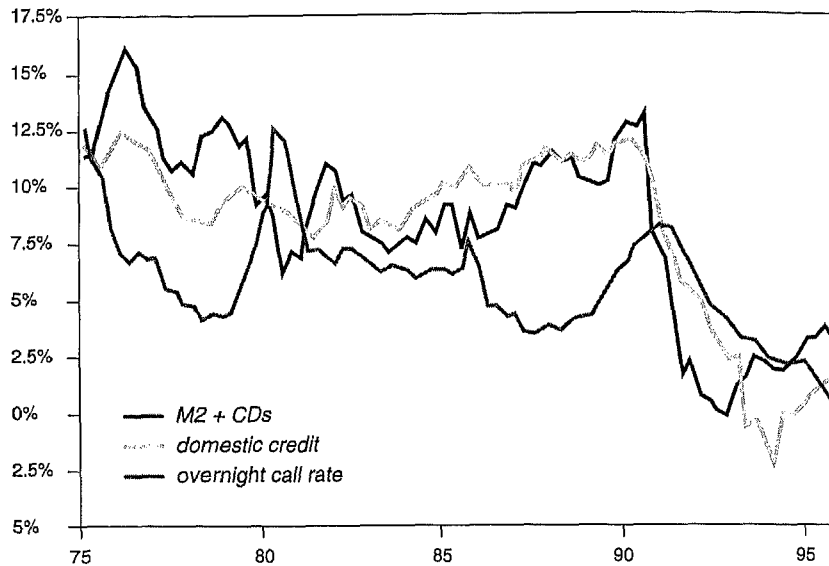
In this chapter, we analyzed the development of the structure of the financial system and the implementation of micro and macro monetary policy in Japan. First, a classification of financial institutions according to their business features and customers was given. Second, the Japanese money markets were described. Third, we analyzed the rise and collapse of the "Bubble" economy. Fourth, the progress and present state of the process of financial reform was discussed. Finally, an analysis of the micro and macro monetary policies of the Ministry of Finance and the Bank of Japan was presented.

Given the present problematic situation of the bad-loans troubled Japanese banking industry, the question arises how this could happen. After all, the post-war successful economic experience of Japan and the development of its financial system have become textbook examples for developing countries. Now, the recent problems facing the Japanese financial system, economy and monetary authorities have cast a shadow on this success. Obviously, the declared "new financial superpower" status of the eighties has in the nineties turned out to be a myth: Japan's experiences have become in line with the financial and economic ups and downs of other countries. In our opinion, the following factors were at least partly responsible for the difficulties of recent years.

First, the creation of the "Bubble" was partly due to an too easy monetary policy during the latter half of the eighties. This fact has been acknowledged more or less by the BoJ in its monthly report (*Nippon Ginko Geppo*) of April 1990, which has been interpreted as a self-critique of the Bank's policy stance during 1987-1989 [Ito (1992), p.48]. Given the stable development of prices (WPI), the BoJ did not see any necessity to reverse its policies earlier. It has to be said that the anti-inflation policy of the BoJ has been quite successful throughout the postwar period. As can be seen from figure 1, with the exception of the first oil shock period in the mid-seventies, inflation has been quite low and stable. Furthermore, for exchange rate considerations, the BoJ was pressured by the MoF to sustain an ease monetary policy after the establishment of the Louvre Accord in February 1987 [Hamada (1995), p.277]. As we have seen, the MoF is the primary authority regarding the formulation of exchange rate policy. It is widely accepted that the interest rate policy of the BoJ during the "Bubble" years was put in service of the exchange rate considerations of the MoF. The development of M_2 +CDs, domestic credit and the overnight call rate is shown in figure 7. The easy policy stance of the mid and latter half of the eighties is clearly reflected in the low levels of the overnight call rate and the high growth rates of money and credit.

Second, during the creation of the "Bubble" a former highranking MoF staff member, i.e. Satoshi Sumita, was serving as governor of the BoJ. Since the early seventies the positions of Governor and Senior Deputy-Governor of the BoJ, who are appointed for a five year period by the Cabinet, are filled alternately by BoJ and former MoF top executives: in the case of the BoJ, a former Senior Deputy-Governor, and in the case of the MoF a former Administrative Vice Minister.⁶² The presence of a retired MoF official in the function of governor could have been instrumental to the MoF in reaching its policy objectives.

Figure 7 Monetary expansion, domestic credit and overnight call rate
Year on year % change (same quarter), percentage points



Source: Monetary and Economic Policy Department, De Nederlandsche Bank

Third, the expansion of banks' lending to risky sectors such as the real-estate and non-bank financial (consumer credit and leasing companies) industries was not adequately countered by a sharpening of prudential policy. The risky behaviour of Japanese banks could have been spurred by the following aspects. First, since the end of WWII, no Japanese bank was allowed to go bankrupt: in other words, the Japanese monetary authorities gave the implicit guarantee that troubled banks would be bailed out at almost any costs. Second, we have noticed that a considerable number of troubled financial institutions employed for many years retired MoF and/or BoJ staff members in high-ranking positions. This phenomenon could point at possible moral hazard problems. The most clearest case is the situation at the eight mortgage or housing lending companies (*jusen*), seven of which were liquidated in September 1995. These companies were established in the early seventies by large commercial banks and securities companies, strongly encouraged by the MoF. From the start, retired MoF officials were appointed in the highest executive positions: in fact, seven out of eight housing lenders started with a former MoF official in one of the highest executive positions. MoF-retirees were also present when these companies moved into risky real-estate lending. There has been no sector in the Japanese financial system where former MoF officials were so heavily involved as the housing lenders; there also has not been any sector where the percentage of bankruptcies has been so high. Also the case of Hyogo Bank, the first bank that went bankrupt since the end of WWII and that will be liquidated early 1996, is

illustrative: already in the mid-seventies, a former highranking staff member of the BoJ occupied a top-function in the Board of Hyogo Bank. This official was followed by numerous other retirees from the MoF and the BoJ. Reportedly, the presence of MoF and BoJ retirees at a number of distressed financial institutions (and the consequent accusation of being partly responsible) delayed intervention by the Japanese monetary authorities, for example taking the decision whether or not public money was going to be used to solve the problems.

Furthermore, prudential policy has been troubled by organizational deficiencies in the regulatory structure: too many authorities have been involved in the operation of prudential policy. For example, besides the MoF and the BoJ exercising supervisory tasks, the Ministry of Trade and Industry (*Tsusansho*) has been responsible for the supervision of the non-bank industry, the Ministry of Agriculture, Forestry and Fisheries (*Nosho*) is to a large extent responsible for supervising the agricultural cooperatives, and the credit cooperatives are supervised by the prefectural governors (i.e. politicians). The past five years have seen numerous conflicts between these various supervisory authorities regarding their actual authority and responsibilities regarding the financial institutions under their jurisdiction. Independent and prudent supervision has sometimes also been blurred by too cosy relations between banks' executives, politicians and monetary authorities, as was clearly the case in the credit cooperatives scandal of early 1995. These conflicts and scandals also delayed prompt intervention. Furthermore, as we have discussed, a large part of the MoF's prudential policy is implemented through informal administrative guidance. This guidance is often non-transparent and consequently arbitrary and ambiguous of nature. The ambiguity inherent to administrative guidance was to a large extent blamed for causing the stock-losses compensation scandals in the summer of 1991. Also, the effectiveness of the MoF's administrative guidance has to be doubted against the background of the process of financial reform, which has decreased the amount of regulations and consequently the amount of sanctions at its disposal. Finally, it has to be said that the MoF and BoJ employ a small number of officials in bank inspection and examination tasks, especially against the background of the large number of financial institutions under their jurisdiction [Van Rixtel (1997)].

Regarding the operation of the BoJ's macro monetary policy, it is clear that for many years the BoJ wanted the outdated WWII BoJ Law to be revised, to institutionalize legal independence from the MoF. For example, according to the *Nihon Keizai Shimbun* in January 1994, the BoJ expressed in a written statement, which was drafted for discussions in British Parliament on the independence of the Bank of England, its wish to become legally more independent from the government and the consequent need of revision of the BoJ Law. Furthermore, Yoshio Suzuki, former Executive Director of the BoJ, called the BoJ Law "... outdated and vague".⁶³ Finally, former governor of the BoJ Yasushi Mieno emphasized the need to revise the BoJ Law in a public speech in November 1994, which was published in English in the *Quarterly Bulletin* (February 1995) of the BoJ, and during his last press conference in December 1994. These claims for more independence of the BoJ have recently resulted in the drafting of a new Bank of

Japan Law. Following intense deliberations by the Central Bank Study Group, an advisory panel to the Prime Minister, and by the Financial System Research Council, an advisory committee to the Minister of Finance, a bill to amend the entire Law was submitted to the Japanese parliament (*Diet*) in March.⁶⁴ The *Diet* passed the new Bank of Japan Law in June 1997, which will come into effect on April 1, 1998. The two main principles of the new Bank of Japan Law are independence and transparency. The independence of the BoJ is among other things increased by abolishing government representation on the Policy Board, the BoJ's highest decision-making body. To improve the transparency of monetary policy, the new Law provides for the disclosure of the summaries of discussions and the transcripts of the regular Policy Board meetings on monetary control matters.⁶⁵

At the end of 1995, the MoF announced the use of public money to liquidate the housing lending companies. Furthermore, following the example of the US Resolution Trust Corporation, it wants to transform Tokyo Kyodo Bank, which was established in January 1995 to liquidate the two troubled credit cooperatives, into a institution which will be charged in the next five years with the liquidation of bankrupt financial institutions. However, a real solution for the banking problems seems to lie more in larger use of public funds, in fundamental political and bureaucratic reforms, and in homogenization of the regulatory structure. The latter two aspects could be achieved by the implementation of the "Big Bang" deregulation package, that Prime Minister Hashimoto proposed on November 11th, 1996. The details of this package, which should be completed by the year 2001, are being worked out by the Financial System Reform Consultative Committee. The forerunner of the new financial reform package has been the approval by the *Diet* in May 1997 of a bill to amend the Foreign Exchange and Foreign Trade Control Law. The "Big Bang" deregulation plan focuses on expanding the variety of financial instruments for investors and borrowers, improving the quality of financial intermediaries' services, promoting competition among them, developing financial markets and establishing a reliable framework and rules for fair and transparent transactions.⁶⁶ Furthermore, the Japanese government is planning the establishment of a new supervisory Agency, the so-called Financial Inspection and Supervision Agency. This Agency will be placed under the Prime Minister's Office and will have to perform the unified supervision of financial institutions, including agricultural and non-bank institutions. The existing Securities and Exchange Surveillance Commission and the Financial Inspection Department of the Ministry of Finance will be transferred to the new Agency. The present Japanese government has also the intention of integrating the Banking and Securities Bureaux into one new Bureau, possibly named the Finance Bureau. These important reforms of the government's financial administrative organization should strengthen the structure of micro monetary policy in Japan and improve the reputation of the Japanese financial system.

Notes

- 1 Some of the parts that discuss the developments before 1990 draw on Eijffinger and Van Rixtel (1992). I am grateful to Sylvester Eijffinger for his useful comments, and to Martin Admiraal for his help with some of the figures and tables. The views expressed in this chapter are those of the author and should not be attributed to the Netherlands Central Bank, the Bank of Japan or the Japanese Ministry of Finance. This project has been supported by research grants from the Japanese Ministry of Education, NWO, the Tinbergen Institute, Pacific Investments Research Institute, Royal Dutch Shell and Nissan.
- 2 See for example Burstein (1988). See also Van Rixtel (1989, 1990).
- 3 See Van Rixtel (1994) for an overview of the academic debate.
- 4 See for example Dattel (1994). The Japanese experience shows a high positive correlation between its economic and financial fortunes and the tone of not only popular but also academic Japan related publications.
- 5 The presentation in this section is limited to the major and for this study most relevant financial institutions. Government banks such as the Export-Import Bank of Japan and the Japan Development Bank are not discussed [see for example Suzuki (1987a)].
- 6 Economic Statistics Monthly, Bank of Japan, March 1996, pp.32-111.
- 7 The Bank of Tokyo is the direct successor of the Yokohama Specie Bank established in 1880 as the special bank for foreign exchange to finance international trade, partly owned by the Japanese government. Under the Foreign Exchange Bank Law of 1954, the Bank of Tokyo was established as specialized foreign exchange bank. Because it lacked an extensive domestic branch network, the Bank of Tokyo received in 1962 permission to issue debentures to meet its funding needs. Because city banks are now engaged in foreign exchange transactions as well, the Bank of Tokyo is commonly included in the group of city banks.
- 8 On February 1, 1989, 52 out of 68 sogo banks converted themselves into commercial banks, with the remaining sogo banks changing status at a later time. Toho Sogo Bank was not allowed by the Ministry of Finance to change its status into a commercial bank because of its poor financial condition.
- 9 These banks do not handle loan trusts, and concentrate on commercial banking operations. See Suzuki (1987a), p.207.
- 10 De Brouwer (1992), p.2, states that around 30% of *tanshi* directors are said to be former BoJ staff members.
- 11 Federation of Bankers Associations of Japan (1995), p.8. Until April 1988, the interest on postal savings deposits was exempted from taxes to promote small-volume savings. However, from this date postal savings became subjected to the same 20% withholding tax as deposits with private sector financial institutions.
- 12 The interbank market is not only accessible to depository institutions but to securities companies as well.
- 13 Maturities of bills eligible for BoJ operations are one week-three months, with emphasis on the shorter range (mainly one-three weeks). Bills market reforms aimed at monetary policy effectiveness will be discussed in subsection 3.6.2.1.
- 14 See Feldman (1986), Suzuki (1987a), Foundation for Advanced Information and Research (1991), De Brouwer (1992) and Federation of Bankers Associations of Japan (1994).
- 15 This analysis draws on Takeda and Turner (1992), Ministry of Finance (1993a), Hamada (1995) and Nakajima and Taguchi (1995).
- 16 Takeda and Turner (1992), p.61. They note that the real estate boom in Japan, compared with other countries that experienced similar developments, was fuelled by a much sharper increase in real estate related lending.
- 17 *Zaittech* means literally the know-how in the management of financial assets [Hsu (1994), p.406].
- 18 Hamada (1995), p.277. Supported by personal interviews with former high-ranking BoJ staff members, 1992-1993.

- 19 Financial Times, September 4, 1995.
- 20 In Japan, the Fiscal Year X runs from April 1, Year X, to March 31, Year X+1.
- 21 This section draws heavily on various issues of the following publications: *Zenginkyo* Financial Review, Federation of Bankers Associations of Japan (1994), *Nihon Kinyu Nenpyo* of *Nihon Ginko Kinyu Kenkyujo*, *Ginko Kyoku Kinyu Nenpo* of *Ookurasho Ginko Kyoku*, Quarterly Bulletin and Annual Review of Bank of Japan, *Kinyu Shoken* Research (1992), Capital Markets Research Institute Review, The Nikkei Weekly, Osugi (1990), Takeda and Turner (1992), and Foundation for Advanced Information and Research (1991).
- 22 See Feldman (1986), Suzuki (1986), Suzuki and Yomo (1986), Suzuki (1987a), Cargill and Royama (1988), and Suzuki (1989a).
- 23 According to Kanda (1990), p.1, securitization generally means the creation of marketable securities, for example when traditional asset-based lending by a bank is replaced by marketable securities, the payments of which are linked to the underlying assets.
- 24 Ohara (1995), p.5ff, various issues *Zenginkyo* Financial Review, various issues of *Nihon Kinyu Nenpyo* of *Nihon Ginko Kinyu Kenkyujo*.
- 25 In various reports of the Financial System Research Council (*Kinyu Seido Chosa Kai*, affiliated with the Banking Bureau of the Ministry of Finance) and the Securities and Exchange Council (*Shoken Torihiki Shingikai*, close to the Securities Bureau), this desegmentation process is extensively discussed. See Federation of Bankers Associations of Japan (1988) and (1990a).
- 26 The FSRA was preceded by a number of reports of the Financial System Research Council and the Securities and Exchange Council, which discussed various options of financial reform. See Federation of Bankers Associations of Japan (1988) and (1990a).
- 27 For an overview of the financial internationalization of the Japanese financial system during the seventies and eighties see Van Rixtel (1988).
- 28 However, according to Hollerman (1988) the new FEFTCL refers to freedom of exchange, foreign trade, and other external transactions, with necessary but minimum control, and does not contain the phrase freedom in principle. Hollerman even suggests that the new FEFTCL "... is a glorified legal authorization for more administrative guidance" [Hollerman (1988), p.26]. See also Takeda and Turner (1992), p.17.
- 29 The international advance of Japanese financial institutions is well described in Wright and Pauli (1987) and Düser (1990).
- 30 Takeda and Turner (1992), p.85. The reduction of these operations was reflected in a massive negative capital inflow in the balance of payments (negative net capital flow through banks) of a cumulative \$170 billion over the period from the beginning of 1990 to the end of the first half of 1992.
- 31 Takagi (1995), p.441. See also Frankel (1984) and Takeda and Turner (1992).
- 32 Without exception, the Ministry of Finance was heavily involved in organizing these mergers and take-overs (see also subsection 3.6.1.2).
- 33 Federation of Bankers Associations of Japan (1995) and (1990b). The number of agricultural cooperatives is expected to decline further to around 800 by the year 2000.
- 34 For example, the Ministry of Agriculture, Forestry and Fisheries (*Nosho*) has supervising tasks regarding the financial institutions for agriculture, forestry and fishery, whereas the credit cooperatives (*shinyo kumiai*) are supervised by the prefectural governors. Furthermore, the Ministry of Trade and Industry (*Tsusanisho*) conducts supervisory policy regarding the non-banks such as real-estate and leasing companies and consumer credit institutions.
- 35 As translated from *Ookura Zaimu Kyokai* (1991). The MoFEL is one of the very few laws regarding the Japanese financial system that has not been translated. In Van Rixtel (1997) a provisional translation of this law is presented.
- 36 Author's own interviews with former MoF-staff members, senior and mid-level staff members of three city banks, two representatives from long-term credit banks, and three senior officials from a trust bank, February-May 1993.
- 37 Financial Times, 27 February 1990, and reports from various American and English investment banks.

- 38 According to bond market analysts these purchases were initially a major factor in the bond market and resulted in flattening of the yield curve in the short term: the immediate impact was estimated to be a drop of 10-15 basic points and a rally in the JGB market. Interview with former high-ranking BoJ official, April 1993.
- 39 Interviews with BoJ staff members, March-April 1993, and bond market analysts major private Japanese research institute, April 1993. In the Japanese media, the outright purchases by the TFB which started in January were interpreted as attempts by the MoF to increase the money supply. For example, The Daily Yomiuri of January 20, 1993, ran as headline "Ministry Buys Bonds To Shore Up Money Supply". Regarding the question of sterilization of the TFB's operations, we have found only one publication that pays attention to this aspect. According to Ueda (1993), pp.10-11, during the post-WWII period, "The BoJ and the Trust Fund Bureau supplied funds to private banks in the form of BoJ lendings and the Bureau purchases of bank debentures". Hence, Ueda seems to conclude that the TFB's operations were not neutralized by the BoJ.
- 40 This opinion was also given by a former high-ranking MoF official, April 1993.
- 41 Author's ministerial interviews, February-March 1993.
- 42 This statement was called "*Kinyu Kikan no Yushi Taio ni tsuite no Shoken*" [View how to cope with extension of funds by financial institutions].
- 43 This move by the MoF was followed 11 days later by an announcement of *Zenginkyo* that its member banks would provide financial assistance to small- and medium-sized companies [BoJ, Quarterly Bulletin, February 1994, p.68].
- 44 Personal interviews, April-June, 1993.
- 45 EHS Law Bulletin Series (1991), pp.BA10-BA11.
- 46 Hall (1993), p.144. Chapter six of Hall (1993) contains an excellent overview of the MoF's prudential policy until around 1992.
- 47 *Kinyu Zaisei Jijo Kenkyu Kai* (1992), pp.177-204.
- 48 These ratios are also published each year by *Zenginkyo* in its annual publication *Zenkoku Ginko Zaimu Sho Hyo Bunseki* (Analysis of Financial Statements of All Banks, March 31). An appendix in *Kinyu Zaisei Jijo Kenkyu Kai* (1993) includes a summary of the so-called guidance criteria (*Shido Kijun*) for commercial and *shinkin* banks and labour credit associations.
- 49 EHS Law Bulletin Series (1991), p.AA1.
- 50 See Suzuki et al. (1988), p.4 and 12, Fukui (1986), pp.96-98, Okina (1991), p.12ff, and Yoshikawa (1995), p.388.
- 51 Interviews with various former BoJ staff members, January and April 1993, and money market dealers city and trust banks, May-June 1993.
- 52 The maturity for collateralized calls was changed from overnight to three weeks into overnight to six days and for bills from one-six months into one week-six months.
- 53 The CDs operations did not involve direct operations in the CD market, but actually consisted of the extension of loans to the *tanshi* which used them to purchase CDs.
- 54 Interview with former highranking staff member BoJ, April 1993.
- 55 Interview with former highranking BoJ official, April 1993 and March 1995.
- 56 Suzuki (1986), and Suzuki (1987a), pp.328-331.
- 57 Various interviews with BoJ staff members, July-August 1990, and March-April 1993. Furthermore, this pragmatic attitude has been stressed by Shimamoto (1982), p.82: "... Thus, the attitude of the Bank of Japan toward the money supply is, in a world, pragmatic." And also by Okabe (1990), p.16, p.18: "... the formula now employed in Japan is more aptly called a money-focused monetary policy rather than a monetary-targeting policy. ..., the Bank of Japan has, in fact, managed its monetary policy in a pragmatic fashion." In Suzuki (1985), p.9, the policy attitude of the Bank of Japan is described as follows: "... is in my interpretation neither that of post-Keynesian "discretionary fine tuning" nor that of a "x% rule". ... An appropriate term may be "eclectic gradualism"."
- 58 The Japan Times, August 22, 1992, Bank of Japan (1992), and The Nikkei Weekly, May 23, 1994.
- 59 Interviews with present and former BoJ staff members, April-May 1993, and March-April 1995.

- 60 Okabe (1995), Yoshino (1995) and Van Rixtel et al. (1996).
- 61 Interview with former highranking staff member Bank Supervision Department, March 1993.
- 62 Furthermore, one retired MoF official occupies one of the BoJ's Executive Director positions, and another retired MoF official is employed as Executive Auditor at the BoJ. During the period 1980-1992, of the highest executive positions at the BoJ, consistently three were occupied by former MoF staff members: Governor or Senior Deputy-Governor, one Executive Director and one Executive Auditor.
- 63 See Suzuki (1994), p.86.
- 64 Matsushita (1997a), p.15.
- 65 Matsushita (1997b), p.15.
- 66 Ministry of Finance (1997), p.2.

Germany: building a reputation of monetary stability

By Wim W. Boonstra

1. Introduction

The German economy is Europe's largest and its development more or less determines economic conditions in surrounding countries. The same can be said of German monetary policy. Since the start of the European Exchange Rate Mechanism (ERM) in 1979, the German mark has become the anchor currency of this mechanism. As a result, central banks in the other participating countries have to follow the Bundesbank's policy actions, unless they want to run the risk of having to adapt their currency's ERM parity. As the leader of the ERM, the German central bank (Deutsche Bundesbank or Bundesbank) dictates the pace of monetary policy in Europe. Consequently, nowadays it is the only central bank in Europe which pursues a policy that aims at steering the rate of monetary expansion. It has pursued this policy since 1975. After German unification in 1990, the German central bank had to deal with the after-effects of this event, viz a strong acceleration in wage increases in Germany, an initially strong rate of economic growth, followed by the deepest recession the German economy has ever experienced since the second world war, an accelerating inflation rate, budgetary policies which were too expansive and a strong monetary expansion. In retrospect, one may conclude that the Bundesbank has succeeded in steering the German economy through this very turbulent episode, although not without tensions in its relations with other German economic agents and policy makers in neighbouring countries.

This chapter deals with the German financial system and with monetary policy. After a short overview of German economic performance since 1980, the structure of German financial markets is described (focusing on the position of the banks). Next, the German monetary policy strategy and its underlying philosophy will be discussed, after which the design of monetary policy, the instruments and the way they are used are dealt with in more detail. Special attention will be paid to the factors influencing monetary expansion in Germany and the transmission mechanism, along which lines monetary policy measures affect monetary expansion. The chapter will end with a description of the results of German monetary policy and a look into the future.

2. Economic background

Measured in terms of its GDP (calculated using Purchasing Power Parities) of US\$ 1,674 bn (1995), Germany is the third largest industrial economy in the world. In terms of GDP per capita of US\$ 20,497 (PPP) it ranks third (after the US and Japan) on the list of most wealthy large industrial countries. After an impressive economic performance during the 1950s and 1960s, the so-called Economic Miracle (*Wirtschaftswunder*), and absorbing the effects of the 1970s, the German economy experienced healthy albeit not spectacular growth during the 1980s.

Since the second world war, economic policy in Germany has traditionally been aimed at stability, in the field of both budgetary and monetary policy. An extensive system of social security facilities is one of the main elements of the German model, helping to maintain social stability. Industrial relations are traditionally rather harmonious, although from time to time the large trade unions organise strikes during wage negotiations.

More recently, however, Germany has been experiencing more turbulent times. The German model, already criticised by the OECD during the 1980s for its inherent lack of flexibility, came under strong pressure after German unification in 1990. The necessary fiscal transfers from West Germany to the former GDR has led to high public deficits that appear difficult to redress. Moreover, trade union policies in the aftermath of unification aimed successfully at raising the wage levels in the former GDR to bring them more in line with wages in the west. In combination with strong wage increases in Western Germany, this has led to a sharp deterioration in labour market conditions. To compensate for strongly increasing unit labour costs, German industries have been shedding labour on an unprecedented scale [Boonstra & Walschots (1993)].

Table 1 Background data Germany

<i>annual averages</i>	1981-85	1986-90	1991-95	1996
GDP (% growth)	1.6	3.4	2.2	1.4
consumer price inflation (% growth)	3.9	1.4	3.5	1.5
unemployment (% labour force; national definition)	6.9	7.2	8.5	10.3
current account balance (% GDP)	0.7	4.4	-0.9	-0.6
general government deficit (% GDP)	2.5	1.4	3.1	3.8

Source: OECD Economic Outlook, June 1997; Rabobank.

Today, Germany is wrestling with high unemployment, a deteriorated competitive position in world markets, a necessary, but highly unpopular, reform of social security arrangements, fiscal deficits and low economic growth. However, inflation, which increased after German unification, has been brought back under control by the German central bank. This has translated into nominal interest rates that are low by historical standards. Moreover, the German mark has retained its reputation in world financial markets as a strong and stable currency, although the strength of the currency adds to the problems of German exporting industries. More recently, the German mark has depreciated substantially against the US-dollar. Although this has given a welcome impetus to economic growth, it also has led to an acceleration of import prices.

3. The German financial system

3.1. *A bank-based system*

The German financial system can be classified as "bank-based", which means that banks play a crucial role in the financing of economic activity.¹ On the one hand, bank lending is a far more important source of funding for enterprises than any other category except internal funds, while, on the other hand, investors still show a strong appetite for bank deposits or savings accounts.

German households hold a relatively large share of their financial assets with banks. In fact, the traditional savings account is still the single most important investment category for consumer households. Bonds, the second largest investment category, are also an important source of funding for the banking sector, as banks are major issuers of short term bonds. Shares, however, are traditionally a relatively unimportant investment category. This illustrates the conservative, risk-averse investor behaviour of the German population, although this attitude is changing among younger generations.

Banks are also a major source of funds for the productive sectors of the economy. The number of firms listed at the stock exchange is very low. In 1992, the 3,219 German joint-stock companies accounted for only 20% of economic activity, and only 664 of them were listed at one of the German stock exchanges [OECD Economic Survey of Germany (1995)]. Stock market capitalisation amounted to a meagre 29% of GDP in the 1991-94 period, compared with 65% in the US, 112% in the UK and 125% in Japan. As a result, equity is only a relatively minor source of funds for investment. The single most important source is made up by internal funds (depreciation). A second important source consists of company pension funds. In Germany, old age provisions are put in company pension funds. These funds are kept on the balance sheet of the firm concerned and are used to provide finance for investment, which appears as debt financing on the balance sheet. The lion's share of the remaining debt financing is provided for by bank borrowing.

Figure 1 Composition of financial assets of German households

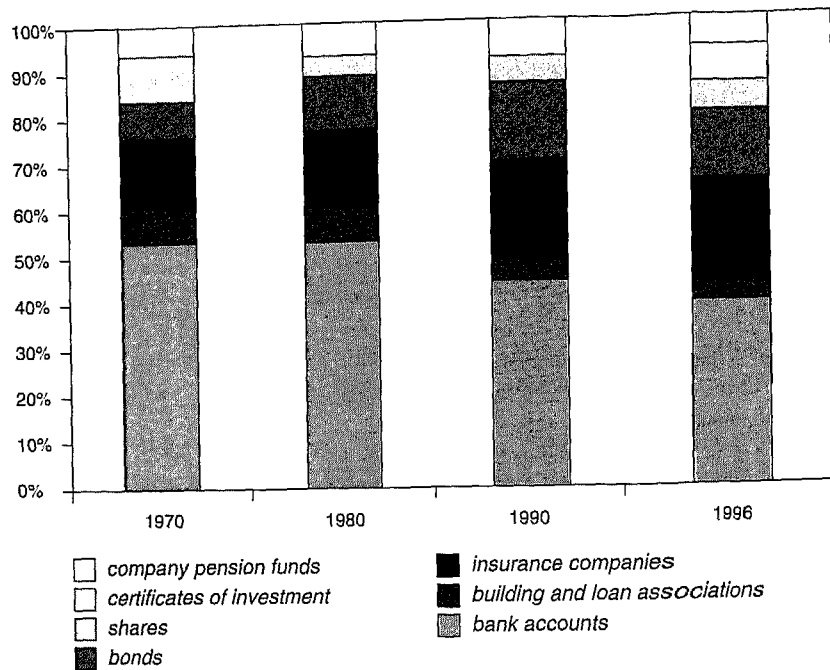


Table 2 The development of financing patterns

	Financial accounts			Balance sheet statistics	
	share of bank borrowing in total liabilities	share of own capital in total liabilities	share of provisions in total liabilities	share of bank borrowing in total liabilities	share of provisions held for pensions
1970	53.4	24.8	11.6	16.3 (*)	38 (*)
1980	53.6	19.2	16.2	20.9	45
1990	51.2	18.2	20.4	19.3	42
1992	51.7	17.6	21	19.8	40

*1971.
Financial account statistics ignore inter-enterprise credits. The Bundesbank's balance sheet statistics take account of inter-enterprise credits, but have a narrower sectoral coverage.

Source: OECD Economic Survey of Germany, 1995, Table 29, p. 94.

The importance of bank borrowing differs strongly sharply from category to category of enterprises, being more important for smaller firms, which usually do not run individual company pension schemes, and relatively less important for large firms.

Banks do also have a major influence as shareholders. According to OECD statistics, German banks directly owned 14% of outstanding stock in 1993, which is a much higher share than in the US and the UK, but much lower than in Japan. Moreover, German banks' share ownership appeared to be much lower than the shareholding of non-financial companies (39%) or households (17%).

These figures, however, underestimate the banks' influence. They usually hold proxy voting rights for the shares deposited with them. In 1992, banks held on average more than 60% of the voting rights at the annual general shareholders meetings of the 24 largest German companies without a single majority owner². Finally, many companies generally have representatives of their "Hausbank" on their supervisory boards, giving their bank additional influence on the management.

The close ties between the Hausbank and its clients are central to the German system of corporate governance. During recent years, however, this system has come under pressure. Although its advantages are widely recognised and can be summarised as a long-term orientation and a finely balanced equilibrium between the interests of all stakeholders in a company, there are internal and external factors causing change. First, questions were asked in the aftermath of a series of (near-) bankruptcies of major German companies in the first half of the 1990s, for example Metallgesellschaft and the property imperium of Jürgen Schneider. The close involvement of banks in company boards appeared not to be the guarantee for superior business information it was supposed to be. These events, in combination with the recurrent discussion about the power of the banks, have raised doubts about the role of the banks in the German financial system.

In addition, demographic factors require the rapid introduction of more private pension schemes, which will stimulate demand for equity and the development of the stock exchange. Further pressures for change originate from a wide range of factors like technological developments and the increasingly international orientation of large sectors of German industry. The further liberalisation of financial markets and financial innovations (for example, the introduction of money market funds in August 1994 and the arrival of "Jumbo-Pfandbriefe" (mortgage bonds) in 1995), a strong increase in the number of public offerings, privatization of public companies and the appearing lack of venture capital in Germany also put pressure on the traditionally closed and bank-oriented character of the German system [OECD Economic Survey of Germany (1995), Watts (1995)]. The larger German banks are preparing themselves for a more prominent role as investment banks, which certainly will add to the disintermediation process which is going on in Germany as well although, in comparison with other countries, with some delay. German banks are expanding their London operations very substantially. In doing so, they are not only strengthening their international position in

investment banking, but are also bringing “new” techniques and products from London to Frankfurt³.

Moreover, several banks appear ready to sell part of their stakes in industrial companies on the market, which will increase market liquidity and attractiveness. Large privatisation programmes, the introduction of a take-over code in 1995, new legislation on insider trading, adoption of international accounting practices and plans to merge the country’s stock exchanges into one bourse, all point to an increasing attractiveness of the German stock market for (international) investors.⁴ This will without doubt lead to a more important role for the stock exchange in the financing of German enterprises. As a result, the German system of corporate governance may be expected to change gradually from a predominantly bank-based system into a system which will have more elements of the Anglo-Saxon market-based system. However, given the absence of distortions like high inflation and overregulation of financial markets, which have given an additional impetus to the disintermediation process in countries like the US and the UK, and the traditional long-term orientation of German investors, banks and industrialists alike, it is not very likely that the German financial system will evolve into a completely market-based system. Although their dominant position in the financing of the German economy will decrease over time, German banks may be expected to retain a more crucial role in financing the economy than in the Anglo-Saxon model.

3.2. *The structure of the banking system*

The German banking system can be characterised by the term “universal banking”, as there are no restrictions on the types of products that individual banks may offer. Since the middle of the 1980s, the scope of the larger institutions has been broadened to include insurance products as well. Although, in theory, most banks today do have a typically universal character, in practice it appears that only a limited number of relatively large financial institutions have the resources to offer a full range of financial products. Such institutions are named *Allfinanz-institutions*, offering banking, investment and insurance products. However, to date the historical orientation of the different banking categories has left its traces in their balance sheets. Finally, in addition to the universal banks, several kinds of special credit institutions exist.

The German universal banks can be divided into commercial banks, savings banks and credit co-operatives; the special credit institutions comprise mortgage banks, building societies and special purpose vehicles, like local development banks. Table 3 gives an impression of the relative importance of the banking groups.

The commercial banks (*Kreditbanken*) comprise the three so-called Big Banks or *Grossbanken* (Deutsche Bank, Dresdner Bank and Commerzbank), a large number of regional institutions -some of which are in fact comparable in size with the Big Banks -, branches of foreign institutions and the so-called private banks (*Privatbanken*), some of which are highly specialised niche players.⁵ A striking feature of the German banking

Table 3 **The structure of the German banking sector**
Market shares in domestic business volume, loans and savings deposits, December 1996

	no.	business volume (%)	loans to non-bank customers (%)	deposits by non-bank customers (%)
Commercial banks	331	24.3	25.5	21.7
– Big Banks	3	9.2	9.7	10.6
– regional and other commercial banks	194	13.0	14.4	9.8
– foreign banks	73	1.4	0.7	0.3
– private banks	61	0.7	0.8	0.9
Savings bank sector	620	37.7	36.9	40.6
– regional institutions	13	18.4	15.0	9.8
– savings banks	607	19.4	21.9	30.8
Credit cooperative sector	2514	14.9	14.4	20.6
– regional institutions	4	3.6	1.8	0.7
– credit cooperatives	2510	11.3	12.6	19.8
Mortgage banks	34	13.6	16.7	6.1
Total (Incl. specialised institutions)	3517	100.0	100.0	100.0

Source: Deutsche Bundesbank.

industry is its relatively low degree of concentration. The three Big Banks have a market share of less than 10% of total assets, which at international standards is rather modest. However, the power of these banks is underestimated by this figure, as their market share in corporate banking appears to be much higher and the voting power of banks at annual shareholders' meetings is more concentrated at the larger institutions. Moreover, the larger banks usually own one or more special credit institutions; some of them have close relations with large insurance companies or even own one. Deutsche Bank in particular is seen as an extremely powerful institution, owing, among other things a large building society, an insurance company, is a major shareholder in the DASA-conglomerate and holds a 10%-stake in the Allianz insurance group⁶.

The savings bank sector consists of a large number of savings banks, most of them publicly owned. This sector has the largest market share in the banking industry. The savings bank sector has a three tier structure. The first tier is the local savings banks (*Sparkassen*). Most local savings banks are not allowed to operate out of their own region. The second tier is the regional giro institutions (*Landesbanken-Girozentralen*), owned by the state government. These banks operate as clearing houses for their member local savings banks and as banker for the government of their respective states. In addition, they conduct banking business on a national and international basis. They are among the larger institutions in Germany. As these banks all operate under government guarantee, many of them have a very high credit rating, although their balance sheets are usually not particularly strong.⁷ The third tier of the savings bank sector is the Deutsche

Girozentrale (DGZ), which acts as the central clearing bank for the savings sector. The DGZ is smaller than most of the second tier institutions.

Although all savings banks are categorised as universal banks, there are marked differences between, on the one hand, the small local banks, which are mainly active in long-term lending to small firms and individuals and attracting money on savings accounts, and on the other hand the giro-institutions, which usually attract few funds from non-banks and are lending to larger corporates and are increasingly active on foreign markets.

Table 4 The most important German Banks
Figures as of end 1995; Moody's rating September 1996

	category (1)	total assets (2) (\$ bn.)	tier one capital (\$ bn.)	return on assets (%)	capital to assets (%)	BIS ratio (%)	rating senior debt	financial strength rating (3)
Deutsche Bank	BB	503	18.9	0.49	4.21	10.1	Aaa	A
Dresdner bank	BB	333	9.2	0.42	3.49	9.7	Aaa	A
Westdeutsche LB GZ	Sc	291	8.7	0.27	3.32	n.a	Aa1	C
Commerzbank	BB	281	8.2	0.30	2.95	9.0	Aa2	B+
Bayerische Vereinsbank	R, M	248	6.3	0.38	2.46	10.0	Aa1	A
Bayerische LB GZ	So	211	6.2	0.23	2.13	10.0	Aaa	C+
Bayerische Hypo	R, M	208	6.1	0.45	3.07	n.a	Aa2	B+
DG Bank	Cc	200	3.7	0.17	1.61	9.1	A2	D+
Bankgesellschaft Berlin	R	196	5.8	0.32	3.31	10.2	n.a.	C
Kreditanstalt für Wiederaufbau	Sp	167	6.2	0.19	3.32	n.a	Aaa	n.a.

(1) BB = Big Bank, Cc = Cooperative Central Bank, M = Mixed Bank, R = Regional Bank, So = Central Savings Bank, Sp = Special Credit Institution.
A Mixed Bank is a universal bank, which is also allowed to carry out mortgage bank business and to issue Pfandbriefe.
(2) Including non-domestic business.
(3) The financial strength rating is exclusively based on the strength of the balance sheet.

Source: The Banker (September 1996), Moody's.

The organisation of the credit cooperative sector is comparable to that of the savings banks sector. The cooperative banks were historically also organised on a three-tier basis. There is a first tier of a large number of fairly small local institutions (*Kreditgenossenschaften*), which service the local market. Although some individual cooperative banks

have sizeable balance sheets of some DM 20 bn, this category includes a very large number of extremely small institutions. The second tier consists of cooperative central banks (*Genossenschaftliche Zentralbanken*) and the third tier is the cooperative federal clearing house institution, the DG-bank (Deutsche Genossenschaftsbank). These larger (second and third tier) institutions act as clearing houses for their member banks and serve the larger clients, offering the more advanced products in the fields of corporate finance, asset management and foreign exchange trading.⁸ Moreover, they conduct international operations, although relatively modest when compared with those of the Big Banks or the central savings institutions.

Since the middle of the 1980s, the DG-Bank has taken over a number of second tier cooperative central banks, which has blurred the boundary between the second and third tier [Aschoff & Henning (1995)].

The more specialized financial institutions consist primarily of mortgage banks (*Hypothekenbanken*), most of them at least partly owned by a commercial bank, and the Building and Loan Associations (*Bausparkassen*).⁹ The latter category experienced strong growth in the first decades after the war, although more recently their importance has declined somewhat. Among the special vehicles, the most important institution is the government-owned Kreditanstalt für Wiederaufbau, established in 1948 to administer the Marshall funds and which nowadays is involved for example in export finance, financing of projects in less-developed countries and loans to small and medium-sized companies. Other important institutions are, for example, the Deutsche Ausgleichsbank (public owned, financing starting companies) and the Industrielkreditbank AG-Deutsche Industriebank (privately owned, financing small and medium-sized companies). German unification and the funding needs of starting companies in Eastern Germany has given a new rationale for the existence of these special credit institutions.

There has been a tendency towards considerable concentration in the German banking industry, especially in the cooperative banking sector. The number of independent institutions has declined considerably as a result of mergers. Moreover, many large commercial banks have large stakes in one or more institutions in the other categories.

The relative market shares within the banking industry appear to be fairly stable, which is illustrated by table 5. Again, this table underestimates the growth in importance of the large banks (including the larger regional banks, savings banks and cooperative umbrella organisations), which are increasingly active in "new" activities in the field of investment banking and off-balance sheet activities.

Today, the German banking industry is undergoing a process of rapid change. The larger banks all are involved in introducing new distribution channels, i.e. direct banking, electronic banking and telebanking. Further concentration in the banking industry lies ahead, this time involving some of the larger institutions.¹⁰ As Germany is considered to be both over-banked and over-branched, the potential cost savings of merger activity is substantial.

Table 5 Long-term trends in the German banking industry
Number of institutions; market share in business volume

	1960		1977		1996	
	no.	share (%)	no.	share (%)	no.	share (%)
Commercial banks	362	24.2	263	24.9	331	24.3
– Big Banks	6	11.3	6	10.4	3	9.2
– regional and other commercial banks	108	10.4	109	10.9	194	13.0
– foreign banks	16	–	51	1.9	73	1.4
– private banks	232	2.7	97	1.7	61	0.7
Savings bank sector	880	35.7	634	38.5	620	37.7
– regional institutions	13	13.5	12	16.5	13	18.4
– savings banks	867	22.2	622	22.0	607	19.4
Credit cooperative sector	11642	8.6	4817	14.0	2514	14.9
– regional institutions	19	2.8	11	4.2	4	3.6
– credit cooperatives	11623	5.8	4806	9.8	2510	11.3
Mortgage banks	42	17.2	40	13.0	34	13.6
Total (incl. specialised institutions)	13221	100.0	5909	100.0	3517	100.0

Source: Deutsche Bundesbank, Edwards & Fisher (1993).

Moreover, the German banks are preparing themselves for the introduction of the euro, the single European currency. In doing so, the banks have decided to opt for an assertive approach, which will make the euro fully available for all clients' cashless payments right from the intended start of EMU in 1999. In order to make this happen, the interbank clearing system will conduct transfers for all transactions in both the euro and the German mark, making it possible for each individual bank to decide which products it wants to offer in euro before January 2002. In that year, when the euro will also be introduced in coins and banknotes, the mark will be taken out of circulation, after which all payments will have to be conducted in euro.¹¹

3.3. Financial innovations and deregulation

Germany was one of the first countries in the world to deregulate its financial markets. The German mark has been fully convertible since 1958 and the liberalisation of interest rates was completed in 1967. International capital transactions were liberalised at a relatively early stage, although the Bundesbank has long tried to stem the international use of the German mark. It was feared that the internationalisation of the German mark as trade, investment and reserve currency could lead to problems with domestic money management.¹² However, in the 1980s most "new" financial products were allowed in Germany as well. The issuing of zero coupon bonds, floating rate notes and dual currency bonds was allowed from May 1985. The use of certificates of deposits (CDs) has been allowed since May 1986. Share options were introduced in 1979 and options on

bonds have been available since 1986, although a mature options exchange only started in 1990. A fully-fledged market for commercial paper (CP) started as recently as 1991. Investment funds have grown in importance since the middle of the 1980s, although the Bundesbank has strongly resisted the arrival of pure money market funds, as it feared they would undermine the effectiveness of monetary policy (see below). Nevertheless, these funds were introduced as recently as August 1994, after the redesign of the *minimum reserve requirement instrument* was completed.

In contrast to many other countries, the arrival of financial innovations did not result in dramatic changes in the financial behaviour of German firms and households. In contrast to countries like the United States and the United Kingdom, where high and volatile inflation and interest rates made the new financial products very attractive for financial market participants, the relatively stable monetary environment reduced the receptivity for many of the new instruments in Germany. Of course, the strong ties between banks and industry also played a major role in this respect.

Therefore, today German banks are still in the middle of the intermediation financial process. As recently as 1994, banks had a 80% share in the provision of external finance to German industry, and bank savings accounts are still a very important way of holding financial assets by consumer households.

3.4. *The Deutsche Bundesbank*

The Deutsche Bundesbank has as its main task “regulating the quantity of money in circulation and of credit supplied to the economy, with the aim of safeguarding the currency, and providing for the execution of domestic and external payments” (*Bundesbank Act, Section 3; quoted in Deutsche Bundesbank [1994, p. 17]*). Although the Bundesbank also has the obligation to support general economic policy, this second task is subordinate to the aim of monetary stability. In pursuing its monetary policy, the Bundesbank is formally independent of directives from the Federal Government, and in situations when the government’s economic policy conflicts with the aim of price stability; the Bundesbank’s explicit task is to give the highest priority to price stability. The Bundesbank is one of the most politically independent central banks in the world, a reputation which greatly enhances its credibility in world markets.¹³ This emphasis on monetary stability as the ultimate goal of monetary policy meets with broad public support in Germany. The country experienced two periods of hyperinflation earlier this century, both of which ended in economic and political chaos. In both periods, the central bank was de facto subordinate to the government at the time, which forced it into monetary financing of public deficits. This traumatic experience lies at the origin of the deeply rooted culture of *monetary stability that has characterized Germany since the second World War*.¹⁴

Directly after the last war, the German currency completely collapsed, enforcing a currency reform. This was done in 1948. Then a two-tier central banking system was

created, with the Bank deutscher Länder as central bank. The second tier was made up of local banks (*Landeszentralbanken*). In 1957, the legislation made by the occupying powers was replaced by German law. The Bundesbank was established as successor of the Bank deutscher Länder and the two tier system was abolished. The Landeszentralbanken have operated as the so-called "main offices" of the Deutsche Bundesbank ever since.

Decisions on monetary policy are made by the central bank council (*Zentralbankrat*), which is made up of the Board of Directors (*Direktorium*) of the Bundesbank itself and the presidents of the *Landeszentralbanken*. The Board of Directors are appointed by the government; the presidents of the Landeszentralbanken are appointed by the upper house of the German parliament (*Bundesrat*), which itself is elected by the governments of the respective Länder.¹⁵

On the first of July 1990, the German mark became legal tender in the former German Democratic Republic as well, which broadened the authority of the Bundesbank over the so-called Eastern Länder.

Under section 3 of the Deutsche Bundesbank Act, the Bundesbank is also required to promote the smooth functioning of domestic and cross-border payments. Therefore, the credit institutions of the various banking groups have access to its giro network and it offers its account holders its cashless payment services. The Bundesbank (incl. the *Landeszentralbanken*) has over 190 branches located all over Germany, which facilitate the supply of coins and notes and the handling of cashless payments [European Monetary Institute (1996)].

3.5. Banking supervision

In Germany, the supervision of the banking industry is conducted by a separate body, the Berlin-based Federal Banking Supervisory Office (*Bundesaufsichtamt für das Kreditwesen* (BAK)).

Banking supervision is based on the Banking Law of 1961 (*Kreditwesengesetz* or *KWG*). Since the failure of the Herstatt Bank in 1974, this law has been frequently amended in order to prevent such events. In 1985, the KWG was changed in order to include supervision on a consolidated basis. Until that year, supervision was carried out solely on an unconsolidated basis, which gave the banks the opportunity to effectively escape supervision by building credit pyramids. In 1990, the KWG was amended to include the former German Democratic Republic.

More recently, the KWG has been amended several times in order to improve the supervision of the banks' increasing off-balance sheet activities and to incorporate European Community Directives into German Law. Important Directives include the EC Own Funds Directive (89/299/EEC) and the EC Second Coordination Directive (89/646/EEC), which were included in the fourth revision of the Banking Law (4.KWG-Novelle), effective from January 1993. The EC Second Coordination Directive introduced

the single European banking licence in the European Union. The fifth revision (*5.KWG-Novelle*), which came into effect at the end of 1995, included among other things the EC Directive on Consolidated Supervision (83/50/EEC) and the EC Large Exposure Directive (92/121/EEC). The sixth revision of the KWG, which is expected to be published in 1997, will include, among other things, EC Directives on Capital Adequacy (93/6/EEC) and Deposit Guarantee Schemes (94/19/EC).¹⁶

The BAK has the power to issue banking licences, to withdraw a licence or to require that a bank be liquidated, should it be considered necessary. The BAK is part of the Ministry of Finance. Although it works in close cooperation with the Bundesbank, the role of the central bank in the supervision of the banking industry is a passive one. The Bundesbank supplies the BAK, which itself has no branch network, with information gathered by its local dependancies.¹⁷ By separating the tasks of monetary policy and banking supervision, the Bundesbank is protected from the potential dilemma that can occur between both tasks. As a result, it can fully concentrate on its mission of price stability¹⁸.

4. Monetary policy strategy

4.1. Introduction

During the Bretton Woods era, German monetary policy was subordinate to exchange rate policy. Although the Bundesbank tried to gear its monetary policy towards domestic price stability as much as possible, there was no room for an independent, domestically oriented interest rate policy. At times, monetary growth accelerated as result of currency interventions to sustain the exchange rate of the dollar. The Bundesbank, already aware of the link between monetary growth and inflation, did not have the means to regulate the rate of monetary expansion. It was only after the demise of the Smithsonian agreement in 1973, that the Bundesbank was free to formulate its own monetary policy strategy. Although the German mark participated in both the "snake" arrangement during the 1970s and the Exchange Rate Mechanism, it consistently held the role of anchor currency; a role which was played by the US-dollar under the Bretton Woods system.

German monetary policy is based on the quantity theory of money, which states that in the medium term too large a rate of monetary growth will result in a higher rate of inflation. Therefore, the ultimate responsibility for inflation should be sought completely with the central bank, which has allowed monetary expansion to grow too fast.¹⁹ In the Bundesbank's view, the rate of expansion of the money supply should equal the rate of real economic growth, increased by the level of so-called "unavoidable" inflation (usually 2%), which taken together give the structural nominal growth rate of the economy (nominal GDP). This is corrected for a structural slowdown in velocity. The rate of economic growth is estimated by the real growth rate of production capacity, adapted for expected changes in the rate of capacity utilization.

Figure 2 Calculation of a monetary target (example 1995)
Annual average

1	real growth of production potential p.m. (changes in utilisation rates)	2,75
2	normative price increase	2
=	nominal growth of production potential (1+2)	4,75
3	correction for declining (+) or increasing (-) velocity	1
=	non-inflationary growth of the money supply (1+2+3)	5,75
Source: Deutsche Bundesbank.		

4.2. The choice of monetary target

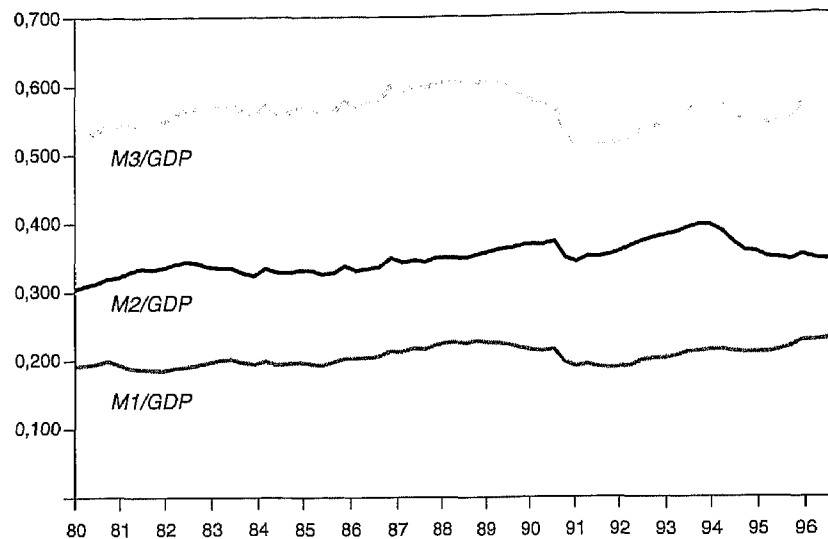
However, although the theoretical concept is very clear-cut, it is very important to find the right measure of money. The proper target aggregate should have a number of essential features. First of all, it must have a stable long-term relationship with nominal GDP. Secondly, it must be possible for the central bank to influence the rate of monetary expansion by using its monetary instruments. In Germany, monetary policy is conducted in an indirect way through the interbank money market. Therefore, the rate of monetary growth should react predictably to changes in short-term money market rates. Moreover, the aggregate should react "normally" to fluctuations in short-term money rates, which means that an increase in interest rates should lead to a slowdown in the rate of monetary expansion, and a lowering of interest rates should lead to an acceleration in the growth of the money supply. For example, the aggregate M2 in Germany, consisting of notes and coins in circulation, sight deposits and time deposits, appeared to accelerate in reaction to interest rate increases and to slow down in reaction to falling interest rates (a so-called "perverse reaction"). Moreover, it does not have a stable long-term relationship with the growth of nominal GDP [Deutsche Bundesbank (1985-a), (1994-a), (1995-b)]. For this reason, the Bundesbank opted for a broad monetary aggregate (M3), which consists of notes and coins in circulation, sight deposits, time deposits for less than 4 years and savings deposits at statutory notice, as the target for its monetary policy. Initially, a weighed aggregate, the so-called *Zentralbankgeldmenge* (ZBG or central bank money stock) was used. This aggregate included more or less the same components as M3, but these were weighed by their minimum reserve ratios on domestic liabilities.²⁰ The Bundesbank used the ZBG as its target from 1974 to 1987. During the 1980s, however, it became clear that the relatively large weight of cash in circulation led to disturbances in the aggregate. The German mark was increasingly being used as a parallel currency in Southern Europe and especially in Eastern Europe. This led to an

overestimation of German monetary expansion, undermining the usefulness of the ZBG as an indicator for German monetary growth. A second disadvantage of the ZBG lies in the statistical resemblance with the monetary base. Although the Bundesbank never pursued a policy of ex ante targeting of the monetary base (the growth of the ZBG reflected ex post growth of the money supply, which was to be corrected by its interest rate policies), some observers confused the Bundesbank policy with a policy of direct monetary base control [Schlesinger (1983), Bundesbank (1994)]. The ZBG target also appeared difficult to explain to the general public.

In 1988, the Bundesbank decided to switch to unweighed M3 as its monetary target. It has used this aggregate ever since, although it also closely monitors an extended version of M3 (*M3 erweitert*), which includes short-term bank bonds, eurodeposits and, since August 1994, money market funds. Although these additions are close substitutes to the components of M3, and in theory are able to disturb the long-term relationship between M3 and nominal GDP, in the view of the Bundesbank, the relationship between M3 and nominal GDP has turned out to be sufficiently stable up to now.

Initially, the Bundesbank used a fixed target for monetary growth. However, this appeared to be too ambitious, as it turned out that it was not possible to exactly fine tune the growth of the target aggregate. Moreover, the fixed rate target turned out to be too tight a corset for monetary policy, as it left the Bundesbank without any freedom to apply a discretionary policy without violating its monetary targeting. Therefore, from 1979 on, the Bundesbank started to announce so-called target zones. Not only did this substantially increase the chance of hitting the target, but it also created some room for manoeuvre for the Bundesbank, i.e. allowing it to manipulate its interest rates, for example in reaction to exchange rate developments, without immediately having to abandon its monetary target. The target for the following year is announced at the end of each year, when the Bundesbank also announces whether it is aiming for the upper or lower half of the target zone. In the course of the year the target is re-examined and incidentally changed. At the end of the year, the Bundesbank evaluates the monetary developments and takes accounts for its policy actions.²¹

Figure 3 Ratio of M1, M2 and M3 to nominal GDP (1980-1996)



5. Monetary instruments

5.1. Introduction

Although the Bundesbank is provided with a wide range of instruments, it does not have the ability to impose direct limits on bank lending by setting credit ceilings. Nor has it the opportunity to prescribe fixed lending rates for the banks. The Bundesbank therefore has to conduct its monetary policy in an indirect way, by influencing conditions on the interbank money market. By manipulating the marginal funding costs of the banks, the Bundesbank has an indirect influence on bank lending and on the behaviour of the banks' clients, which ultimately has a certain impact on the growth of the money supply [Deutsche Bundesbank (1995-b)].

To fulfil its task, the Bundesbank has the ability to steer money market rates by setting its official rates and to influence money market conditions with liquidity policy instruments. This last category mainly consists of its minimum reserve policy instrument, but the Bundesbank can change money market liquidity by changing the size of its other facilities as well.

The instruments the Bundesbank has at its disposal can roughly be divided into two main categories, viz the instruments for longer-range adjustments (*Grobsteuerung*) and the fine-tuning measures (*Feinststeuerung*).

The first category includes the bank's discount policy (*Rediskontpolitik*), its lombard policy (*Lombardpolitik*) and the minimum reserve policy (*Mindestreservpolitik*). The second category includes open market operations in the widest sense, with maturities of between one day and two months. Concrete examples are fixed-interest securities repo-transactions, quick tenders, currency swaps and foreign exchange repurchase transactions. Measured in terms of size, the most important open-market instrument is made up of securities repurchase agreements (*Wertpapierpensionsgeschäfte*). This instrument can, on the one hand, be seen as a fine-tuning instrument as it is a very flexible instrument to steer money market conditions between narrow margins. On the other hand, as this instrument is structurally by far the most important source of central bank money for the banks, it certainly has a more structural character than the other open market instruments mentioned.

In order to influence monetary conditions indirectly, it is essential that the Bundesbank has a strong grip on the interbank money market. It is necessary that the money market is permanently in short supply of central bank balances, which gives the Bundesbank the opportunity to fine tune money market rates. This shortage on the money market is artificially created by the Bundesbank through its minimum reserve policy.

5.2. Minimum reserve policy

The minimum reserve regulations (*Mindestreserveregelungen*) were introduced in 1948. According to the Bundesbank, such an instrument is essential for the successful implementation of its monetary policy. It increases the effectiveness of the other instruments, especially open market operations, and puts an automatic brake on monetary expansion. Banks are obliged to hold specific a percentage of certain liabilities as non-compensated balances at the central bank. In principle, all domestic credit institutions are obliged to maintain minimum reserves, although there have been exceptions to the rule.²²

The reserve percentages vary according to the degree of liquidity of the bank's liabilities. The lower the degree of liquidity, the lower the reserve percentage. The Bundesbank is free to set the reserve requirement within certain limits. The maximum rate for sight deposits is 30%, for time deposits 20% and for saving accounts 10%.²³ The liabilities falling under the minimum reserve regulation do to a large extent reflect the composition of the monetary aggregate M3, which is the official Bundesbank target.

From the point of view of the Bundesbank, the obligation to hold interest-free balances at the central bank has several beneficial effects. First, it gives the central bank the opportunity to offset (external) developments that influence monetary conditions in Germany. Up to the beginning of the 1980s, the Bundesbank actively manipulated the minimum reserve rates in order to steer monetary conditions. Especially during the Bretton Woods era, when the German mark had a fixed parity against the US dollar, manipulation of the reserve requirement was the only method the Bundesbank could use

to dampen the monetary impact of exchange rate pressures. Given the fixed exchange rate, independent manipulation of official interest rates was not possible. An increase (decrease) of the minimum reserve requirement rates immediately curbs (boosts) the liquidity position of the banks, making it possible to balance the effect of capital inflows to the German money market and outflows from it. Although the German mark later participated in several other exchange rate arrangements, such as the "snake" in the 1970s and the Exchange Rate Mechanism (ERM) since 1979, it has always held the position of "anchor" currency. As a result, it retained to a large extent its autonomy in interest rate decisions. Moreover, these later arrangements proved more flexible than the Bretton Woods system.²⁴

A second effect of this instrument is that it creates an artificial shortage on the interbank money market. Given this structural shortage, the banking industry as a whole has to turn directly to the central bank to get the necessary amount of central bank money to fulfil their obligations. Therefore, their funding costs are very sensitive to changes in the price of central bank money, which enhances the effectiveness of the other instruments of monetary policy.

Thirdly, the minimum reserve requirement acts as an automatic brake on monetary expansion. Any increase in sight deposits, time deposits or saving accounts leads immediately to an increase in the amount of required reserves, leading to an automatic tightening of money market conditions. The resulting reduction in the banks' free reserves immediately puts a break on monetary expansion. In addition, given the relative size of reserve ratios per category, this effect will also occur if the banks' clients shift money from a savings account (low reserve ratio) to a sight deposit (higher reserve ratio). Moreover, banks may be expected to manipulate their rate structure on their liabilities in a way, that customers are persuaded to put their money in products that are not part of the monetary aggregate M3. This helps the formation of monetary capital (*Geldkapitalbildung*), which is normally the main counterbalancing mechanism to the expansion of bank credit.

Fourthly, the level of minimum reserve requirements are calculated monthly and banks have to fulfil them on average over the relevant period. In the meantime, banks may use their balances with the central bank as "working balances" (averaging facility or *Liquiditätspuffer*). If a bank acutely needs central bank money, it can draw on its reserves with the central bank. Although it has to compensate for this temporary decline in its reserves at the central bank at a later stage to comply with the average reserve obligation, this facility leads to less volatile conditions on the interbank money market than would have been the case in the absence of the minimum reserve instrument. As a result, the Bundesbank does not have to intervene in the money market on a daily basis. This gives it the opportunity to employ more decentralised and labour-intensive refinancing techniques, which it prefers, given the decentralised structure of the German banking system [Häusler (1994)].

From the point of view of the banks, the obligation to hold unremunerated balances at the central bank entails a number of obvious disadvantages. First of all, it undermines the competitive position of credit institutions which have to operate under this instrument vis-à-vis institutions which are not obliged to hold balances with the German central bank, viz foreign banks and domestic non-banks offering financial products. It enhances disintermediation of the banking industry and capital flight, as money market funds and foreign banks are able to offer more attractive rates on their products than banks that are obliged to hold balances with the central bank [Carstensen (1988)].²⁵

The Bundesbank has not been deaf to the complaints of the financial industry. Starting in 1986, the instrument has been substantially modified. Even prior to this, the use of the reserve instrument had shifted from very active to more passive use, giving an indication of the long-term orientation of monetary policy. In May 1986, the scope of the instrument was broadened in the sense that bonds issued by banks with a maturity of two years or less and Certificates of Deposit (CDs) were also eligible for the reserve requirement. The first measure effectively closed a gap in the regulations, as banks actively offered such bonds to clients as an alternative to time deposits, trying to circumvent the reserve requirement. CDs were introduced in May 1986, but the Bundesbank measure of May 1986 effectively killed their market potential. On the other hand, the introduction of money market funds in Germany, which due to resistance by the Bundesbank did not take place until August 1994, potentially further undermined the effectiveness of the minimum reserve instrument. These funds are a good alternative for bank deposits or saving accounts.

Table 6 shows that the tariff structure of the minimum reserve instrument has been greatly simplified since May 1986. The redesign of the instrument was speeded up in March 1993 and completed in July 1994, with the aim of eliminating the negative side-effects of the instrument as much as possible, without undermining its effectiveness. The Bundesbank expects that the current reserve rate levels are high enough to retain the advantages of the instrument, but at the same time low enough to prevent a further deterioration of the competitive position of the German banking industry.

5.3. Refinancing policy

Under the discount facility, banks can borrow a fixed maximum amount of money from the Bundesbank, at a subsidised rate.²⁶ This credit must be backed by trade bills, which are bought by the central bank.²⁷ The maximum maturity of a loan under the discount facility is three months, as the collateral must fall due within this period. The Bundesbank determines the maximum size of the overall discount quotas, which are translated into individual quotas for each bank [Deutsche Bundesbank (1995-b)]. The discount rate normally is the floor for short-term interest rates in the money market. Although the discount refinancing facility has been a very important source of central bank money for the banking system in the past and a change in the discount rate still has a major signalling impact on the financial markets, its relative importance as source of central bank money has considerably declined.²⁸

Table 6 Minimum reserve ratio's
As a percentage of the reserve-carrying liabilities

applicable from	Sight liabilities stage on progressive scale		Time liabilities stage on progressive scale		Savings deposits stage on progressive scale		
	DM 10 m and under	over DM 10 m to DM 100 m	DM 10 m and under	over DM 10 m to DM 100 m	DM 10 m and under	over DM 10 m to DM 100 m	over DM 100 m
may 80	8.45	11.45	6	8	5.6	5.8	6
sep 80	7.65	10.3	5.4	7.2	5	5.2	5.4
feb 81	7.1	9.6	5	6.7	4.65	4.85	5
oct 82	6.4	8.65	4.5	6	4.2	4.35	4.5
may 86	6	9		4.5		3.75	
feb 87	6.6	9.9		4.95		4.15	
march 93	6.6	9.9		2		2	
march 94		5		2		2	
aug 95		2		2		1.5	

The ratios shown in the table are those applicable to reserve-carrying liabilities to residents.

The ratios for liabilities to non-residents are identical of those for liabilities to residents over DM 100 m.

Since March 1994 there is no difference in treatment of liabilities to residents and non-residents.

Source: Deutsche Bundesbank.

The second important instrument of refinancing policy is the lombard facility. The lombard rate usually is the ceiling for interest rates in the money market. It is a relatively expensive end-of-day facility, making it possible for banks with an acute liquidity shortage to obtain central bank money. In principle, there is no limit to the extent banks can borrow under the lombard facility, as long they have enough eligible (*lombardfähig*) collateral. Credits under the lombard facility, just as discount lending, may not be extended longer than three months. Like the discount window, the lombard facility has decreased in importance over time as open market operations have increasingly taken care of the provision of central bank money to the banking system (see below). Although there is no official limit to the amount banks can draw under the lombard facility, the Bundesbank has the authority to limit the use of the lombard window. Moreover, it has the possibility to close the lombard window temporarily or to install a special lombard rate (*Speziallombard* or *Sonderlombard*), which usually is much more expensive than the "normal" lombard rate. For example, the access to lombard loans was restricted from September 1979 to February 1980, and the facility was replaced by a special lombard window from February 1981 to May 1982. The Bundesbank is completely free in setting the level of the discount and lombard rates, as there are no official limits to these tariffs.

5.4. Open market policy

The Bundesbank first engaged in open market operations in the money market as early as 1955. During the 1960s and 1970s, such operations were frequently carried out, exclusively with banks as counterparties, in an attempt to neutralise inflows of liquidity from abroad. To this aim, the Bundesbank issued so-called mobilisation paper and from the beginning of the 1970s so-called liquidity paper.²⁹ During that decade, the range of counterparties was broadened to include non-banks. During the 1980s, the importance of this instrument declined substantially. In March 1993, the Bundesbank started to issue a new money market instrument, the so-called Buli's (*Bundesbank-Liquiditäts-U-Schätzen*). This was done in an attempt to increase the amount of money market paper held by domestic non-banks, in order to compensate for the liquidity effects of the lowering of the minimum reserve requirements. However, as these Buli's appeared to be bought mainly by foreign investors instead of domestic non-banks, and the Bundesbank did not want to supply the newly arrived money market funds with an excellent investment opportunity, the issue of Buli's was stopped in the autumn of 1994.

Of increasing importance, however, are the open market transactions under repurchase agreements. Starting in the early 1970s, with domestic bills as collateral (*Wechselpensionsgeschäfte*), the scope of this instrument was widened in 1979, when the Bundesbank developed the instrument of repurchase agreements in fixed-interest securities (*Wertpapierpensionsgeschäfte*). Initially, this instrument was used only occasionally, serving the temporary liquidity needs of the banking system. If these appeared to be durable in character, they were consolidated by adapting the modalities of one of the other instruments of monetary policy.

Since February 1985, however, this instrument has developed into the most important instrument of monetary policy, as it is the leading instrument for steering short-term interest rates in the money market (see below). Nowadays, it accounts for the lions' share of the provision of central bank money to the banking system. Moreover, it has proved to be very flexible in its implementation. There are two varieties of this instrument (popularly known as "repos"), viz the fixed-rate or volume tender (*Mengentender*) and the variable-rate tender (*Zinstender*). In the case of a volume tender, the Bundesbank sets the repurchase rate itself, while the amount depends on the bidding volume of the banks. In the variable-rate tender, credit institutions must state in their bids both the volume of securities they want to sell to the Bundesbank and the interest rate at which they are prepared to enter repurchase agreement with the Bundesbank. The variable-rate tender leaves relatively quite a lot of room for market participants to influence movements in the money markets, while the volume tender is mainly used by the Bundesbank if it wants to eliminate any doubt about its intentions concerning the interbank money market rates.³⁰

The frequency in which repos are issued has steadily increased over the years, while the average maturity has declined from one month or even longer to one to two weeks. Nowadays, the Bundesbank is in the market with repos every week. They are usually announced on Tuesday and it normally issues a repo with a maturity of one week and one with a maturity of two weeks.³¹ This shorter maturity provides the Bundesbank with the flexibility to react to sudden inflows of liquidity from abroad by quickly decreasing the amount of outstanding repo-facilities.

In addition to the instruments mentioned above, the Bundesbank has a range of instruments at its disposal for very short-term transactions. Currency swaps, the short-term (one to five days) "quick-tenders" which were introduced in November 1988, and, to a lesser extent, the outright purchasing or selling of longer-term securities are the more important instruments in this context for the Bundesbank.

5.5. *Changes in money market procedures*

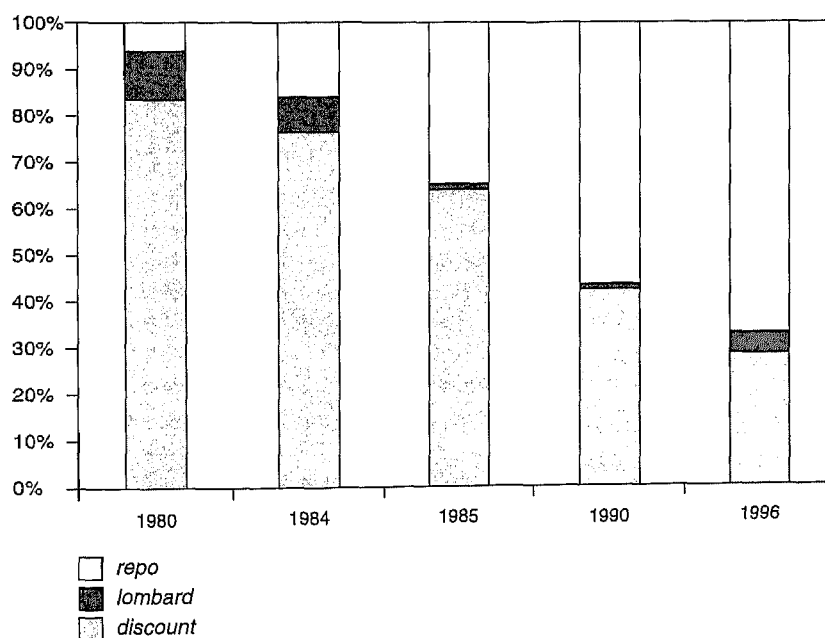
The Bundesbank's policy of monetary targeting has remained basically unchanged since its first implementation in the early 1970s. However, over the years there have been substantial changes in the way the central bank conducts its monetary policy. The year 1985 witnessed a landmark change in money market procedures.

During the Bretton Woods era, when the Bundesbank was tied to the exchange rate restriction, it was often not able to change its official tariffs in reaction to domestic monetary developments. Excessive inflows of liquidity from abroad were countered by open market operations and by actively manipulating the minimum requirement rates. Soon after the breakdown of the Bretton Woods system, the Bundesbank started its policy of monetary targeting, using the short-term interest rate (call money) as an indicator and the money supply as the target of monetary policy. From 1973 until 1985

his policy can be labelled as "inflexible money market steering", when contrasting it with the following era of "flexible money market steering". During the first policy period, the money market interest rate followed closely the movement of the lombard interest rate. Although the Bundesbank already had an arsenal of open market instruments at its disposal, it used them much less frequently than it does today. The emphasis was on standing facilities, viz the discount and lombard windows. Tightening or easing conditions in the money market hardly ever resulted in fluctuations in short term interest rates, but it did change the level of bank borrowing under the lombard facility.

This facility, which basically was meant to be an end-of-day facility for banks with an acute need for central bank money, was increasingly used as a permanent source of central bank money by the banks. However, given the steadily advancing process of deregulation of financial markets in all major industrial countries and liberalisation of international capital flows, leading to ever stronger links between the German and foreign financial markets, the Bundesbank was increasingly in need of a flexible way to adapt to changes in markets abroad. However, the most effective way for the Bundesbank to manipulate short-term interest rates was by changing the lombard rate. The obvious disadvantage of such a move lies in fact that changes in both the discount and the lombard rate have strong signalling effects on financial markets, not

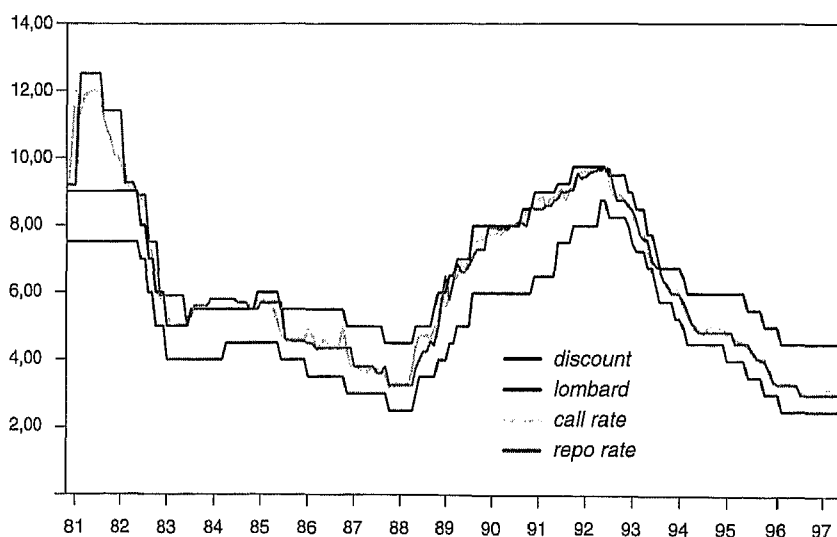
Figure 4 Sources of central bank money for the banking system



only in Germany but abroad as well. Therefore, in February 1985, the Bundesbank simultaneously raised the lombard rate by 50 basis points to 6.0% and sharply increased the size of its open market operations, using securities repurchase agreements at a fixed interest rate. As a result, the drawing under the lombard facility almost vanished as the amount of the open market transactions increased. Since then, the lombard rate has principally had a signalling function for the financial markets, as it gives an indication of the Bundesbank's stance on monetary policy.

Since February 1995, short term money rates have closely followed the repo rate. This rate is usually moving in an interest-rate corridor, with the lombard rate being the upper ceiling and the discount rate being the floor of money market rates.³² The distance between the discount floor and the lombard ceiling varies over time, reflecting volatility in money market conditions. Only in special circumstances will interest rates show a different pattern. First, the Bundesbank can become caught up in a so-called "discount trap", when during periods of declining interest rates banks start to bring down their recourse to borrowing under the discount facility in anticipation of a lowering of the official discount rate. In such circumstances the banks' behaviour can be considered rational, given the fact that the minimum maturity of a discount loan is three months. Banks even may turn to the lombard window for short-term finance, leading to increasing volatility of interbank money market rates. Second, there is the "lombard trap", in which case banks start to borrow more under the lombard facility to fulfil their minimum requirement obligations in advance, which could be considered a rational move if an increase in the lombard rate is expected at short notice. In this case, the

Figure 5 Short term interest rates (discount, lombard, call rates and three-month FIBOR), 1980-1996



Bundesbank temporarily loses its grip on the money market, as in effect it is not the repo rate but the lombard rate that is the determining factor for the money market rate [Deutsche Bundesbank (1994-b)].

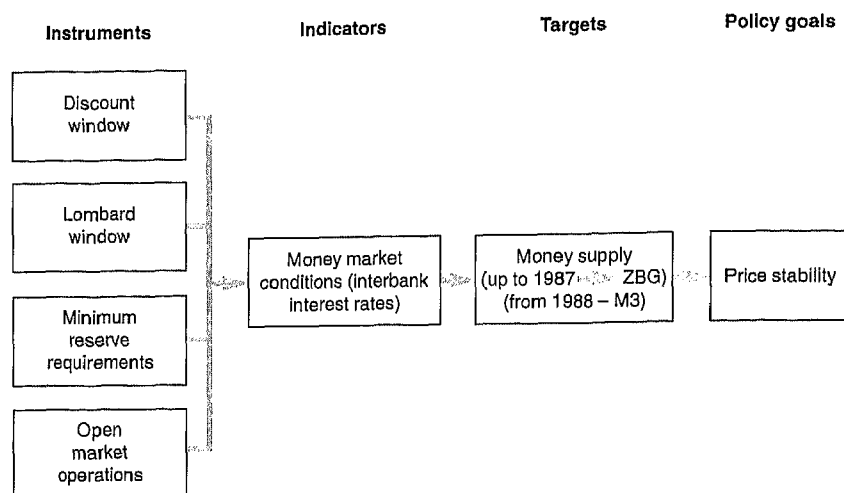
In spite of these exceptional situations, experience shows that the Bundesbank usually has the German money market in an iron grip, combined with enough flexibility to react very quickly and effectively to sudden inflows or outflows of liquidity from abroad.³³ In one respect the reform of money market procedures was less effective than had been hoped for. The Bundesbank had expected that small changes in the rate of its repurchase transactions would have had much a less significant signalling effect on the international financial community than changes in the official tariffs (the discount and lombard rates) would have had. However, today every basis point move of the Bundesbank in its weekly repo transaction is closely followed and studied for its consequences by the "Bundesbank watchers" all over the world.

5.6. *Transmission mechanism*

The monetary policy of the Bundesbank is indirect in character. The bank has a strong grip on the conditions in the money market, steering short-term money rates in the direction it desires. The short-term money rates influence the growth of the money supply along two transmission channels. First, higher rates on the interbank money market mean higher funding costs for the banks, which will translate this into their lending rates (direct channel). Higher lending rates, albeit with some delay, usually lead to a slowdown in the demand for bank credit.³⁴

The second channel is more indirect in character. This mechanism is based on the substitution of components of the monetary aggregate (M3) and financial assets outside M3. For example, during a period of increasing interest rates, economic agents will tend to lock in the higher rates and buy financial assets with a longer fixed-rate structure, for instance bonds or long-term (> 4 years) time deposits. This mechanism is based on the implicit assumption that movements in money rates will sooner or later always be followed by similar moves in long term-rates. This substitution effect will directly result in a reduction of M3 in times of rising interest rates. The building up of monetary capital (*Geldkapital*), as it is called, is the most important counterpart of bank lending. This mechanism, which in the view of the Bundesbank is the most important transmission channel of monetary policy, means a shift in the balance of the banking industry from short-term to longer-term liabilities [Bundesbank (1985-a)].

One could have doubts, however, about whether this mechanism will work properly in times of a strongly inverted yieldcurve. In such times, especially as long-term rates are relatively low by historical standards and as long as there is no reason to expect a substantial decline in short-term money rates at short notice, it is not attractive to move money from short-term time deposits to longer-term financial assets. The key to the functioning of this mechanism lies, of course, in the inflation expectations of market

Figure 6 Transmission mechanism (1974-1996)

participants and in their investment horizon. Although this mechanism appeared to work properly during shorter periods with an inverted interest rate structure in the 1980s, it failed to work during 1991-1994, a prolonged period with an inverse yield curve. Ultimately, the Bundesbank had to slowdown monetary expansion by a rather unorthodox lowering of official tariffs in May 1994 (see next section).

6. Results of monetary targeting 1975-1990

If one wants to draw a conclusion about the success of German monetary policy, this can be done in two ways. First, one can compare monetary ex ante targets with the ex-post rate of expansion of the monetary aggregates (ZBG and M3). Second, one could consider the ultimate goal: has the Bundesbank succeeded in obtaining price stability?

Table 7 compares the ex post growth of the monetary aggregate with the ex ante target. It appears at first sight that the Bundesbank has not been very successful in its policy of targeting monetary growth. In almost half of the years for which a monetary target was formulated, the growth rate of the aggregate exceeded the upper limit of the target range. However, looking at actual inflation, one may conclude that since 1979 the Bundesbank has been extremely successful in its policy of monetary targeting. In the years 1986 to 1988 German inflation was very low as a result of the decline in oil prices in 1986 and the steady appreciation of the German mark vis-a-vis the US-dollar. With actual inflation running clearly below the 2%-level and the German economy showing no signs of overheating, there was no reason for the Bundesbank to tighten monetary policy during

Table 7 Monetary targets and their Implementation

	target: growth of the central bank money stock (ZBG) or M3 (M)			actual growth (rounded figures)			
	In the course of the year	as an annual average	more precise definition during the year	In the course of the year	as an annual average	target achieved	p.m. consumer prices
1975	about 8	—	—	10	—	no	6
1976	—	8	—	—	9	no	4.5
1977	—	8	—	—	9	no	3.7
1978	—	8	—	—	11	no	2.7
1979	6 - 9	—	lower limit	6	—	yes	4
1980	5 - 8	—	lower limit	5	—	yes	5.4
1981	4 - 7	—	lower half	4	—	yes	6.3
1982	4 - 7	—	upper half	6	—	yes	5.2
1983	4 - 7	—	upper half	7	—	yes	3.3
1984	4 - 6	—	—	5	—	yes	2.4
1985	3 - 5	—	—	5	—	yes	2.1
1986	3,5 - 5,5	—	—	8	—	no	-0.1
1987	3 - 6	—	—	8	—	no	0.2
1988	3 - 6	—	—	7	—	no	1.3
1989	about 5	—	—	5	—	yes	2.8
1990	4 - 6	—	—	6	—	yes	2.7
1991	3 - 5	—	—	5	—	yes	3.6
1992	3,5 - 5,5	—	—	9	—	no	5.1
1993	4,5 - 6,5	—	—	7	—	no	4.5
1994	4 - 6	—	—	6	—	yes	2.7
1995	4 - 6	—	—	2	—	no	1.8
1996	4 - 7	—	—	8	—	no	1.4
1997	3,5 - 6,5	—	—	—	—	—	—
1998	5	—	—	—	—	—	—

* Up to 1987 ZBG, from 1988 M3.

Source: Deutsche Bundesbank, OECD Economic Outlook.

these years, despite too high a rate of monetary expansion. The same can be said of 1996. The exception to the rule were the years 1992 and 1993, when monetary growth strongly exceeded the target zone, although other indicators pointed to very tight monetary conditions (see next section).

Looking at the German inflation rate, one can conclude that the Bundesbank has at least been relatively successful in its monetary policy. Although it has not succeeded in reaching complete price stability, German inflation on average is lower than inflation rates in most other industrial countries. More recently, however, one can identify a strong convergence of West-European inflation rates. Some countries that used to have relatively high rates of inflation, like for example France, are more recently even outperforming Germany. This tendency is the result of international inflationary pressures receding at a time when domestic price pressures in Germany temporarily increased in the aftermath of unification.

One might say that the monetary authorities in most European countries have rediscovered the importance of monetary stability. In contrast, since its establishment in 1957, the German Bundesbank has consequently pursued a policy aimed at price stability. According to the Bundesbank, this means inflation not exceeding the 2%-level. Judged by its own standard, however, one cannot but come to the conclusion that the Bundesbank has not succeeded in keeping inflation structurally below this threshold. Although since the end of 1995 inflation has been consistently running below the 2%-mark, consumer price rises peaked at nearly 5% in 1993. However, apart from the years immediately after unification, German inflation has been around the 2.5% level since the middle of the 1980s. Of all major industrial countries, Germany – with Japan – has reached the highest degree of monetary stability.

In spite of money growth regularly exceeding the Bundesbank target, the central bank's reputation is as strong as ever. This reflects the proven track-record on price stability of the Bundesbank, together with its well-known political independence.

7. German unification and the stability of money demand (1990-1996)

During the first years after unification, German monetary policy entered uncharted territories. During this period inflation accelerated, mostly as a result of developments that were rather insensitive to monetary policy actions, such as tax measures, wage-cost push inflation in the services sectors and a substantial overheating in the housing market, leading to increasing rents and construction costs [OECD Economic Survey of Germany (1993)]. Moreover, wage costs sharply accelerated in 1991 and 1992, adding to inflationary pressures, and budgetary policies became very expansive as a result of huge budget transfers from Western to Eastern Germany. In 1989, the general government budget showed a small surplus for the first time since the early 1970s. Four years later, the public deficit peaked at 5.4% of GDP, in spite of substantial tax increases [OECD

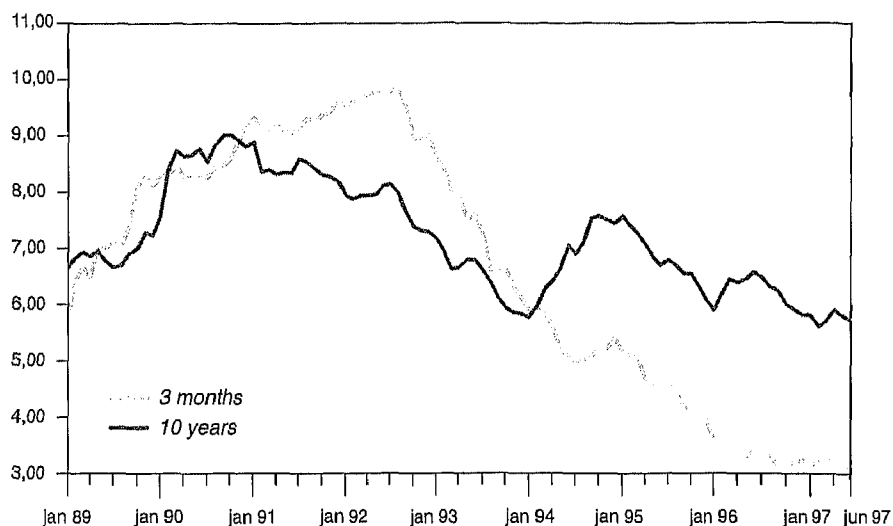
Economic Surveys of Germany (various issues)].³⁵ The economy, already running at relatively high rates of capacity utilization after a prolonged period of economic expansion entering its eighth year of positive economic growth in 1990, started to show serious signs of overheating. The current account of the balance of payments acted as safety valve: it deteriorated from a surplus of 4.8% in 1989 to a deficit of 1.1% in 1991.

The Bundesbank faced several problems. First of all, with monetary unification in July 1990, M3 was increased by some 15%. This was in accordance with the estimated size of the economy of the former GDR when compared with the West German economy. However, as a result of the unexpectedly sharp decline of activity in former East Germany in the aftermath of unification, there were clear signs of a "monetary overhang". Secondly, it was not known beforehand in what form the population in the new "Länder" would want to keep their financial assets. Initially, they appeared to prefer cash and bank deposits, which are part of M3. Early in 1991, there had already been a normalisation of monetary behaviour in Eastern Germany, which helped the monetary aggregate to decelerate very sharply in the first half of the year. In the second half of 1991 monetary growth re-accelerated, fuelled by a couple of more structural factors. First of all, economic activity in the former GDR revived, leading to an increase in demand for money in order to finance investment projects and property transactions. As many of these projects were subsidised by the Federal government, this part of money demand was rather insensitive to interest rate increases. In Western Germany, an increase in investment activity was going on as well, leading to strong demand for new bank loans. In addition, there was an increasing use of the mark as a parallel currency in Eastern Europe, leading to a strong growth in the volume of banknotes in circulation.

In 1992 and 1993 the monetary policy response to these developments appeared to be very ineffective. Although the Bundesbank drove its discount rate up to a peak of 8.75% in July 1992, a post-war record, monetary expansion remained clearly above the target level. This development can be explained by two effects. First, one should take the inverted yieldcurve into consideration. In spite of the monetary turbulence in the aftermath on German unification, the Bundesbank's tight monetary policy stance was approved by the financial markets. This translated into a strong decline in bond yields from October 1990 onwards. The resulting sharply inverted interest rate structure increased the attractiveness of high yielding bank deposits when compared to other investment categories. As a result, savers and investors alike put a relatively large share of their financial assets in bank deposits. At the same time, the formation of monetary capital (*Geldkapitalbildung*), the most important contractive counterpart of monetary expansion, lagged behind for the same reason. Finally, there remained uncertainty surrounding plans to re-introduce a withholding tax in Germany, increasing domestic investors' appetite for cash above alternative investment categories.³⁶

With the most important transmission channel of monetary policy not functioning properly, the Bundesbank was increasingly criticised. From several sides it was pointed out that a further monetary tightening by increasing interest rates would not help to slow down monetary expansion. On the contrary, it would fuel money growth even further as long as the yieldcurve retained its inverted shape.³⁷

Figure 7 Short-term (3 month FIBOR) and long-term (10 yr. Bunds) interest rates



The Bundesbank also met criticism on its policy stance from abroad, as its measures turned out to have severe negative side-effects on the other countries participating in the Exchange Rate Mechanism (ERM) of the European Monetary System. Most of these other countries had – in contrast to Germany – no severe inflation problems at the time and were experiencing a weak business cycle. Germany itself experienced a sharp recession during 1992/3 in response to high interest rates, a sharp appreciation of the German mark and an eroding competitive position due to high wage increases. The need to follow the interest increases of the Bundesbank, in order to defend their currencies' ERM-positions, met with increasing protest from neighbouring countries. The increasing tension on the currency markets finally resulted in the removal of the Italian lira and Sterling from the ERM in September 1992 and later, in August 1993, in the widening of the ERM fluctuation margins from 2.25% to 15%.³⁸

On the eve of the removal of the lira from the ERM, the Bundesbank tried to stem the tide and started easing its monetary policy, in spite of the high growth of M3 at the time. It subsequently rapidly lowered its official rates in a series of small steps during 1993 and early 1994, but monetary growth remained too high and the yieldcurve retained its inverted shape. In April 1994, the Bundesbank unexpectedly lowered its official rates. This time it explicitly aimed at normalisation of the interest rate structure, a process which was also helped by an increase in bond yields³⁹. Money supply growth indeed decelerated very sharply, as a result of which M3-growth returned into the target zone towards the end of the year. The year 1994 was also marked by the arrival of full-fledged money market funds in Germany, which also helped to bring M3-growth down. Money

market funds are not part of M3, although they were introduced in the so-called broadened-M3 (*M3-erweitert*). The following year, both money and capital market rates declined rather pronouncedly, as economic growth was slowing down considerably in the second half of 1995 and new recession fears had emerged. Monetary expansion remained in or even below its target range during 1995. However, monetary growth re-accelerated in 1996, fuelled by a strong expansion of bank lending to the private sector. Given the weak state of the business cycle in early 1996 and the absence of inflationary pressures, the Bundesbank decided not to tighten its policy. To the contrary, in April 1996 it lowered its discount rate to 2.5% (a post-war low) to counter recessionary tendencies in the economy. The Bundesbank decided to decline its repo rate to 3.0%; a level that remained constant until October 1997, when it was raised to 3.3%.

8. Conclusion

With the benefit of hindsight, one can conclude that the Bundesbank has successfully absorbed the monetary effects of German unification. The German central bank has succeeded in bringing inflation down below the 2%-threshold. Moreover, although the expansion of M3 has turned out to be rather volatile as a result of German unification and other "special factors", the basic principle of monetary targeting could have been retained. In the view of the Bundesbank, the long-term relationship between the growth of M3 and the expansion of nominal GDP and inflation was not seriously disrupted by the unification process.

Therefore, the Bundesbank firmly believes, that the future European Central Bank (ECB) should copy the German central bank model as much as possible. On several occasions, it has advocated a policy of monetary targeting in the EMU, which also implies that the ECB's monetary policy arsenal should be more or less identical to that of the Bundesbank [Issing (1994)]⁴⁰. Econometric research by among others Kremers and Lane (1990) has indicated that *European money demand could be as stable as in Germany, strengthening the case for monetary targeting on the EMU-level*, although Arnold (1995) has raised serious doubts about the outcome of these investigations. However, as Eijffinger (1996) has indicated, there are strong arguments in favour of a policy of monetary targeting by the ECB. Moreover, the Bundesbank has adapted its monetary policy instruments to overcome most of the doubts raised by the banking industry, in order to make it more acceptable for the other EMU-member states. Where necessary, the German banking law was changed to meet the requirements of the Maastricht Treaty. Given the central position of Germany in the European integration process, it may be expected that the ECB's concept of monetary policy and its implementation will turn out to be a close copy of the Bundesbank's [Van Gils (1995)]. The final decision on this issue will not be taken before 1998. Until then, the Bundesbank will dictate the rhythm of monetary policy on the European continent.

Notes

- 1 The German banking industry is based on the so-called "universal banking model". See par. III.2.
- 2 See OECD *Economic Survey of Germany*, 1995, pp. 95/6
- 3 Since the end of the 1980s, large German banks have bought their way into London, illustrated among others by the takeover of Morgan Grenfell by Deutsche Bank and Dresdner Bank's acquisition of Kleinwort Benson. See Gray (1996-a).
- 4 The public offering of Deutsche Telekom in November 1996 was Europe's biggest-ever privatisation and the world's second largest initial public offering, raising some DM 20 bn. Other privatisations expected at short notice include the government's share (35.7%) in the national air carrier Lufthansa and its remaining stakes in the Postbank (75%) and in DG-Bank (6.5%) The government is also considering to reduce its stake in the savings bank sector. Source: Reuters Business Briefing.
- 5 The Bundesbank uses the term Big Banks (*Grossbanken*) for the three banks mentioned, although today Commerzbank is smaller than the Westdeutsche Landesbank.
- 6 The structure of German financial markets and banks is more fragmented over regions than is the case in most other countries. For example, the country has several stock exchanges, which only recently decided to intensify their cooperation efforts. This fragmentation reflects the country's federal structure. However, Frankfurt has developed into the most important financial centre, with most – but not all – major banks headquartered in this city. For a more detailed examination of the structure of the German system, see Edwards & Fisher (1994), chapter 5 and Deutsche Bundesbank (1995) pp. 51- 56.
- 7 For example, although Moody's has awarded them a AAA-rating for their long term debt, none of the regional savings banks has succeeded in obtaining an "A" financial strength rating. Some of these institutions' balance sheets are even considered very weak, as illustrated by a meagre "D+" financial strength rating. See Covill (1994) for a closer examination of the creditworthiness of the German *Landesbanken*.
- 8 In general the cooperative umbrella institutions are owned by other parts of the cooperative sector, although the government holds a 6.5 stake in the DG-Bank. However, it intends to sell this share at short notice.
- 9 Although there are no restrictions on commercial banks making mortgage loans, they are (with a few exceptions) not allowed to issue mortgage bonds (*Pfandbriefe*). Such asset-backed bonds, which have a very low risk profile, are issued by mortgage banks. These *Pfandbriefe* are increasingly popular with international investors. This has led to the first issue of a global *Pfandbrief* by the Deutsche Pfandbrief- und Hypothekenbank AG in January 1996.
- 10 Recently, Deutsche Bank bought a 5.21% stake in Bayerische Vereinsbank, while Dresdner Bank and Bayerische Hypo are linked by the fact that the Allianz insurance company holds a 22% stake in both of them. In the savings bank sector, Nord LB and Bankgesellschaft Berlin (a commercial bank) are planning a merger. Very recently, Bayerische Vereinsbank and Bayerische Hypo announced a merger, which will create the second largest private sector bank in Germany (Bayerische Hypo- und Vereinsbank).
- 11 See Reinhardt (1996), Soffner (1996) or Bundesverband deutscher Banken and others (1996).
- 12 See OECD *Economic Survey of Germany*, 1986, pp.41-61.
- 13 Officials from the Federal Government have the right to attend meetings of the *Zentralbankrat* and to participate in discussions. However, they have no voting rights. In the case of conflicting opinions, the government may ask to delay the Bundesbank decisions for two weeks. However, if during this period no compromise between the Bundesbank and the government can be reached, the Bundesbank can enforce its own decision.
- 14 For a detailed history of the Bundesbank, see Marsh (1993).

- 15 The appointed procedures of both the *Direktorium* of the Bundesbank and of the presidents of the *Landeszentralbanken* give, at least in theory, politicians some indirect influence over German monetary policy.
- 16 For an examination of the 5.KWG-Novelle, see Deutsche Bundesbank, Monthly Bulletin, November 1994. A recent and detailed overview of Community Directives and their incorporation in German Law (status as at September 1996) can be found in B. Mütsch, *Kreditwirtschaftlich wichtige Vorhaben der EU*, Kreditwesen, October 1996.
- 17 See Becker (1995) for a succinct but adequate introduction to the German system of Banking Supervision.
- 18 For a discussion of the potential conflicts between monetary policy and banking supervision see Eijffinger & De Haan (1996).
- 19 This philosophy originates from Irving Fisher, who already in 1911 in his famous book "The Purchasing Power of Money" formulated the following identity equation: $M \cdot V = P \cdot T$, in which M is the amount of money in circulation, V is velocity, P is the price level and T is the number of "transactions", this is the level of economic activity. In more recent literature, growth in the level of economic activity is composed of two elements, viz growth of the production capacity and changes in the level of capacity utilisation. See also Schlesinger (1988).
- 20 In this exercise, the Bundesbank used, rather arbitrarily, the constant minimum reserve percentages as of January 1974. The formula for the ZBG was as follows: $ZBG = C + 0.166 \cdot SD + 0.124 \cdot T + 0.081 \cdot S$, in which C is cash in circulation, SD is sight deposits, T is time deposits and S is savings accounts. The use of the ZBG had a number of advantages, the most important being the relatively fast availability of the figures and the fact, that this aggregate takes the different degrees in liquidity of the components into account. The lower the degree of liquidity, the lower the weighing factor [Duwendag (1988)]. However, there is a minor difference between the two aggregates with respect to some minor components: savings deposits with an agreed notice of less than four years and bank savings bonds with maturities less than four years are part of the ZBG, but not of the aggregate M3 [Bundesbank (1994), p. 106]. The ZBG can be interpreted as a "divisia aggregate" which, although in theory, does more justice to the difference in the degree of liquidity of the composing parts than an unweighed version of M3.
- 21 In December 1996, the Bundesbank increased its time horizon for monetary targeting to two years. It announced a target for both 1997 and 1998 (5% for each year, with the 1997 target more specified in more detail (3.5 - 6.5%)). In doing so, the Bundesbank hoped to eliminate any uncertainty about its monetary policy stance in the run-up to EMU during 1998.
- 22 Mortgage banks and Building and Loan associations (*Bausparkassen*) were exempt from 1965 to 1984, and even today certain specific deposits at Building and Loan Associations are not subject to the minimum reserve requirement. From March 1978 to August 1995, banks were allowed to withdraw their cash holdings of domestic legal tender from their minimum reserve requirement.
- 23 Moreover, in case of liabilities to non-residents, the Bundesbank may set a reserve requirement up to a full 100%. In practice, however, the reserve ratios are much lower and have shown a steadily decreasing trend over the last decade. In addition to the "normal" reserve requirement, the Bundesbank has the possibility of charging an extra reserve requirement over incremental liabilities. See Bundesbank (1995-b).
- 24 In the European Exchange Rate Mechanisms, the Bundesbank has always pursued an "asymmetrical attitude" towards currency interventions. A weakening of the German mark vis-a-vis the other participating currencies is usually immediately countered with currency interventions, while on the other hand the Bundesbank is rather reluctant to support other currencies in case of a weakening against the German mark, because of its consequences for the German money supply and price stability. See Almekinders & Eijffinger (1991).

- 25 However, part of the more recent capital flight (mainly to Luxembourg and Switzerland) was fiscally driven, as a result of the re-introduction of withholding tax in Germany.
- 26 This subsidy element partly compensates for the costs resulting from the unremunerated minimum reserve requirement.
- 27 After German unification, the banks in the former GDR also had access to the discount window of the Bundesbank. However, as these banks did not have enough trade bills for collateral, they were allowed to borrow money against promissory notes, bearing no other signature than their own (*Solawechseln*).
- 28 In addition to the discount window, there is also the possibility of discounting Treasury Bills (*Schatzwechseln*) for very short periods (several days). The Treasury Bill rate (*Schatzwechselabgabesatz*) is the effective floor for interest rates in the money market, although this facility is of relatively minor importance. It usually is more or less identical to the official discount rate.
- 29 The Bundesbank could require the Federal Government to issue short-term paper to the amount of the equalisation claim, which it (the Bundesbank) could use in open market operations. Such paper is known as mobilisation paper. Later on, the Bundesbank attained authority to issue short-term paper beyond the size of the equalisation claim (liquidity paper). Nowadays, the historical distinction between those two categories is no longer relevant.
- 30 However, one should realise that in the case of a variable-rate tender, the Bundesbank also has a strong grip on the money market, as it is in the position to influence the resulting interest rate by manipulating the size of the allocation of central bank money.
- 31 From February 1996 up to the time of writing, the Bundesbank has exclusively issued volume (fixed-rate)-tenders. One may expect, however, that it will start to issue variable rate tenders once it decides that a gradual tightening of monetary policy is necessary.
- 32 The increase in the amount of outstanding repo transactions was accompanied by an increase in the amount of Treasury Bills in circulation. The Bundesbank offered this paper (both mobilisation and liquidity paper) with very short maturities (three days) in order to prevent short-term rates falling too fast. After some time this rate, effectively the bottom of money market interest rates, declined to the level of the discount rate. For a more detailed description of the changes in money market procedures, see Rohde (1995), or Bundesbank (1994-b).
- 33 Detailed examples of this flexibility can be found in the description of the Bundesbank's policy reactions to the ERM crises of 1992 and 1993 and their aftermath in Rohde (1995) and Deutsche Bundesbank (1994-b).
- 34 Note that the effectiveness of this channel of monetary policy is closely related to the central role of the banking industry in the financing of the German economy. An increase in the disintermediation rate would unavoidably lead to a decline in the effectiveness of the interest rate channel of monetary policy. Moreover, in case of a higher degree of disintermediation, monetary policy may lead to unevenly spread effects in the different sectors in the economy, according to the various rates of dependency on bank loans. See Cecchetti (1995) for a short summary of the different theories of the transmission mechanism.
- 35 The public deficit is defined as the sum of deficits of the Federal Government (*Bund*), the regional governments (*Länder*) the local authorities (*Gemeinden*) and various public institutions, such as the Treuhandanstalt, public enterprises and including social security. As a result of the Federal structure of Germany, regional and local governments are responsible for a relatively large share of public expenditure and deficits.
- 36 In October 1987, the Federal government announced the introduction of a withholding tax as of January, 1989. In reaction to this announcement, a huge capital flight immediately occurred, leading to serious disturbances on the German capital markets. Monetary policy was also affected: as result of the capital flight, the German bond market almost dried up completely, necessitating firms to turn to their banks for additional credit lines. The withholding tax appeared to be shortlived; in April 1989 the government announced its abolition as of July 1, 1989 [Boonstra & De Jong (1989)]. In the summer of 1991, however, the

Constitutional Court in Karlsruhe ruled that the German system of taxation of interest income was not in line with the Constitution. The government was given until the end of 1992 to prepare new legislation. This added to uncertainty in the financial markets, disturbing the formation of monetary capital. The new withholding tax of 30%, introduced in 1993, again led to a sizeable new wave of capital flight, albeit to a lesser extent than in 1989. This time, it was accompanied by a substantial increase of the tax allowances, which made up to 80% of private households exempt from taxation on their interest income. Moreover, foreign investors in general were made exempt from the new withholding tax [OECD Economic Survey, 1993, 1994].

- 37 Given the fact that monetary expansion at the time originated fully from a strong growth in bank lending in combination with a strong preference for cash, the Bundesbank might have considered increasing the minimum reserve requirement rates. This could have slowed down the pace of bank lending, without necessarily resulting in an increase in interbank interest rates [Boonstra (1992)]. The Bundesbank choose not to follow this policy because it conflicted with its longer-term aim of gradually reducing the rates of the minimum requirement, in order to improve the competitive position of the German domestic banking industry.
- 38 The only exception to the rule was the bilateral rate between the Dutch guilder and the German mark. These currencies retained their previous 2.25% fluctuation margin.
- 39 From February 1994 onwards, German bond yields started to increase rather sharply as the German economy came out of recession.
- 40 It is interesting to note that monetary policy harmonisation will improve the competitive position of the German banking industry within EMU. Today, German banks have to operate under a relatively expensive set of monetary policy instruments, caused by the absence of a remuneration on the monetary reserve requirement. The costs of this instrument are to a large extent borne by the banks' clients. In most other countries either the reserve ratios are lower than in Germany, or they are remunerated. Harmonisation will either increase the costs of monetary policy in its neighbouring countries or, in the event that the ECB will pay a remuneration on the obliged reserves, leave German banks with a substantial windfall profit, although in the medium-term this profit will be phased out as a result of the increasing competition in the banking industry.

France: the struggle of a proud country to come to terms with its monetary and financial smallness

By Sandra van Campen and Saskia van Dijk

The eighties and the first half of the nineties were an era of great importance for both the French banking system and the country's monetary policy. Not only has the French central bank been modernised to answer to the demands of the European integration process, but in a relatively short span of time it has also harmonized its set of monetary policy instruments to meet with European standards laid down in the Treaty of Maastricht. French monetary policy now seems ready to be integrated in the Economic and Monetary Union in Europe.

Triggered by the monetary policy changes and the introduction of new monetary instruments, the banking sector as well underwent drastic changes. The French banking industry, however, still seems far from ready for the process of European integration. Its historically strong European position has been eroded more and more. Up to now, French banks do not seem to have found the answer to the increasing competition in the sector.

This chapter on the banking system and the monetary policy of this large European country has been arranged as follows. The first part sets the economic and political background to the monetary and financial changes during the eighties and first half of the nineties. The second part outlines the structure of the French banking system, analyses the effects of the changing monetary environment and assesses the question of how the sector is set to handle the future challenges of further European integration. Part three describes both the monetary policy during the second half of the eighties and the process of making the *Banque de France* a truly independent central bank. Part four focuses on the objectives and the instruments of monetary policy. Some concluding remarks are made in the final paragraph and the prospects for both the conduct of monetary policy and the banking sector are looked at.

1. Economic background

The State has played a stronger role in the French economy than in most other western European countries. The tradition of dirigism and *étatisme* can be traced back to the Napoleonic heritage. In the post Second World War period, this tradition of state planning proved to be a strength in guiding France to economic recovery. The five-year Plans played an important role in the transformation of France from an agriculture-based country to the world's fourth industrial power [Ardach (1993)].

The appeal and the victory of the Socialists in May 1981, should be seen in this tradition of *étatisme*. Their solution to the economic problems induced by the two oil crisis in the 1970s, viz. reinforcing central planning and the role of the State (nationalisation) and a Keynesian policy of reflating the economy, fell on fertile electoral ground. However, France in the 1980s was no longer the closed economy of the post war years. The French Keynesian exceptionalism within a European environment of austerity, was not able to last very long. While unemployment and inflation kept rising, the main result of the reflation policy was an increased budget deficit and foreign debt which rose at an alarming pace. In March 1983, the Socialists made a U-turn from reflation to austerity and dropped their Marxist ideology to become a social democratic party [Ardach (1993)]. This experience forced the French to accept that today sovereign economic policy is bounded by the international market place.

The U-turn in 1983 marks the beginning of the franc-fort policy aimed at reaching an internal and external equilibrium. Even though the political signature of the government changed three times during the 1980s, economic policy remained set in the new direction. The role of the State in the economy was gradually reduced. French firms were faced with international competition as capital restrictions were lifted and a fiscal friendly regime induced direct investments. Moreover, the financial industry was modernised considerably. The success of the strong currency policy was quite remarkable. The French franc has not been devalued since 1986, the deficit on the current account of the balance of payments shifted to a surplus, the inflation rate came down and the interest rate differential with Germany, both at the short and the long end of the yieldcurve, narrowed considerably. There are two exceptions to this success; the persistent high level of unemployment and the budget deficit. Initially the budget deficit came down very sharply, but the success was short lived. At present, France is experiencing problems to qualify for EMU, as a result of its public deficit being much higher than the level required for EMU-entrance.

In fact, both exceptions to the success of the Franc fort policy, unemployment and budget deficit, stem for a large part from an overdeveloped social system. The difficult retreat of the State from the social sector, which appears hard to explain to the electorate, has been postponed by successive governments, irrespective of their political orientation. Consequently, the high minimum wage and especially the large welfare premiums have increased the cost of labour to an impermissible level. This induced a high level of unemployment, especially among the less well educated and among school leavers. Regarding the structural part of the budget deficit, it can be said that this could to a large extent be attributed to the delay in the necessary restructuring and modernisation of the social security and pension system. In fact it can be argued with conviction that the tradition of *étatisme* has become a burden for French progress.

The shift in economic policy in 1983 also had a European setting. The French have always been a warm supporter of the European integration process. Especially in the monetary field, integration should pay off. Since 1979, when France joined the exchange rate mechanism (ERM) of the European Monetary System (EMS), the French authorities have

committed themselves to enhancing the French franc within the ERM-band. It was not before the policy U-turn in 1983, however, that the French fully accepted its disciplinary function. Since 1987, French ambitions have increased. It was felt that if France was to be taken seriously in Europe and worldwide, it needed a stable and strong currency. The target became maintaining the parity of the French franc against the strong currencies participating in the ERM of the EMS. In practice this meant the official acceptance of the predominant role of the German mark, which has not been as straightforward for France as it has been for smaller European countries such as the Netherlands and Austria. The French enthusiasm for Economic and Monetary Union (EMU) should be seen in this context. The ERM structure with the German mark as the anchor currency has always been seen as second best and regarded as a necessary step towards the final goal; Economic and Monetary Union with a common currency and one European Central Bank (ECB). Within EMU, the French, having a seat in the ECB, would at least have a vote on monetary policy.

All in all, it should be realized that the U-turn in 1983, which paved the way for the franc-*fort* policy, was a major break with the French *étatist* tradition. Moreover, it should be noted that liberalism is only a relatively young phenomenon in French politics, which explains why, in times of economic difficulty, refuge is sought in old and familiar dirigistic traditions. The debate between *étatisme* and the realism of the market place will remain a recurrent theme in the social and political 'discourse'.

2. The banking system and financial markets

Until the second half of the 1980s, French banks had hardly any competition in their home market. The nature of monetary policy, aimed at direct credit control and a highly regulated financial system, did enable banks to achieve a high degree of intermediation (80% in 1979). The credit controls stabilized the market shares of the large banks and discouraged financial innovation [Rotte (1991)].

However, changes in the market environment in which the French banks had to operate stemming from the policy U-turn, initiated changes within the banking system. First of all, the Legislation dating back to the second world war was changed in the 1980s. In the nineties, the preparations for the European single market and its early consequences for monetary policy were a major reason for the changes, and the downturn of the business cycle (1992-93) was just as important.

2.1. Legislation

From December 1945, French banks had been divided into three main groups: deposit banks (*banques de dépôts*), whose main activity was carrying out credit operations and accepting demand and time deposits from the public. Investment banks (Banques

d'affaires), which had close connections with industry and whose main activity, besides granting loans, was equity participation and providing services such as advisory services. Finally, there were long-and-medium term credit banks (*banques de crédit à long et moyen terme*) whose main activity was to grant loans with a maturity of at least two years. These rules, which ensured a clear distinction between deposit banks and investment banks, were modified in 1966 to pave the way for the development of banks dealing with all kinds of banking activities. The deposit banks were authorized to develop both the collection of longer-term resources and long-term investment operations, while the investment banks were allowed to extend their range of activities to short-term operations.

On January 24 1984, a new banking law was passed which came into effect that same year. Under this new law, all businesses, institutions and organizations in the banking sector are to be known as credit institutions (*établissements de crédit*) and have to be recognized by the Credit Institutions Committee. Only these institutions are entitled to have banking operations as its main business or to accept from the public sight or term deposits with maturities less than two years. This unification removed the distinctions between the three types of banks that were introduced right after World War II, and which had already been blurred by the modifications made in 1966.

Nonetheless, the new banking law still allows for a continuing distinction between four main categories of credit institutions:

1. "AFB"-banks; i.e. members of the '*Association Française des Banques*', and '*Banque Française du Commerce Extérieur (BFCE)*'. All AFB banks are commercial enterprises, whatever their stockholders or owners are, private or public, French or foreign.
2. Mutual and co-operative banks and the "municipal credit banks". The latter ones enjoy special legal status and operate as decentralized networks.
3. Savings banks and provident institutions. Like the second group, these institutions have a special legal status and a decentralized structure.
4. Financial institutions and companies (*Institutions et Sociétés Financières (ISF)*), share a common feature: they can engage only in specified operations, either because of legal or regulatory restrictions, or because of the terms of their license from the Credit Institutions Committee. These ISFs are forbidden to take deposits from the public maturing in under two years.

The measures introduced to reform the banking system were aimed at the stimulation of competition by lessening the segmentation of the banking industry, and by strengthening the supervision over banks. The new banking law created a single juridical environment for all. One control unit was established ('*commission bancaire*') and the liquidity and solvency demands were equalled for all credit institutions.

The direct result of the changing environment was a diminishing number of financial institutions. The number of credit institutions present on the French market is still falling. Over a period of five years, the total number diminished by more than 30% from 2048 in 1990 to 1412 at the end of 1995 (see also table 1).

Table 1 Number and relative size of credit institutions

	number		relative size*	
	1985	1995**	1985	1995**
universal banks	367	365	59	46
co-operative banks	194	132	16	16
savings banks	430	35	8	19
municipal credit institutions	21	20	0	0
financial institutions	1017	829	8	9
specialised financial institutions	30	31	8	8
total	2059	1412	100	100

* As a % of accumulated balance total.
** Estimates.

Source: bulletin de la Banque de France supplements statistiques.

France is, however, still an overbanked country (some 25,000 branches across the country) and most banks are still overstaffed. The large networks the banks created during the eighties – driven by the search for closer relationships with the customer base – still have to be slimmed down. In light of increasing international competition, these large institutions have to defend their market-share, and at the same time develop business in corporate and investment banking as well as skills in asset management. Furthermore, the French banking system remains highly concentrated. The phenomenon is extensive among the four groups defined earlier, especially among the institutions with special corporate status and non-profit organizations.

Table 2 Concentration

	assets	deposits	loans	housing loans	consumer loans	investment loans
5 largest institutions	41.4	67.2	45.9	60.4	38.6	56.8
10 largest institutions	55.6	82.5	62.9	80.4	59.1	78
20 largest institutions	66.7	87.8	75.5	86.3	74.9	87.8

Source: CDC Economic notes.

Deposits are even more concentrated than assets. This is due to the legal restrictions on ISF units to administer deposits with less than two years' maturity. The high concentration of deposits reflects the historical continuity between today's banks and the pure deposit banks, which were officially phased out in the 1960-70s. Loans are less

concentrated than deposits, because credit controls worked as an impediment on lending. The most diffused category is consumer loans. Asset concentration is higher among the AFB banks than in the entire group of credit institutions regulated by the Banking Act [CDC (1995)].

French banks continue to open branches and offices in other countries of the EU, notably Spain and Italy. At the end of 1993, French banks had more than 1,600 branches outside metropolitan France. These branches are held by 59 credit institutions in 85 countries. French banks play (in size) still a leading role in Europe. Out of the ten largest European banks (measured in balance total) four were French [The Banker (1996)].

Table 3 French banks in Europe

name	country	balance sheet total
1. Deutsche Bank	Germany	503
2. Crédit Agricole	France	386
3. CS Holding	Switzerland	359
4. HSBC Holdings	United Kingdom	352
5. ABN Amro	Netherlands	341
6. Crédit Lyonnais	France	339
7. Union Bank of Switzerland	Switzerland	336
8. Dresdner Bank	Germany	333
9. Société Générale	France	327
10. Banque Nationale de Paris	France	325

France remains a closed retail market, as foreign banks did not (try to) capture a significant part of this market. Foreign banks are much more successful in the area of corporate finance activities as well as in trade finance. Since they are smaller and can act with greater flexibility than the mammoth French institutions, foreign banks are in a better position to respond quickly and adequately to their clients' needs as well as providing more personal service.

2.3. Financial difficulties

Despite, or actually partly because of, their size, French banks are coping with substantial financial difficulties. French banks are going through a rough time, which is illustrated by their relatively poor international credit ratings. Starting in 1992, Standard & Poor's has downgraded about 30% of all French banks every year. The two largest private sector banks, Société Générale and Banque Nationale de Paris, have also recently been downgraded by S & P as well as by IBCA.

Many of the financial difficulties are the result of cyclical factors, but there are other structural problems for which the banks were ill-prepared. The depressed property market is one of the most significant factors behind the poor performance of the banks. During the 1980s, banks as well as individuals turned to property as a safe form of investment. When the market slumped unexpectedly at the end of the 1980s, they were left heavily exposed and unsure about how to respond. The banks were slow to react, in the vain hope that the property market would recover. The crisis in this market will continue to depress the performance of French banks until the end of the century. A study by Standard and Poor's estimates the combined losses add up to as much as FFR 200 bn.

Their capital market operations were another reason for their financial difficulties. In seeking to diversify away from core domestic banking they have boosted their role as financial advisers and traders on the international equity and bond markets. But 1994 turned out to be a very bad year for French banks. Their cumulative losses were (1994) FFR 12 bn. For the first time in more than 50 years, the revenues of the banks fell in nominal terms, down 5.5% on the previous year to FFR 238 bn.

The real problem facing French banks, according to both central bank director *Trichet* [Financial Times (1995)] and analysts, is mismanagement and a lack of respect for their funding base over the years. Since the mid-eighties, banks have aggressively expanded the value of their loans as a proportion of the money they hold on deposit. These loans have been priced far too cheaply for too long and it will prove difficult to redress the balance. That leaves the banks with the problem of shedding labour and cutting costs at a time of falling profits. The French labour laws are rather rigid and are an obstacle to both cutting costs and providing more flexible service to customers. Banks are still controlled by a law dating from 1937 which sets strict working hours and makes operations during weekends or after business hours almost impossible.

To prevent cheap loans in the future, the so-called Trichet-ratio was introduced in 1995. According to this rule no loans should be made at less than 60 basis points over treasuries. Unfortunately, not long after it was introduced, French government bond yields started falling below German rates. The 60 bp hurdle barely affected nominal loan rates. Besides, profit on a typical mortgage is closer to 200 bp over treasuries [Euromoney (1996)].

Despite economic recovery, there has been little sign of a resurgence in demand for new credit. Furthermore, companies have increasingly been using their own internally generated cash, both to reduce their debts and to invest without recourse to the banks. Thus, the banks had to step up competition for new business.

Moody's foresees a major restructuring process for the French banks, for which they do not appear to be ready. Their credit portfolio is of insufficient quality and does not appear to improve quickly enough. Several factors may accelerate this process. The most important may turn out to be the continuing erosion of business and the increasing competition. The changing institutional environment in which the banks operate will

also play a major role. The recent failure of the authorities to prevent the collapse of some smaller banks¹ underlines these changes. The government's involvement in the restructuring of Credit Lyonnais has furthermore shown that not only the increasing European demands clash with the way supervision is carried out, but even within the French banking system protests were loud. BNP even entered a claim of unfair competitiveness with the EU-commissioner on competition.

Looking to the future, the most positive aspect is that French banks are finally coming to terms with the problems they are facing and how to deal with them. The first cut in ten years in the rate on the tax-free savings accounts widely held by the French public (FFR 690 billion), may ease the unfair competition universal banks have to face from the post office system.

The attempts by the French government to level the playing field by removing the monopoly status enjoyed by several credit institutions do, however, involve risks. For example, the overnight removal (1995) of the monopoly rights concerning state subsidized housing loans at low interest rates, enjoyed by Credit Foncier de France, deprived this specialized credit institution of its most important means of generating income. The government has had to provide nearly 20 billion francs in credit, while the company seeks new lines of business.

Furthermore, the large French banks have, compared with their peers in Germany and the Netherlands, hardly even started with preparations for EMU. Typically, they actually wait for detailed instructions from the government about what to do and when. France will probably be one of the countries where a large gulf of mergers and acquisitions will take place as a result of EMU.

2.4. Financial markets

The need of the French government to finance its deficits on the bond market rather than by monetary financing, as imposed by the Treaty of Maastricht, had a large impact on French financial markets.

The liberalisation process, started during the second half of the eighties, had a stimulating effect on the financial money markets. The biggest and most active market for short-term transactions (up to one month) is the interbank market.

The government tried to stimulate investment by introducing incentives in the bond and savings market to make these markets more attractive for both foreign and private investors. These incentives enlarged the bond market and resulted in more innovative new products.

By far the most stimulating measure to promote the bond market among a wider public was the regulatory framework for short-term deposits. The government limited the level of interest that could be given on these accounts. The banks feared a big loss in their deposit base and reacted by introducing investment funds (*organismes de placement collectif en valeurs mobilières* OPCVM's).

These funds mainly invested their sight deposits in short-term bonds with variable interest rates. The liquidity of these funds, the small costs and the favourable rate of taxation made them very attractive for private investors. These funds became an immediate success and proved to be a strong impulse for the development of the bond market.

The financial reforms were an essential part of accomplishing the monetary goals, since a better organised financial system with a higher degree of competition would eventually force interest rates down. The lower rates would also stimulate economic activity rather than the expansionary budget policy, which for years had been the most important means of promoting economic activity.

The most important changes were already introduced in 1985 and 1986. The existing money market was divided into an interbank market and a new monetary market (*marché monétaire*) for financial institutions and non-financial agents. Banks were allowed to sell certificates of deposit (*certificats de dépôts*) as well as treasury paper (*billets de trésoreries*). The underwriting of government bonds (*bons de Trésor*) was made public. The secondary market for treasuries was stimulated by uniformification [Rotte (1991)]. Changes in the conduct of monetary policy had a very big influence on the development of the French financial markets. Government policy was directed towards the liberalisation of the capital markets. The existing capital restrictions were abandoned. They had already proven not to be very effective in the first place. The importance of Paris as a financial center had to be improved as did the attractiveness of the French franc as an investment currency. At the beginning of 1990, the last capital restrictions were lifted. The money market is accessible for all financial and non-financial institutions, but the government and banks are the main issuers of financial titles. Now, nearly one hundred companies issue commercial paper. The commercial paper market therefore remains small. The markets for treasury paper and certificates of deposit are much larger. A secondary market has developed due to government measures.

The importance of the money market, in which banks and government are once again the most important parties, has reduced the growth of the bond market. Banks and government provide more than 85% of new issues. The secondary market in government bonds is well developed.

Table 4 Net issues

	1986	1992	1993	1994	1995	1996*
net issues (FFR bln)	269	328	518	320	200	351
by government	118	126	304	217	199	199
net issues % GDP	5,3	4,6	7,3	4,3		
by government	2,3	1,8	4,3	2,9		

* The first ten months.

Source: bulletin de la Banque de France.

In order to increase the attractiveness of the French capital markets, all restrictions on foreign investors were lifted as of January 1, 1996. The Minister of Economic Affairs motivated this move by saying that: "The decision to opt for total liberalisation is proof of our confidence in the competitiveness of our economy and the attraction of France as a financial and industrial location" [Wall Street Journal]. Mergers and acquisitions can go ahead without restriction, except where they run contrary to international rules or can be seen as a threat to public order, health or national security. These changes are part of plans to improve the liquidity and transparency of the French market-place.

In February 1996, a new French stock market commenced to operate. This is especially designed for small fast-growing companies, the new market (*nouveau marché*). The market will operate using a combination of the order-driven system used at the French bourse and the price-driven system that applies in the UK and some other exchanges during opening hours. The aim of the new bourse is to focus largely on high-technology companies with assets of at least FFR 20m and capital of FFR 8m. The new market hopes to attract more than 30 businesses during the first year of operation.

3. Monetary policy

The Banque de France – founded in 1800 by Napoleon Bonaparte in order to stimulate economic activity in the country – was given the exclusive right to issue government paper. The central bank remained more or less independent for the next 150 years, but was nationalised in 1945. Rather than solely being an institute issuing government paper, the Banque de France developed into a real central bank after the war, responsible for monetary stability and the proper functioning of the payments system. The changes in the international financial environment, financial innovation, deregulation, and the use of advanced technology have dramatically changed the role and position of the central bank. A law introduced in 1973 confirmed the new status of the Banque de France and defined its three principle duties:

1. to guarantee the stability and the safety of the payments system. This includes modernising the means of payment, modernising the circulation of coins and notes, and supervision of the risks and the preconditions of the different means of payment;
2. to preserve the stability of the internal and external value of the national currency. In order to do so the Banque de France had several monetary instruments at its disposal to manage the intermediate targets;
3. to safeguard the stability of the French banking system. This implies that the central bank has responsibility for making and implementing the general regulation, individual decisions and the supervision of three important committees, the *Comité de la réglementation bancaire*, the *Comité des établissements de crédit* and the *Commission bancaire*.

Furthermore, the Banque de France takes initiatives to modernise the banking and financial system, enforce its security and competitiveness and harmonise its operating conditions vis-à-vis the major international partners [Thomas-Roubine(1991)]. The broad course of monetary policy used to be established in concert with the Ministry of Finance and Economic Affairs as part of the overall budgetary process, with the general goal of fostering growth through price stability and a stable currency. In its pursuit of monetary policy, the central bank was subordinated to the general economic policy formulated by the government. The bank had a duty within the framework of the government's economic and financial policy or, as phrased in unmistakable terms: "it contributed towards the preparation and participated in the implementation of government policy". Hence, it could be concluded that the French legislature had not given the bank a proper independent role in the decision-making process.

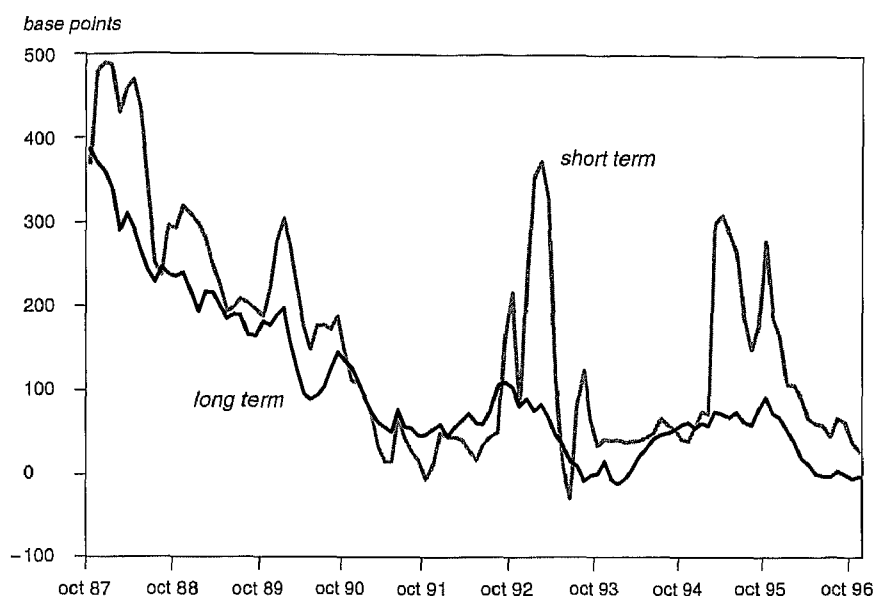
3.1. *The new independence of the Banque de France*

In January 1994, the new Central Bank Law took effect and the Banque de France's independence increased considerably. This important step in French monetary history should be seen in the context of the European integration process. The Treaty of Maastricht stipulates that the members of the European Union should start and complete the process leading to the independence of its central bank during the second stage of achieving Economic and Monetary Union (EMU). Seen within the context of the European enthusiasm of the French, this task was taken seriously.

The new law gives the central bank the mandate to define and to carry out monetary policy with the single goal of ensuring price stability. This officially ended the subordinate position of monetary policy to the government's economic policy. The bank law, however, also states that the price stability goal should be pursued within the framework of the government's general economic policy. Neither of the two have been given priority, which leaves the Banque de France in an ambiguous position. When a conflict of interest arises, the position of the bank towards the government is not as strong as is, for example, the case of the Bundesbank in Germany [Eizenaga (1994)].

The French Legislation reflects the ambiguity regarding the predominance of the price stability goal. Although the concern for price stability is broadly based, it has never reached the level of absolute priority. In times of weak economic growth and rising unemployment, there exists a strong political tendency to let the employment goal prevail. Even though it is generally accepted that a trade-off between inflation and employment does not pay off in the long run, the short-term effects of a loose monetary policy remain politically lucrative [Eijffinger (1995)].

Probably even more important is the dilemma between pursuing monetary policy directed at domestic monetary aggregates or exclusively at maintaining the exchange rate parity against the D-mark. The Keynesian experiments up to 1983 have made it painfully clear that economic and monetary autonomy, even for a large country like France, which in terms of size is the second largest economy in Europe and the fourth in the world, no longer exists. As the amount of international capital has increased enormously, and cross-border flows have been liberalised, large European countries have started to show characteristics of small and open economies. However, it will take some time before politicians and the electorate fully accept this reality. It seems, however, that with the independence of the Banque de France the question of how to reconcile the internal and external objective has become less of a problem (see part 4.2). Time will tell whether the legislative ambiguity will have implications for the degree of independence of the Banque de France in pursuing monetary policy. For the newly independent central bank, it is vitally important that it builds up a credible track record. Although this cannot be achieved overnight, the signs have been promising. In a way, 1995 was a good year for the Banque de France to prove its independent stance from the government. In 1995, the level of unemployment reached its highest level since the Second World War and economic growth lagged behind expectations. The political and social pressure to cut interest rates independently of Germany, disregarding the effects on the French franc parity with the D-mark, was relatively strong. Despite this pressure, the Banque de France could not be seduced into abandoning the franc-fort policy, and only carefully cut official tariffs watching the parity closely. Although the money market interest rate differential with Germany has remained quite substantial, the French franc has moved back within the former narrow ERM-band. Moreover, as a token of increasing confidence, the interest rate differential with Germany in the capital market narrowed and became even negative in May 1996. However, the real test is still to come. Up to now, the tide has been favourable, as rates came down in Germany. The Banque de France will have to show how independent it is in the next interest rate cycle, when the Bundesbank will start increasing its official rates while French unemployment figures are still fretfully high.

Graph 1 Interest rate differential with Germany

3.2. Monetary policy Council

The new Central Bank Law, *Les Statuts de la Banque de France*, has given the Banque de France autonomy in defining and carrying out the country's monetary policy. This task is delegated to the newly created *Conseil de la Politique Monétaire*, (Monetary Policy Council (MPC)). The MPC can roughly be compared to the 'Zentralbankrat' of the Bundesbank, as it is responsible for the overall monetary policy stance. The day-to-day business is left to the Governor and his two deputies. The Council consists of nine-members: the governor of the Banque de France and his two Deputy Governors and six laymen. The laymen have different social backgrounds varying from press to industry². Each member has one vote and the Governor has the casting vote.

The independence of the Banque de France is, as is also the case in Germany, not absolute. The appointment of the members of the MPC is the responsibility of the government, which implies a certain amount of political influence [Goldman Sachs (1994)]. Safeguards have been created, however, to guarantee the independence of the MPC for political considerations. First of all, the six laymen are not selected directly by the government but from a longer list prepared by the President of the National Assembly, the President of the Senate and the President of the Economic and Social Council (a consultative body comprised of representatives of employers, employees and other social groups). In this way, the influence of the political preference of the government in office is diminished. Moreover, the six laymen have been given a long

(nine years) and not renewable mandate which does not correspond with either a parliamentary or a presidential term. During these nine years, they cannot be dismissed on political grounds. Moreover, to avoid a conflict of interest, the MPC members are not allowed to have another job during their term, except for a position in education, or anything but a public function for three years after retiring.

To ensure policy continuity, but also to avoid the situation that a particular government can appoint a whole new MPC, every three years two laymen will be appointed. In contrast to the six laymen, the Governor and his two deputies are directly appointed by the government and have a mandate for six years, which is renewable only once. Although the governor and his vice governor are professionals and will be chosen because of their merits disregarding their political preferences, the fact remains that once every six years five out of nine MPC members, a majority, are appointed at the same time.

To further ensure the independence of the members of the MPC, accepting any outside instructions on the conduct of monetary policy are forbidden by law. This provision is, however, weakened by the fact that the Prime Minister and the Minister of Economic Affairs may attend the meetings of the MPC. They are allowed to participate in discussions and can even formulate proposals, although they do not have the right to vote. Although it is clear that decisions of the MPC can be politically influenced, this situation does not differ much from procedures at the Bundesbank. In Germany, members of the government are also allowed to attend and to participate in the discussions of the 'Zentralbankrat'. They are even entitled to ask for a postponement of decision-making for a maximum period of two weeks [Eizinga (1994)]. Despite these facts, the Bundesbank is generally put up as the example of a thoroughly independent central bank, which can be explained by the excellent track-record of the German central bank over the last decades [Eijffinger (1995)].

4. Objectives and instruments of monetary policy

Since 1983, price stability has been a formal objective of French monetary policy and in 1994, it was explicitly incorporated in the new Central Bank Law as the bank's main goal. Since 1977, the central bank has used different domestic monetary aggregates as intermediate targets. These are still viewed as necessary points of reference and guidelines for economic agents. In 1979, the European Monetary System (EMS) was established and the French committed themselves to enhancing the stability of the French franc within the small band (+/- 2.25%) of the Exchange Rate mechanism (ERM). In other words, since 1979, the Banque de France has two intermediate objectives, an internal and an external objective, in its pursuit of price stability.

The rigidly separated financial markets and the system of capital controls and restrictions, the so-called *encadrement*, during the sixties and seventies, were supposed to

make it possible to maintain interest rates at relatively low and stable levels in accordance with the domestic economy, with little effect on the foreign exchange value of the French franc. The success of this policy was rather limited which became especially clear in the early 1980s. Inflation did not come down fast enough and the French franc had to devalue by 30% between 1980 and 1983 [Rotte 1990]). Moreover, the liberalization of the French capital market in the course of the 1980s implied that a change in interest rates had a direct impact on the exchange rate. There was only the interest rate instrument left to achieve both the internal and external intermediate objective. As these objectives can conflict with each other under some circumstances, the French had to choose between the internal and external objective. Officially, the choice has not yet been made. In practice, however, the external objective has gradually become predominant.

4.1. Intermediate internal objective

Although the external objective has become gradually more important than the internal objective, the Banque de France has not given up on setting monetary aggregates as intermediate targets. Before 1986, M2 was used as the basis for the published monetary target. In 1986 and 1987, both M2 and M3 were used as the monetary target. After missing its target for M3 in 1987, the Banque de France switched back to M2 between 1988 and 1990. Due to massive shifts out of M2 into high-yielding money market accounts (SICAV's), M2 substantially undershot its official target in 1990. This made the bank switch again from M2 to M3. However, the huge demand for the so-called Balladur bonds³ in 1993 made the bank undershoot its target once again.

Box 1 Definitions of monetary indicators

Along with the changes in the banking industry, the definition of the quantity of money was altered in 1987. Compared with the old definitions, the distinction between deposits with savings banks and general banks was eliminated. The continuing integration of both types of banks made it increasingly difficult to make such a distinction. The liquidity of the different forms of deposits became the main way of discriminating.

M1 = bank notes, coins and sight deposits

M2 = M1 + checking accounts + saving accounts available at sight.

M3 = M2 + foreign currency holdings + time deposits + certificates of deposit + other financial paper issued by financial institutions + non-negotiable time deposits

Liabilities of mutual funds originally not fit in the above definition of the quantity of money. In 1989, however, the Banque de France announced that as of 1991, these would be brought into the definition [Rotte (1991)].

In 1994, the independent Banque de France decided to solve the deadlock between not wanting to give up the internal intermediate objective officially and losing credibility, as the monetary targets set were missed year after year. The newly created MPC decided to

give up on setting annual monetary targets and it announced that M3 would serve as the internal intermediate objective, although with a medium-term character. The MPC prefers M3 as a broad aggregate that is less sensitive to temporary distortions. Consistent with price inflation of less than 2% and a non-inflationary real GDP growth of about 2.5 to 3%, the M3 aggregate should grow by about 5% in the medium-term.

Besides watching the quantity of money, in 1991 the Banque de France decided to monitor the Total Domestic Debt (*l'endettement intérieur total*). The MPC has decided to continue to do so because: 'narrower financial aggregates (M2 and M3) are by nature more sensitive to switches between credit and securities issues and within the latter category, between money market and bond market issues. Total Domestic Debt, on the other hand, is less sensitive to abrupt swings in the rhythm of credit distribution. It is therefore a more precise tool for ensuring that the financing provided to the economy is neither excessive nor insufficient.' [Banque de France (1994)].

The Total Domestic Debt indicator represents the total borrowings of non-financial agents. The indicator serves merely as a framework for analysis and no official target is

Table 5 Monetary targets and results

	aggregate	target	outcome	inflation
1981	M2	10 later 12	11.4	11.8
1982	M2	12.5-13.5	11.5	9.4
1983	M2	10 later 9	10.2	8.6
1984	M2R*	5.5-6.5	7.6	7
1985	M2R*	4-6	6.9	5.1
1986	M3	3-5	4.5	2.9
1987	M3/M2	3-5/4-6	9.1/4	4.2
1988	M2	4-6	7	5
1989	M2	4-6	7.4	6.7
1990	M2	3.5-5.5	8.1	6.2
1991	M3	5-7	3.7	4.3
1992	M3	4-6	5.4	3
1993	M3	4-6.5	-2.2	2.1
1994	M3	5**	0.8	1.7
1995	M3	5**	4.1	1.8
1996	M3	5**		2.0

* M2R=M2 owned by French inhabitants.
 ** Medium-term target.

Source: Banque de France.

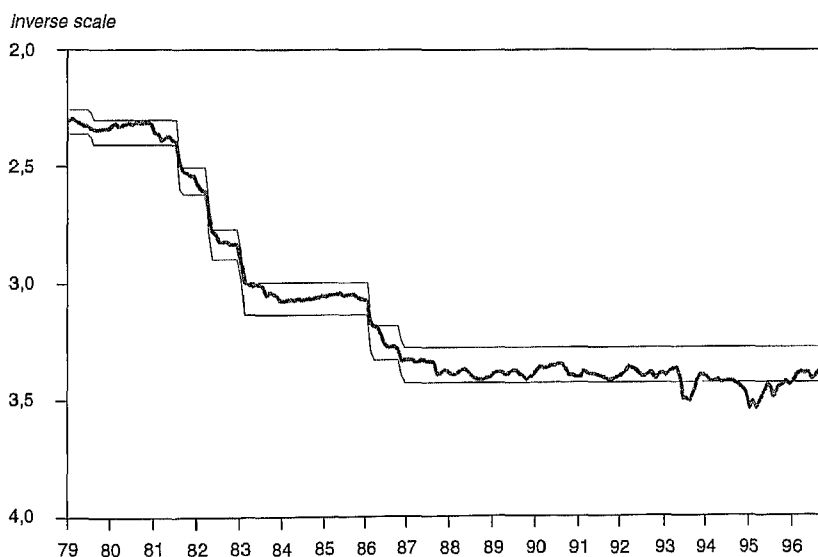
formulated. Watching the debt indicator next to the M3 target, gives the Banque de France insight into developments on both the assets and liabilities of the balance sheet of the banking system.

4.2 External intermediate objective: French franc parity

In 1983, the government decided to continue France's participation in the ERM of the EMS, and accepted its disciplinary function. Since 1987, the external objective has been narrowed down further, and the target since then has been maintaining the parity of the French franc against the strong currencies participating in the ERM of the EMS. Although in practice, the external objective was given the highest priority, the simple fact that this reality has not been formally accepted by the monetary authorities has been undermining the credibility of monetary policy. In fact, the effective breakup of the EMS in the autumn of 1993 and the widening of the ERM-band (+/- 15%), could be largely attributed to the hesitation of the Banque de France to increase its key interest rate substantially, in order to defend the French franc which came severely under pressure at the time. This hesitation was fuelled by fear of the negative impact higher interest rates would have on the domestic economy. That year the French economy was experiencing the first recession since the Second World War.

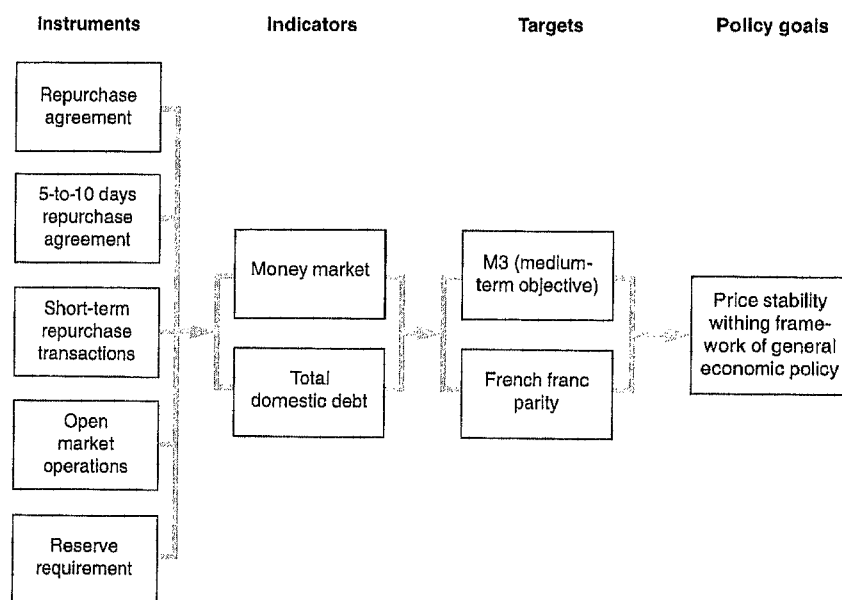
The official delegation of monetary policy to the central bank is supposed to make it easier in the future to stick to the exchange rate objective despite the effects on the domestic economy. The Banque de France is far more shielded from public opinion and political pressure than the Minister of Economic Affairs.

Graph 2 French franc and the former EMS-band



The credibility of France's monetary policy is, however, not purely the responsibility of the Banque de France, it also remains a political matter. The French government, as is the case in most countries, is responsible for overall exchange rate policy. In general, this includes decisions on ERM-parity changes or widening of the fluctuation band, but it would also entail the decision to leave the ERM altogether. The lack of monetary autonomy as a consequence of the exchange rate target, a derivative of the German policy, has been difficult for policymakers and public opinion to accept. Given the success of the Franc-fort policy and its European ambitions, the option of de-coupling from the D-mark has never seriously been considered by the government. The fact, however, that this discussion is very much alive in political circles, especially during election times, structurally weakens the credibility of French monetary policy. The weakening of the French franc in the run up to the Presidential elections in the spring of 1995, clearly illustrates this point.

Table 6 The transmission mechanism in France



It seems that with the substantially increased independence of the Banque de France it became possible to solve the French monetary policy dilemma and reconcile the internal and external objective. A compromise was found; although the internal objective is still formally on a par with the external objective, no annual target has been set for monetary expansion. Without having to admit its predominance, the external objective has de facto become the only official objective actively pursued. Although the official point of view has finally caught up with the policy actually pursued since 1987, this compromise clearly illustrates France's ambiguity in this matter.

4.3. Monetary Instruments

Several criteria can be used to categorise monetary instruments. Here the distinction is made between 'standing facilities' and 'open market operations'.⁴

- Standing facilities are offered by central banks at posted rates and used on the private banks' initiative through pre-arranged bilateral links;
- Open market operations are conducted at the central bank's discretion with all (or some) banks at similar conditions. [EMI, 1995]

Most central banks throughout Europe resort increasingly to open market operations as a substitute for standing facilities in line with the general move towards market-oriented approaches to monetary policy. In conformity with this European trend, in January 1987 the French replaced the monetary policy based on credit restrictions, quantitative controls and credit allocation with a more market-oriented set of monetary instruments. Since then, the Banque de France mainly relies on open market operations to steer money market developments. Nowadays, more than two thirds of regular refinancing is provided by French open market repos offered at the intervention rate. The French also use a standing facility, viz. the 5-to-10 day pension facility, but this is purely offered to channel last resort assistance. This facility hardly functions as a source of refinancing, but the rate at which funds are offered – comparable to the German Lombard rate – plays an important role in signalling the stance on monetary policy.

The 5-to-10 day rate and the intervention rate set the boundaries for the money market rates. To further fine-tune developments within these limits, the system of official tariffs is complemented by a range of intervention techniques at market rates. In this category falls the outright open market operations and the short-term refinancing facility. The effectiveness of these instruments is increased by the compulsory reserve requirements.

Table 7 Monetary policy instruments in France and Germany

	France	Germany
<i>reserve requirements</i>	compulsory (non-interest bearing)	compulsory (non-interest bearing)
<i>standing facility</i>		
<i>regular credit</i>		discount facility
<i>marginal refinancing</i>	5-to-10 days repurchase agreement	lombard facility
<i>open market operations</i>	short-term repurchase facility outright open market operations	repurchase agreement (repos)

4.3.1. Reserve requirements

Prior to the reform of 1987, the reserve requirements were rarely employed. Since then, as the Banque de France turned to an interest rate operating procedure, compulsory reserves have been viewed as a necessary complement to the set of monetary instruments. The reserve requirement serves mainly as a means to increase the effectiveness of the two repurchase facilities. As the reserve requirement creates an artificial money market shortage, the Banque de France is sure that the banks have to call

upon it for refinancing facilities. Moreover, the reserve requirement limits the net monetary expansion directly as it is only imposed on French Franc liabilities with a maturity up to two years. Furthermore, as reserves are calculated as a monthly average, it tends to stabilize money market rate developments by absorbing shocks in bank liquidity. In other words, this 'averaging' facility implies that, within the reserve period, the daily fluctuations in liquidity tend to cancel each other out. The reserve deposits are non-interest bearing.

During 1987-1990, reserve ratios were raised several times in order to improve the Banque de France's control of the money market rate. From 1990 on, the reserve requirements were gradually cut. Lowering the reserve requirements was an attempt to partly insulate borrowing cost from the high money market rates at the time, in order to give the troubled banking sector some breathing space. In 1992, the reserve requirements were decreased for the last time and especially because of this major cut, they became very low (see Box 2). Moreover, credit institutions with few customer deposits were excluded altogether from the obligations to maintain reserve requirements. A further reason to decrease the reserve rates originates from the fact that they undermine the competitive position of the local banking industry vis-à-vis financial centres abroad.

Box 2 Reserve requirements

Credit institutions are obliged to maintain non-interest bearing reserve accounts at the Banque de France. The reserves are calculated as monthly averages in a period running from the 16th of one month to the 15th of the next.

Coefficient since 16 May 1992	
- French franc-denominated sight liabilities	1 %
- Savings-book accounts	1 %
- French franc-denominated time liabilities (with initial maturities up to one year)	0.5 %
- French franc-denominated liabilities (with initial maturities between one and two years)	0 %
- Foreign currency-denominated liabilities	0 %

Source: Banque de France

This situation leaves the Banque de France in a difficult position. In the past, the estimate of the money market shortage did not have to be very accurate. The reserve system provided a margin. Since this buffer virtually no longer exists, the daily interventions to smoothen market conditions have become more important.

4.3.2. Key rates

The Banque de France uses two key rates to steer market rates and to signal (changes in) its stance on monetary policy, viz. the *intervention rate* ('taux des pensions sur appel d'offres') and the *five-to-ten day repurchase rate* ('taux des pensions à 5-10 jours'). The five-to-ten day pension rate is maintained above the intervention rate with a spread normally ranging between 50 and 100 basis points. The French money market rate normally moves within the margin set by the two rates (see graph 3).

As the Banque de France never grants unsecured loans, both these refinancing facilities are collateralized. The forms of security that can be used as collateral are treasury bills, commercial paper and short-term credits with a maturity up to two years. Market operations are not carried out with all private banks but with a few intermediaries, the principal market operators (see Box 3). A change in either of the rates has a powerful impact on the foreign exchange and money markets. Therefore, the Banque de France operates very cautiously where rate changes are concerned. The interbank day-to-day liquidity is therefore steered by decisions on the amount made available under the intervention repurchase tender and by intervention through fine-tuning instruments rather than by rate changes.

Box 3 Principal market operators

French money market interventions are typically organized with a system of principal market operators. The Banque de France has granted 26 large credit institutions the special status of principal market operator (Opérateur principaux de marché, OPM). Only the OPMs have the right to transmit bids for repurchase tenders and 5-to-10 day repurchase agreements to the Banque de France. They either operate on their own behalf or on behalf of other credit institutions. All institutions, OPM or not, receive central bank money at identical conditions from the Banque de France. The special status of principal market operator is granted because of the volume and quality of their interbank market operations.

The OPMs are also the usual, but not exclusive, counterparts of the Banque de France in its other operations on the interbank and French franc market.

Source: Banque de France

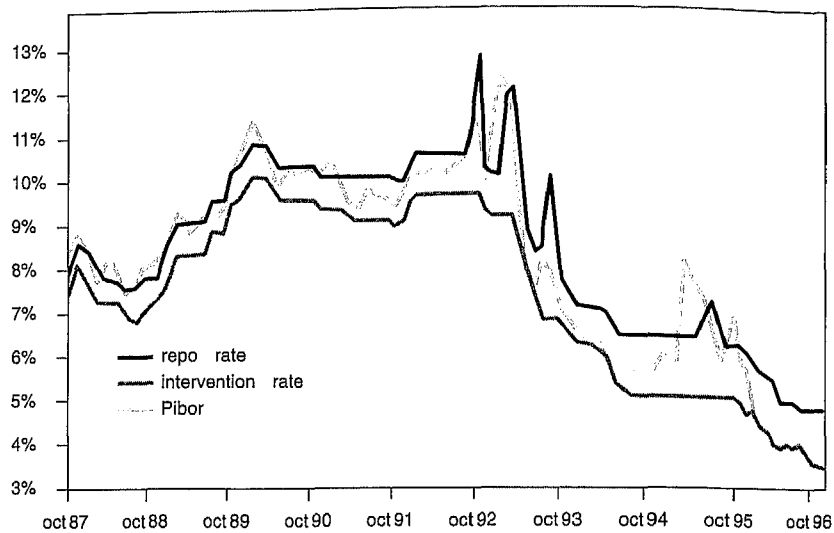
Repos

The repurchase agreement tender (repo) is a facility which is made available by the central bank for secured funds. The repo transaction 'consist of the purchase (or sale) of securities under a contract providing for their resale (or repurchase) at a specified price on a given future date' [EMI (1994)]. French repos vary both in frequency and duration from one to three weeks. At present, they are generally granted twice a week for a seven day period. Principal market operators (see Box 3) are asked to specify the amount and the interest rate at which they are willing to transact. As a result of that, the Banque de France decides both on the amount of the tender offer and on the price, the intervention rate. The intervention rate serves as a fixed floor for the interbank market interest rate (see graph 3). As it is lower than the market rate, credit institutions are encouraged to resort massively to this type of financing. In this way, the Banque de France is assured that it can steer the short-term interest rate according to its stance on monetary policy.

Five-to-ten day repurchase agreement

The five-to-ten day pension facility is available every day. In contrast to the repo facility, the decision to borrow rests entirely with the banks. There is no upper limit or constraint imposed on the amount by the Banque de France. The only limit on such transactions is

Graph 3 Pibor and the official tariffs



the amount of eligible underlying bills available to the credit institutions as collateral. Requests for refinancing must be transmitted to the Banque de France by the principal market operators.

The pension facility is intended as a means of bridging short-term liquidity gaps. The request to use this facility is quite limited. In practice, it is only utilized when the interbank market rate tends to rise above the rate for 5-to-10 day pensions. In other words, this facility will weaken the upward pressure on the interbank rate. The 5-to-10 days pension rate generally sets the upper limit on French money market rates in a similar way to the lombard rate in Germany. The rate however does not function, contrary to the intervention rate floor, as a fixed upper limit as the initiative lies with the banks themselves. As banks can only choose to borrow for periods ranging from five-to-ten days, they may prefer to borrow for 24 hours directly from the market even though the rates are higher. Credit institutions adopt this strategy especially when they expect a rate-cut, but also out of matching motives. Under certain circumstances, the Banque de France can decide to close the 5-to-10 day refinancing window temporarily. For example, during speculative attacks on the French Franc in 1994 the facility was suspended and replaced with a 24 hours emergency facility. This increases the flexibility of the Banque de France considerably and makes it possible to monitor and influence money market developments more directly.

4.3.3. Fine-tuning at market rates

Other than the two refinancing facilities, the Banque de France is also entitled to engage in open market operations. These entail a repurchase agreement with a maturity less

than five days (*pensions à moins de 5 jours*), mostly 24 hours, and outright open market operations in treasury bills. The conduct of open market operations should be seen as a means to smoothen money market fluctuations on an ad-hoc basis and is not indicative of changes in policy stance. Both these operations are employed at market conditions. The very short-term repurchase facility is considered effective in stabilising market rates in the short run.

The outright open market operations consist of buying and selling securities on the secondary market. Unlike the other instruments, these operations can be carried out with any counterpart and are not restricted to credit institutions. However, the secondary market must be sufficiently liquid, so that the buying or selling does not disrupt market stability. Therefore, the Banque de France conducts its outright interventions only in the market for treasury bills. But even in the massive market for government securities, operations involving large sums will not go unnoticed. The Banque de France therefore usually resorts to repurchase transactions, and outright open market techniques are not frequently used.

5. Concluding remarks and prospects

The financial markets are now fully mature, accessibility has improved and segmentation has diminished. The introduction of new money market paper has enlarged the term structure. The improved working of the financial markets is reflected in the rate of intermediation. The rate of intermediation has historically been very high in France, but started to decline in the 1980s and is still declining. However, compared to international standards, for example Germany and the Netherlands, the rate of intermediation is still rather high.

The improved legislation, the postponement of the credit ceilings and the liberalization of the capital markets have increased competition within the banking sector. The overall structure of the French banking system has however only marginally changed and the real challenges still lie ahead (Rotte [1991]).

The short-term prospects for the French banking industry are not very bright at the moment. Economic growth is stagnating, resulting in slow growth in lending, and profit margins are very thin. The property losses incurred during the early 1980s are still on the books. The results of the French banking sector will therefore remain mediocre in the coming years. Megamergers do not seem to be the answer to the problem, but several mergers will no doubt take place in the coming years. The most sustainable solution would however be a consolidation among smaller banks that would allow them to benefit from a reduction in overheads and infrastructure. Time will tell which path French banks will choose to travel.

The independence of the Banque de France can be seen as the crown to the process of monetary reform which started in the early 1980's. The French financial system has been transformed from a rigidly controlled one to a liberal and internationalised market place. The set of monetary instruments has changed accordingly. The monetary policy based on a system of credit controls and restriction has been replaced by an indirect and more market oriented approach based on repurchase tenders.

After years of discussion about whether highest priority should be given to the internal or the external intermediate objective, the external objective was decided on: maintaining the French franc parity. In fact, the exchange rate objective has been the only objective actively pursued since 1987. However, it took until 1994 before official policy came to terms with this reality. The independence of the Banque de France, which protects it partly from political and social pressure, has certainly played an important role in this process.

Some doubt has been raised about whether the degree of independence of the Banque de France is sufficient to ensure a policy primarily aimed at price stability. The Banque de France does not have a mandate as clear as the Bundesbank. Moreover, legislation is not the only thing that counts in this respect. In general monetary policy will remain, even in Germany, a part of the political decision-making process. This is made clear by the simple fact that the governments of most countries are responsible for overall exchange rate decisions. The relatively short period of independence makes it difficult to judge the position of the Banque de France. Up to now, the signs are rather encouraging. In spite of the sluggish economy, the extremely high unemployment and the social pressure to lower interest rates, the MPC has watched the franc's parity with the D-mark very closely. The real test, however, is still to come with the next phase of rising interest rates. Especially during these difficult times when domestic interests conflict with the development of the French franc, the newly independent Banque de France will be able to improve its credibility by showing its independence from the political pressures that certainly will arise.

In the years running up to EMU, French monetary policy will remain firmly focused on the parity of the French franc. As the bank builds up its credibility, it should be possible to further narrow the money market interest rate differential with Germany. It is, however, not only up to the Banque de France to gain the confidence of the financial markets. Political continuity, social stability and a sound general economic policy are ingredients of equal importance.

The continuity of the French stance on monetary policy is, however, based on one important prerequisite, viz. that EMU will materialise in 1999. Should EMU be put off and it becomes clear that the EMS with the D-mark as anchorage currency will become an end in itself, instead of a station on the road to EMU, the French dilemma between pursuing a monetary policy aimed at either an internal or an external equilibrium will become acute again. Should this happen, a new policy U-turn is far from unlikely, given the lukewarm support for the franc fort policy by many politicians. This makes the French franc and the long-term interest rate remain vulnerable to the discussion concerning the European integration process.

Notes

- 1 The collapse of Banque Pallas-Stern (summer 1995) with \$ 3 billion in assets was another illustration of the incapability of the authorities to handle crises. The Banque de France *tried, but could not persuade investors to fund a rescue package.*
- 2 It is however striking, but not untypical French, that five of the nine members of the MPC attended the Ecole Nationale d'Administration, one of the famous 'Grand Ecoles'.
- 3 Fiscally attractive bonds issued for retail use.
- 4 After the EMI survey of monetary policy instruments and procedures in EC countries.

The United Kingdom: the struggle for low inflation and credibility¹

By Han de Jong

1. Introduction

When the first Thatcher government came to power in 1979, monetary policy was given a much more prominent role in economic policy making than it had been previously. Monetarism was in fashion and the new government confessed its faith in monetarist principles. Inflation had been high and disruptive in the 1970s and achieving low inflation was given a high priority by the Tory government. Targeting monetary aggregates within a medium-term framework became one of the key policies. While the government was successful in reducing inflation, targeting monetary aggregates as such was not a great success as the aggregates became distorted. In 1987 the first experiment with – informally – targeting the exchange rate started, but within a year that policy had to be dropped and inflation soared. After a brief period in which monetary policy was conducted on a completely pragmatic basis, sterling entered the ERM. Within two years, in September 1992, that episode too came to an unhappy end. Having tried targeting monetary aggregates and targeting the exchange rate, the authorities then chose a policy framework of directly targeting inflation. So far, policy makers have been quite successful, both in terms of bringing inflation down and keeping it low and in increasing credibility. However, owing to the weak state of the global economy and the present strong disinflationary forces, the new framework has not really been tested yet. Judging by the continued gap between the official long term inflation target and what financial markets are implying in terms of inflation, there is still some way to go for the authorities in establishing their credentials.

2. Developments in the financial sector

Traditionally the UK financial sector was very segmented. Different institutions specialised in different aspects of banking and finance. In the early 1970s, the authorities felt that segmentation was a drawback to the efficiency of the system and they saw efficiency as crucially important in enabling London to maintain its prominent place in international finance. Competition had to be strengthened and segmentation thus had to go.

Monetary policy instruments changed too. Direct credit control, which had led to significant distortions, came to an end in 1971. It was replaced by a system called *Competition and Credit Control* (CCC) in an effort by the authorities to make their

instruments more market-based and to increase competition among financial institutions. Under the new system monetary expansion accelerated sharply and the authorities soon decided to take a step back. In 1973 the *Supplementary Special Deposit Scheme* (SSDS, nicknamed the *Corset*) was introduced, which in fact was a system of credit ceilings.²

The Corset led to significant disintermediation. Market participants increasingly dealt with each other without the involvement of financial institutions. The financial institutions were able to circumvent the system by utilising their overseas branches. This use of overseas branches exploded when exchange controls were abolished in 1979 (one of the first and arguably most important actions of the Thatcher government) and the ineffectiveness of the Corset left the authorities with no choice but to abolish the system shortly after.

Table 1 Growth of bank deposits in the UK

	number of institutions	deposit base in £bn		
	in 1994	1983	1989	1994
retail banks	22	117	332	474
British merchant banks	24	21	51	44
other British banks	100	73	44	47
American banks	34	101	114	121
Japanese banks	37	123	280	238
other overseas banks	267	158	318	500
discount houses	7	7	15	266
memorandum item building societies		78	170	266
bank deposits as % of GDP		194	242	213

The 1980s became the decade of deregulation in the financial sector and marked the end of segmentation. Retail banks, for instance, entered the mortgage market, traditionally the domain of building societies. They increased their market share from some 5% in 1978 to over 30% in 1982. For their part, the building societies were able to increase their retail funding base, although this was largely based on the tax advantages that their products enjoyed over those of the banks. The *Building Societies Act* in 1986 then granted the societies permission to offer a large number of retail products previously restricted to the domain of banks. Competition between banks and building societies has thus increased sharply. The 1986 Act also paved the way for building societies to convert to public limited companies (PLC's). Abbey National was the first mutual to take this route in 1989 and recent developments show that consolidation in the sector is continuing.

Competition also increased as a result of product innovation. In the professional market the use of futures and options exploded. On the retail level ATMs, insurance products, credit cards etc. were important in this respect. Retail chain stores entered the industry as well by offering consumer credit products.

Weakening segmentation as well resulted in an increase of competition on the capital market. A climax came with '*Big Bang*' on 27 October 1986 when the London Stock Exchange went electronic and market-making by brokers was introduced. Ownership of companies operating on the stockmarket and the gilt market became less restricted. This enabled the banks to become more involved and, indeed, many banks expanded into investment and merchant banking as opposed to concentrating on retail banking. These moves also increased the attractiveness for foreign banks of establishing in London. The 1980s also saw some institutional innovations. A market for *unlisted securities* was established in 1980 and the *Third Market*, a market for venture capital, was born in 1987. LIFFE, *London International Financial Futures Exchange*, was founded in 1982 and an official *Commercial Paper* market was established in 1986. Product innovation became the order of the day with securitisation and off-balance sheet products as examples. Technological progress, the liberal attitude of the authorities and sharp competition, partly the result of the presence of many overseas financial institutions, made London into a place where important financial market initiatives are taken and thus into one of the most prominent financial centres in the world.

Supervision of banks has until recently been the domain of the Bank of England. The collapse of the *Johnson Matthey Bank* in October 1984 led to a tightening of supervision which resulted in a new *Banking Act* in 1987. Nevertheless, problems reoccurred. The BCCI affair and the collapse of Barings Bank in 1995 have led to renewed discussions about supervision and the Bank of England's role. The Labour government that took office in May 1997 created a new body for supervision (headed up by the deputy governor of the Bank of England) at the same time when the Bank was given independence as regards monetary policy.

3. Monetary Policy

3.1. *The pre-Thatcher period: 1976-1979*

In 1976 the Labour government was forced to seek assistance from the IMF as a growing external deficit and a general loss of confidence led to a sterling crisis. The conditions that the IMF attached to its credit facility involved a tightening of fiscal policy and monetary policy. This led to the introduction of a policy of targeting monetary aggregates.

The philosophy behind the government's economic policy was Keynesian by nature with the emphasis on demand management. The setting of monetary targets was primarily the result of IMF conditions. As a result, meeting these targets was not given a

high priority. As inflation soared towards the end of the decade, the emphasis shifted somewhat and in 1978 and 1979 the target for £M3 was actually met. The most important instrument involved in trying to limit the growth of £M3 was *the Corset*.

3.2. *The medium term financial strategy 1980-1986: philosophy and framework*

In 1979 the Callaghan government was defeated and replaced by a Conservative government led by Margaret Thatcher. The new government was determined to bring inflation down and restore order to the public finances, which they saw as crucial to improving the UK's economic performance. Two (related) events in 1979 made for a drastic change in UK monetary policy. Firstly, the new government confessed their faith in monetarist principles, arguing that inflation is essentially a monetary phenomenon and should be fought using monetary policy, giving monetary policy as such a more important role. Secondly, one of the first policy actions of the new government was the abolition of exchange controls. In the course of the 1970s, the Corset had led to considerable disintermediation, reducing its effectiveness. The abolition of exchange controls made it very easy for the banks to circumvent the system (by using their foreign branches), thus making it ineffective. As the new government preferred market-based instruments to direct control measures, it was not seen as a serious problem and the Corset was abolished in June of 1980.

In 1980 the Conservative government introduced the so-called *Medium Term Financial Strategy* (MTFS) a new, market-oriented vision on monetary policy (no direct controls on credit or foreign exchange flows) with – initially – a longer policy horizon. The MTFS put the fight against inflation and for sound public finances into a medium term framework. In keeping with monetarist principles, the government believed that designing a clear policy framework, making clear what the policy aims would be and pursuing consistent policies to achieve these aims would be helpful in reducing inflationary expectations. They saw this as an important element in the battle against inflation.

The MTFS set out medium term targets for the growth of monetary aggregates and for the Public Sector Borrowing Requirement (PSBR).³ It was meant to show a commitment to economic agents in order to break with the unsuccessful inflationary policies of the 1970s. *'The MTFS was intended to be a self-imposed constraint on economic policy-making, just as the Gold Standard and the Bretton Woods system of exchange rates had been in the past, and the ERM came to be for most European Community countries in the 1980s.'* [Lawson, 1992, p.67]

Before setting targets for the growth of a monetary aggregate, the authorities had to decide on which aggregate to use. The requirements were that it should have a stable relationship with nominal GDP and should be controllable by the policy makers. A broad aggregate, £M3 (pronounced as 'sterling M3'), was chosen as the centrepiece of monetary targeting.⁴ It was, however, doubtful whether or not £M3 fulfilled the above two requirements [Goodhart (1989) p. 302]. In the 1960s, £M3 had shown a stable relationship with nominal GDP, but this relationship had clearly broken down in the course of the

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1970s. On the other hand, the Callaghan government had had reasonable experience with £M3, especially in the last two years of the Labour government, and the new team hoped that the disturbances in the relationship between £M3 and nominal GDP would prove to be a phenomenon of the 1970s [Fjorde, 1983, p. 204]. In addition, it was not clear what other aggregate would have been a better choice. M1 was the main contender, but, in contrast to £M3, it had not given an early warning of the increase in inflation in the early 1970s. Another reason for choosing £M3 was that it linked monetary targeting to fiscal policy through an accounting identity.⁵ Changes in £M3 equal the PSBR less gilt sales to non-banks, less the increase in banks' non-deposit liabilities, plus the net external flow to the private sector. As a result, a causal relationship was emphasised between the PSBR and its funding on the one hand and monetary expansion on the other. Consistency between fiscal and monetary policy was thus improved⁶, while two additional instruments were found for achieving the monetary targets. Apart from interest rate policy, steering the PSBR and its funding could now be used within the framework of monetary policy and be subordinate to achieving monetary targets. The advantage of having several instruments to achieve the monetary targets was that it would ease somewhat the burden on interest rates. With the majority of mortgages on variable interest rates, the use of interest rates was never going to be unrestricted.

3.2.1. The instruments used to achieve monetary targets

Interest rates

The Thatcher government abolished the MLR, the Minimum Lending Rate, which was the official discount rate, in the belief that market forces should, in future, determine the level of (short-term) interest rates. However, this was mainly a cosmetic operation. For obvious reasons the monetary authorities wanted to keep a firm grip on short-term interest rates. The procedures for money market management today are not very different from the ones that were in place in the early 1980s.

At present the Bank of England can influence the liquidity on the money market in a number of ways in order to fine-tune interest rates. Short-term bills (usually three and six months) can be issued on a weekly basis to drain the market and create a shortage, leaving the Bank in the driving seat as regards interest rates. Another instrument available to the Bank to achieve a market shortage is the so-called 'special deposits'. The Bank can ask banks with eligible liabilities of at least £10m to place special deposits on which the Bank pays interest. While this instrument exists, it has not been used for a very long time. A third instrument was triggered by market circumstances. During the currency crisis in 1992, when some market participants were trying to use extreme conditions to their advantage, the Bank allowed banks, building societies and other financial institutions to repo gilts with the Bank on a twice-monthly basis from 1994 on. Under normal market conditions this instrument was not particularly important until changes in the instruments were introduced early 1997 (see below).

Having created market circumstances (this means a shortage) that enable the Bank of England to fine-tune interest rate levels, the Bank operates in the money market several

times per day, discounting bills from the discount houses in four different bands of maturities, ranging from one day to 91 days. By far most support is given in bands 1 and 2 (1-14 days and 15-30 days respectively) and the average maturity has been around 14 days in recent years. If the monetary authorities wish to implement a change in interest rates, they signal that by changing the 'dealing rates', the rates they charge for supplying money in the various bands. If institutions are short of funds in the afternoon, they can ask the Bank for 'late assistance'. Until March 1997, interest charged on late assistance support was at the discretion of the Bank and could be penal, depending on the Bank's view on why institutions were short.

Late 1996, the Bank of England announced changes to the operations of the Bank in the money market, taking effect in March 1997. Up until that time, the Bank had only given daily money market assistance houses with Treasury bills and eligible local authority and bank bills as underlying security. The development of the open trading market in gilt repo, which started at the beginning of 1996, led the Bank to add gilts to the list of types of paper that it is willing to accept to supply support. This has also widened the range of counterparties that the Bank deals with in the money market, from only discount houses to also (qualifying) GEMMs (Gilt-edged market makers). In addition, the exact timing of the various rounds of assistance during the day has been changed somewhat (pushed later) to allow the market participants more time for the exact management of their liquidity positions. 'Late assistance', which had become more and more widely used and which had, at times, tended to take on the character of a further round of open market operations, will therefore become more restricted. The interest rate charged is 25 basis points above the rate applied in the regular rounds of assistance.

As regards the level of interest rates, the main focus of the media is on 'base rates'. Every bank announces its own base rate, which is linked to the Bank's dealing rates. Owing to competitive pressures, base rates of different institutions are usually the same and are therefore often referred to as 'the' base rate. The banks use their base rate as the reference for their lending rates, comparable to the Prime Rate in the US. While the MLR does not exist as a facility, the Bank of England sometimes uses it for demonstration purposes.⁷

The PSBR

In order to reduce the growth rate of £M3, the PSBR had to be reduced gradually. The idea was that this would also contribute to increased confidence in economic policy in general and therefore reduce inflationary expectations.

Funding

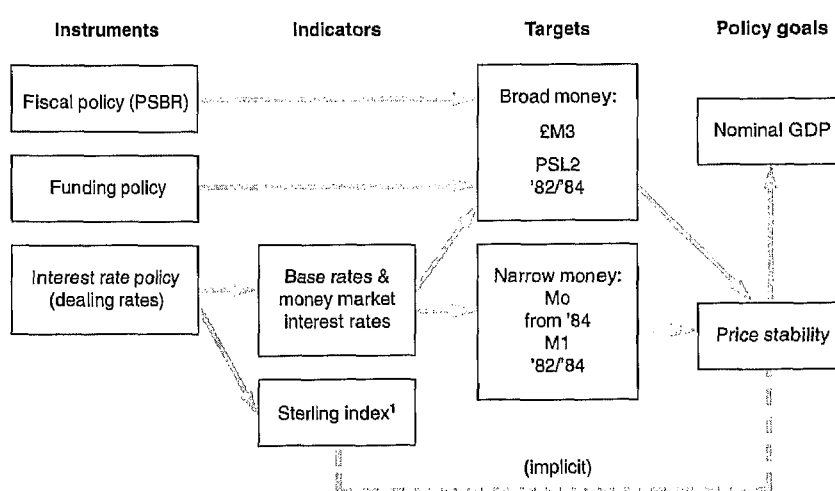
The precarious financial and economic climate of the late 1970s had encouraged companies to attract short-term funding at variable rates, rather than seeking longer term financing. As bond yields of 16% were not unusual, they obviously felt – and rightfully so – that the level of interest rates in general was unsustainable and had to come down. This short-term financing behaviour, however, boosted growth of the monetary aggregates. The government decided to compensate for these effects by selling more gilts to non-banks than was necessary for the funding of the PSBR. This policy became known

as *overfunding*. As we shall see in the next section, this policy has been abandoned and replaced by a 'full funding rule', which left no room for overfunding or underfunding. As selling gilts to banks and building societies was not counted as funding under the full funding rule, it was experienced as somewhat restrictive. In 1993 some changes were made, allowing the sale of gilts to banks and building societies as well as the sale of short-term paper to be counted as funding.

3.3. *The MTFS in practice: 1980-1986*

To show that the new government was serious, and wanted to force inflationary expectations downwards by implementing a shock treatment, a budget was presented as soon as possible after the elections in May 1979, instead of waiting for March of the following year. This May budget contained tough fiscal measures, in line with the principles of the new team, aimed at reducing the PSBR and at meeting the target that they had set for £M3. Short-term interest rates were raised from 12% to 14% immediately. While that seemed radical, Lawson suggests that it was still not expected to be sufficient to hit the £M3 target [p.45]. In November a package of additional measures was introduced and interest rates were pushed up by a record three percentage points to 17%, despite the fact that sterling was strengthening. The rise in sterling, which was highly unusual, was mainly caused by its petro-character and the rise in oil prices and also by a general confidence in the new government, which led to capital inflows. While the appreciation in sterling could have been used as an excuse to keep interest rates unchanged, 'it was time for primitive signals' [Lawson, p.47]. Raising interest rates sharply

Figure 1 The transmission mechanism under the MTFS 1980-1986



1. Nominal trade weighted exchange rate index for sterling

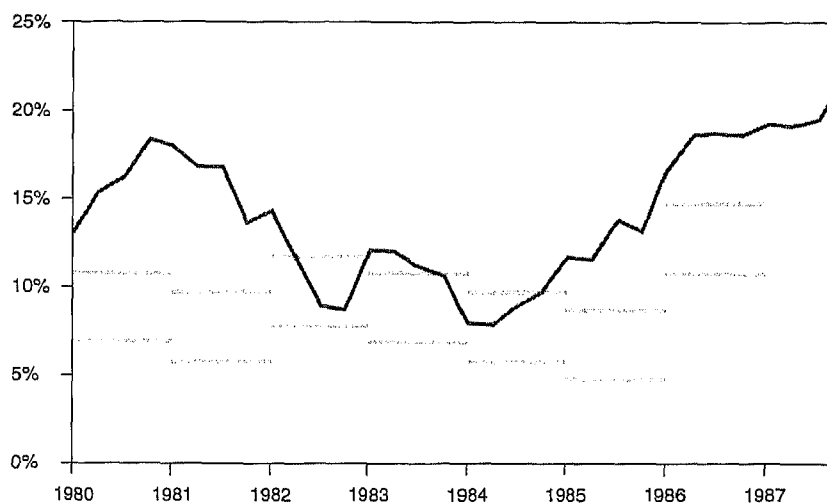
in order to show a commitment to low inflation through bringing the growth of monetary aggregates within the target range was such a primitive signal. Nevertheless, growth of £M3 remained well ahead of target and underlying inflation was still increasing.

It was not until 1980 that the MTFSS was officially launched. Experience under the MTFSS was amazing. The growth of £M3 overshot the target by a wide margin in the first two years. In 1980/81, £M3 grew at a rate of almost 20% against a target of 7-11%. However, this overshooting did not reflect easier monetary conditions or increased inflationary pressures. The aggregate had simply, once more, become distorted. A number of factors contributed to this distortion. The most important was the abolition of the Corset in June 1980. While the authorities had counted on the reversal of the disintermediation that the Corset had caused in previous years, the amounts involved were much larger than the Bank of England had anticipated, boosting £M3 growth, which was embarrassing for the government.⁸ Other reasons for the strong monetary expansion were distress borrowing by companies and structural changes in the financial sector. The banks had entered the mortgage market and were building up a market share, both on the lending and the deposit side. As deposits with banks were included in £M3 but deposits with building societies were not, the shift from building societies to banks increased the growth of £M3. This was confirmed by the fact that the growth rate of the aggregate PSL2, which included deposits with building societies, was much more subdued than that of £M3.

The economy, in the meantime, had hit a recession. This downturn was particularly surprising as regards the extent to which it pushed up unemployment. The increase in unemployment was much more severe than had been anticipated. As the pound continued to soar and inflation prospects improved, short-term interest rates were reduced in the course of 1980 from 17% to 14% and then to 12% in the Spring of 1981, despite the continued overshooting of the monetary target. This meant that despite the new government's intentions about simple monetarist rules concerning monetary targeting and of maximum clarity, the conduct of monetary policy had become more and more based on a pragmatic approach. But who cared? Inflation was falling. Lawson admits how important the exchange rate was at the time: '*... without admitting too explicitly that we were relying on the high exchange rate to squeeze inflation out of the system*' [Lawson, 1992, p.63]. Indeed, the weakening of sterling in late 1981 forced interest rates back up.

Nigel Lawson, the main architect of the MTFSS, who was working as Financial Secretary under Chancellor Geoffrey Howe, went one step further. If monetary aggregates could not be relied upon as a good proxy for underlying monetary conditions, then monetary targeting should be abolished and be replaced by membership of the ERM as this would provide the necessary externally imposed discipline. He wrote notes to the Chancellor to that effect as early as the Summer of 1981 [Lawson, 1992, pp.111, 112]. Joining the ERM would have been consistent with the role that the exchange rate was already playing (albeit implicitly) in the conduct of monetary policy. But before Lawson got a chance to press his case harder he was moved to the Energy Department. The Prime Minister

Chart 1 Growth of £M3 and its target bands 1980-87



maintained her view that the UK would join 'when the time was ripe', which she did not consider to be the case in 1981.

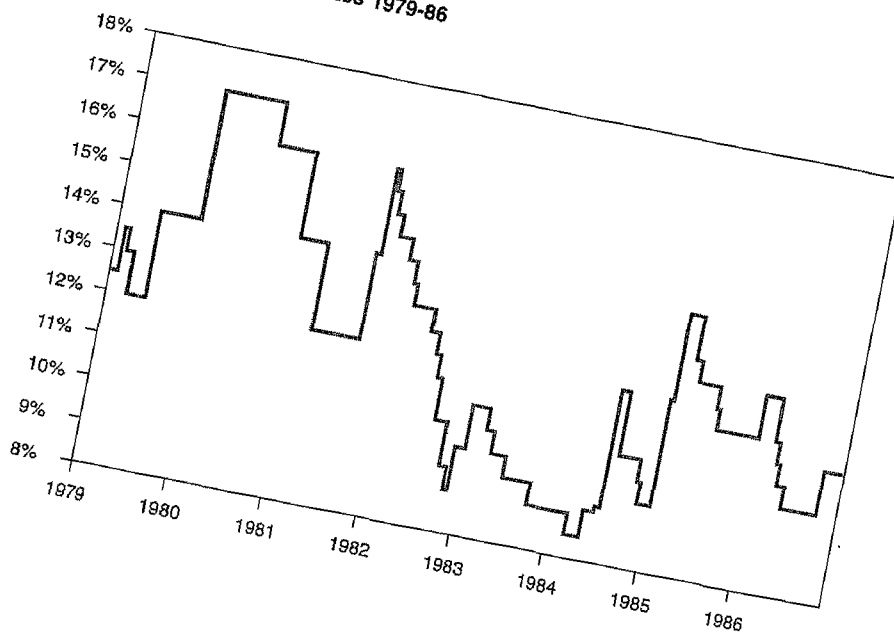
Instead of formally moving to an exchange rate target, in 1981 the authorities introduced targets for two other monetary aggregates, PSL2 and M1. The purpose must have been to increase the chance of hitting at least one monetary target. If £M3 was distorted, then perhaps the others were not. One must doubt whether the introduction of multiple targets increased the clarity about monetary trends and policy. Ironically, the three aggregates developed in a relatively parallel fashion from early 1982 and were all close to their targets. In 1984 targeting PSL2 and M1 was suspended, while a target for M0 (the wide monetary base) was introduced. Nominal GDP also appeared as an intermediate target in several budgets, but the form of the MTFs remained one of monetary targetting. While interest rate policy was not used to fight excessive growth of targeted monetary aggregates, the two other instruments (PSBR and funding policy) were used extensively and explicitly. This was somewhat surprising as the authorities did their best – at the same time - to explain that the aggregates were distorted. But there were obviously other reasons - some of them ideological in nature – for reducing the PSBR. Monetary control was merely an excuse for persisting with tight fiscal policies in 1981 when the effects of the recession were more severe than expected.⁹

In the second half of 1981 'overfunding' of the PSBR started as a policy for reducing £M3 growth. Up until March 1984 overfunding amounted to some £10bn in total, almost 1.5% of GDP over the period. Although this policy undoubtedly contributed to a moderation of £M3 growth, it led to several new problems. Firstly, the potential of overfunding as a monetary policy instrument was restricted somewhat by the market situation. In a falling

market it was difficult, or expensive, to sell more gilts than strictly necessary. More important, however, was the tightening effect that overfunding had on money market conditions. As overfunding was seen as an instrument for reducing £M3 growth without having to resort to higher interest rates, the Bank had to compensate for this tightening of money market conditions. The Old Lady was willing to increase her money market support by discounting commercial bills. Continued overfunding forced the Bank to gradually accept bills of lesser quality and the *bill mountain* grew to some £15bn . As the maturity of these bills was relatively short, the Bank then had to engage in large scale refinancing operations, which was not seen as helpful to the overall management of the money market. Even worse was the fact that the Bank of England was threatening to turn from the *lender of last resort* for the banks into a *lender of first resort* to companies [Llewelyn, 1986, p.6]. Another problem caused by overfunding was the danger that it was becoming counter-productive. By borrowing at the longer end of the market and supplying money at the shorter end, the yield curve steepened, encouraging corporate borrowers to opt for bank loans rather than issue bonds (or equity), which boosted growth of £M3 . And last but not least, the fundamental problem attached to overfunding was that it was merely a treatment of symptoms rather than attacking the underlying problem of excessive monetary expansion. Because of all these difficulties, overfunding as a policy was suspended after 1984.

Monetary targeting remained pragmatic. In March 1982, the original £M3 target for that year was raised from 5-9% to 8-12%. In October 1985 the target was suspended and then in the 1986 budget the government raised the original target for 1986 from 4-8% to 11-15%, only to find that the actual £M3 outturn was a 19.2% growth rate.

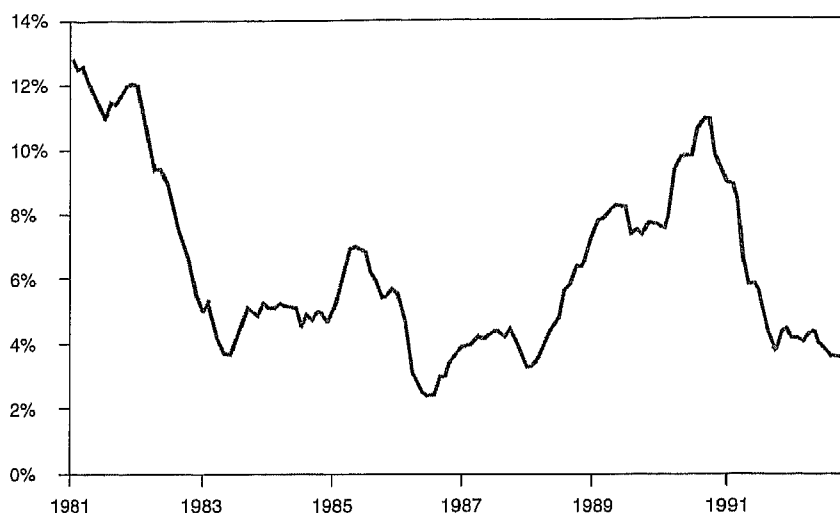
Chart 2
Base rates 1979-86



Although the exchange rate was not given a formal role in the MTFS, the 1982 budget introduced the exchange rate as an 'indicator' of how loose or tight the overall stance of monetary policy really was. The government focused on the nominal effective exchange rate although this was not said explicitly. An appreciation of the exchange rate was seen as tightening domestic monetary conditions which would, for example, justify not changing interest rates at a time when £M3 growth exceeded its target. It is reasonable, however, to doubt whether the exchange rate's status was merely that of an 'indicator' of the tightness of the monetary policy stance. Exchange rate movements can often result from portfolio shifts on the part of foreign investors, without saying much about the tightness of domestic monetary conditions. It gradually became clear that at times the exchange rate dictated monetary policy (or as Lawson puts it: 'monetary policy was constrained by the exchange rate', [Lawson, 1992, p.483], thereby being more than an 'indicator'.

Indeed, the interest rate moves that the authorities implemented in the Summer of 1984 and early 1985 were clearly a response to circumstances on the foreign exchange market that did not originate from changes in domestic monetary conditions. In January 1985 base rates were raised from 9.5% to 14% in two steps (while £M3 was actually behaving well) in an effort to stop sterling's decline. As sterling subsequently stabilised, rates were brought down again gradually although £M3 accelerated sharply. It can thus be argued that the exchange rate had implicitly been promoted from 'indicator' to 'target'. Through the back door, the exchange rate was thus given an important role in the implementation of monetary policy. The informal 'four-to-one-rule' was developed, suggesting that the effect of one percent change in base rates was roughly similar to a four percent change in the trade weighted value of sterling. It was clear that the UK was moving towards a more formal exchange rate target. While the markets were at times speculating about sterling's entry into the ERM, the official line remained that it would only happen '*when the time was ripe*'. Meanwhile, in the cabinet reshuffle after the 1983 general election, Lawson was moved to the post of Chancellor. Following Lawson's renewed and continuing suggestions to enter the ERM, a special meeting was held at Mrs. Thatcher's residence in late 1985, with only a limited number of people present, mainly cabinet members. While a majority were in favour of joining the ERM, the Prime Minister vetoed the idea. Fear of a loss of sovereignty was an important motive.¹⁰ Such different views must have been a serious stumbling block in agreeing on the desirability of targeting the exchange rate, within or outside the ERM. The (staff of the) Bank of England chose to side with Lawson in a discussion paper in 1989, arguing publicly for the first time that the relationship between interest rates and the exchange rates is one of the most powerful transmission mechanisms between monetary policy on the one hand and output and prices on the other [Miles and Wilcox, 1989, p.10].¹¹

1986 was a difficult year for sterling. The collapse of the oil price led to (justifiable) downward pressure on the UK currency relative to ERM currencies, which was further compounded by the continuing decline of the dollar. While the lower oil price was sufficient reason to tolerate a fall in sterling it was, of course, impossible to know how much of a fall would be reasonable and at which point the term 'overshooting' had to be used.

Chart 3 Retail price inflation 1981-92

The informal end to the MTFs, or perhaps more correctly the MTFs in its original form, was marked by the Governor of the Bank of England. In a lecture in October 1986 [Bank of England Quarterly Bulletin, Dec. 1986, pp.499-507], the Governor came as close to denouncing monetary targeting in the UK as he possibly could. Referring to the effects of financial sector deregulation and financial innovation he said: *'The difficulty is to know how much of the personal sector liquidity one should explain in this way and how much does reflect a build up of money holdings for purely transaction purposes... Even more difficult to assess is the monetary impact of the almost infinitely varied menu of financial assets and liabilities that has become available...'* About monetary targeting he goes on saying that: *'Then it can become counter-productive, serving to undermine confidence, with every adjustment of the target or every overshoot.'* Indeed, publishing targets for £M3 was suspended in the 1987 budget, although targets for M0 were maintained.¹²

To summarise this section, a number of observations can be made about the period 1979-1986. In contrast to their Labour predecessors, the Tory government saw inflation as a big evil. They confessed to monetarist views and saw inflation as a monetary phenomenon. Control of the stock of money was seen as the key to success in the fight against inflation and monetary targeting was introduced in a medium term policy framework to demonstrate clarity, commitment, determination and as an effort to affect inflationary expectations. But a number of problems arose. Partly due to structural changes in the financial sector, the signals that the monetary aggregates were giving were at times completely unreliable. In addition, it became obvious that the conduct of monetary policy was seriously constrained by the exchange rate and that the use of interest rates was also somewhat constrained for political reasons because of the effects on the financial position of the electorate. At the same time, the government was successful in

bringing inflation down. UK inflation fell more than in most other OECD economies, albeit from a higher level and at the expense of a deep recession in the early 1980s. Through their respective memoirs we also know that the views of two key players, Prime Minister Thatcher and Chancellor Lawson, on how the policy framework should evolve, were showing increasing differences.

3.4. 1987-1990

In the 1987 budget, the MTFFS in its original form came to an end as the budget no longer contained a target for a broad money aggregate. A target for M0 was, however, maintained. The wide monetary base was perhaps attractive to policy makers as it could probably be influenced more directly by them than a broad aggregate and because it had showed a reasonably stable relationship with nominal GDP. However, it is difficult to see M0 as a serious (intermediate) target as its ability to be a leading indicator must be questioned. M0 consists largely of the public's cash balances and is thus determined by demand. M0 is no more than a coincident indicator. Useful as this may be, it does not make M0 a good intermediate target.

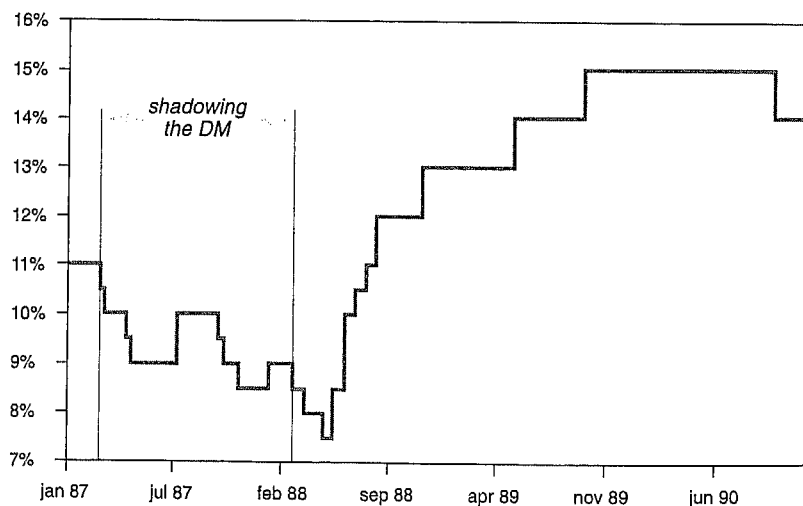
By this time Lawson had lost confidence in monetary targeting and the – informal – end to the MTFFS meant that there was in fact a vacuum as regards the monetary policy framework. Nevertheless, while he had favoured ERM membership since 1981, Lawson was unable to persuade Mrs. Thatcher to bring sterling into the ERM. He was also concerned about the sharp depreciation of sterling in the course of 1986 and was angered by the Prime Minister who had vetoed an interest rate hike in December of that year. In February 1987, G7 leaders had reached the Louvre Accord aimed at stabilising exchange rates. Although the agreement was mainly aimed at the dollar against the D-mark and the Yen, it provided Lawson with the perfect alibi to do a bit of stabilisation of the exchange rate of his own. He wanted to put a floor under sterling, but realised that stabilisation also implied a ceiling. As the commitment was never formalised, the policy that was implemented after the Louvre meeting in February (and which was ended in March 1988) was later dubbed 'shadowing the Deutschemark'.

The Chancellor hoped [Lawson, 1992, pp. 683 and 733] that a successful informal targeting of the exchange rate would be instrumental in bringing sterling into the ERM, an issue that he was going to bring up again straight after the elections of early June. However, the 'shadowing of the Deutschemark' turned out to be a disaster for three reasons. Firstly, part of the idea behind an exchange rate target was that it would have demonstration effects, particularly on the wage bargaining process, leading to an adjustment of inflationary expectations. By adopting an informal (implicit) shadowing, these demonstration effects would obviously not be realised. Secondly, while Lawson was hoping that shadowing would put a floor under sterling, the UK currency actually strengthened, leading to unanticipated policy requirements. The short-term interest rate differentials between the UK and Germany were large. When the foreign exchange market suspected that Lawson was putting a floor under sterling, sterling deposits

became a one-way bet. Demand for sterling increased, forcing the authorities to intervene heavily in the foreign exchange market. Despite a deficit on the current account of the balance of payments of £4.5bn in 1987 (which was to be followed by deficits of £16.2bn and £21.7bn in the subsequent two years), official reserves rose by more than £22bn, or 5.2% of GDP at the time. Much of the capital inflows were of a short term nature (hot money), making for a potentially unstable situation. While attempts were made to sterilise the interventions, they exerted downward pressure on UK interest rates and base rates were cut from 11% to 9% between March and June at a time when lowering rates was inappropriate and while Lawson had also cut taxes in an election-winning budget. The economy grew much more rapidly than was anticipated and this phase of UK economic history is now known as the 'Lawson boom'. The inflation dangers were seriously underestimated.¹³ The third mistake of the 'shadowing-adventure' was that Mrs. Thatcher was not informed and apparently only realised what was going on in late 1987 [Thatcher, 1993, p.701], which really is amazing. She was obviously not amused, particularly as inflationary pressures had started to build up and the episode formed the basis for her loss of confidence in the Chancellor. It became obvious that domestic economic considerations were pleading for higher interest rates. In August the base rate was increased by 1%, but the stockmarket crash in October prevented further tightening. In fact, the crash led to three base rate cuts of half a percent each before the end of the year.

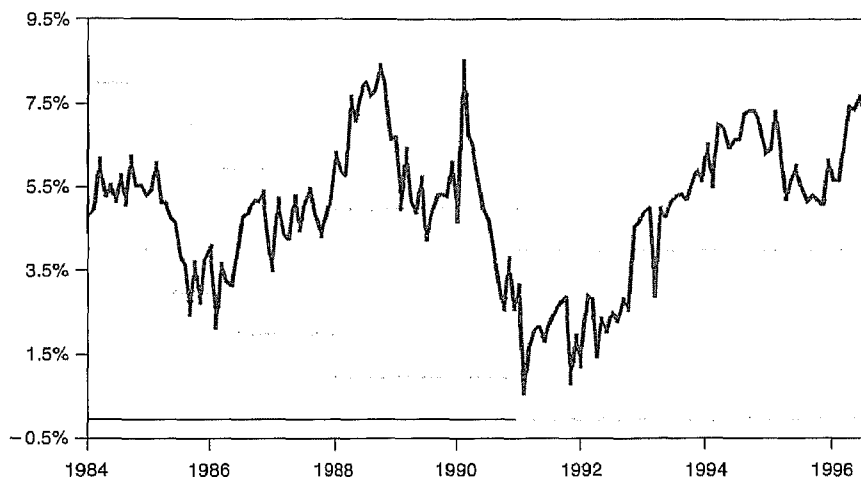
In March 1988, the shadowing of the DM was formally ended when the authorities were no longer prepared to resist the upward pressure on sterling. In the absence of a credible monetary target or an exchange rate target, inflation itself became the main focus of attention. While base rates had stood at 7.5% in May 1988, they were 13% by the end of

Chart 4 Base rates 1987-90



the year. Meanwhile a sharp deterioration of the trade balance was starting to have a negative impact on sterling. To stem the inflationary consequences, interest rates were hiked again in May of 1989. Nevertheless, the lags in the transmission of monetary instruments changes turned out to be amazingly long. Price rises accelerated and, excluding the impact of mortgage rates, inflation moved over the 6% mark in late 1989 after having been just over 3% when Lawson began shadowing the Deutschemark. Headline inflation (which includes mortgage interest payments) had even topped 8%, which was important, as wage demands tend to take the headline figure as a reference. This also contributed to the lengthening of the lags involved between raising interest rates and inflation. Other factors that increased the time between monetary tightening and a drop in inflation were the depreciation of sterling and the expansionary nature of the 1987 and 1988 budgets. In addition, the financial position of private households had changed over time. Beside variable rate debts, private households had built up substantial variable rate assets, making them less vulnerable to an interest rate hike.

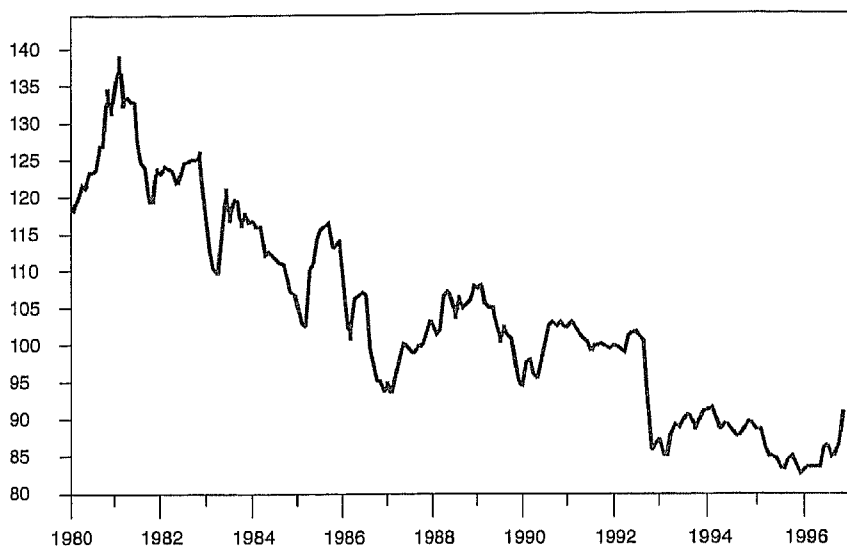
Chart 5 Growth of M0 and its target ranges March 1984-October 1996



In the second half of 1989, some signs of economic slowdown appeared. But demand-pull inflation had turned into cost-push inflation, making it less sensitive to the slowdown in activity. The policy makers saw themselves faced with difficult decisions. The state of the domestic economy justified lower interest rates, but this could easily lead to an undesired depreciation of sterling. It was clear that a conflict developed between internal and external policy objectives. The Chancellor insisted on taking sterling into consideration. He followed the rise in German interest rates in October of 1989, and brought base rates up to 15%. It became clearer and clearer that the Prime Minister, advised by Alan Walters, and the Chancellor disagreed on the right policy for sterling.

The disagreement had become so obvious that it damaged the credibility of the policy makers as different officials made contradictory public statements. Lawson drew the conclusion that either Walters had to go or that he would leave. Thatcher sided with her adviser, leaving Lawson no option but to resign.

Chart 6 Trade weighted exchange rate January 1980-November 1996

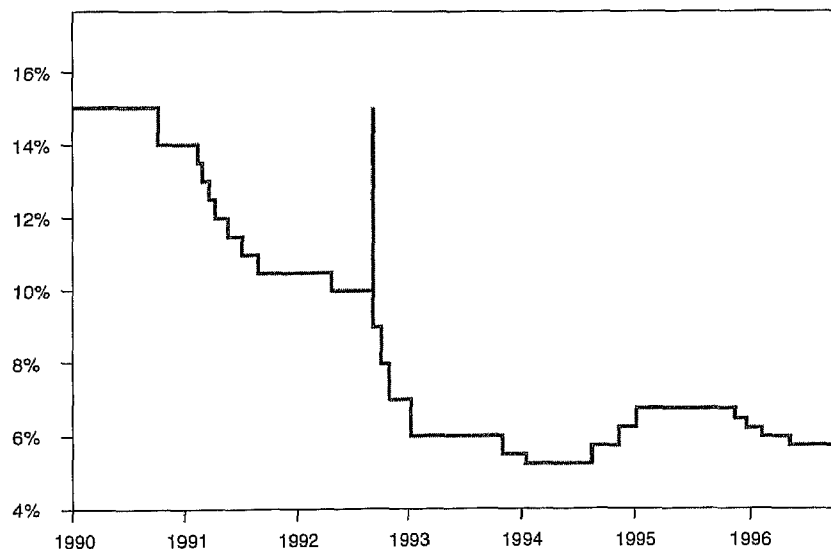


In summarising this section, it must be said that the timing of the move to an exchange rate target in 1987 was most unfortunate. The UK economy was going through a phase of strong growth requiring a different policy mix than what was appropriate for the more subdued continental economies. As fiscal policy did not serve to address this issue, but in contrast exacerbated the differences in cyclical positions, the experiment was bound to fail. With monetary targeting abandoned in 1987 and exchange rate targeting ended in 1988, UK monetary policy had become anchorless. When Nigel Lawson resigned as Chancellor in October 1989, UK monetary policy also lost its first navigating officer. The UK economy continued to weaken in 1990 in response to the high level of interest rates. Nevertheless, inflation continued to rise and M0 grew somewhat faster than its target. While sterling stopped falling against the DM, the authorities kept base rates at their 15% level. This very tight monetary stance, as evidenced by a yield curve that was sharply inverse, must have been either motivated by the fear that easing would damage sterling or must have been caused by the fact that the authorities were now targeting inflation itself. In contrast to the post-ERM period of inflation targeting, they seemed to focus on present rather than future inflation. This probably meant that the tight monetary stance was maintained too long and must have added to the subsequent recession. A clear framework for monetary policy was definitely missing and it cost dearly.

3.5. ERM membership: October 1990- September 1992

John Major, Nigel Lawson's successor, turned out to be as enthusiastic about ERM membership as Lawson had been. Thus, the pressure on Mrs. Thatcher to consider entering continued. With inflation rising, eventually to over 10% on the headline measure, joining the ERM was seen as a firm commitment to anti-inflationary policies. Effectively linking sterling to the DM was to make it clear to industry that they could not expect to be bailed out by a fall of the currency. The Delors-report and its plan for European Economic and Monetary Union (EMU) added to the urgency of those advocating membership of the ERM as they were afraid that the UK would 'miss the boat' and become increasingly isolated. In addition, the fact that the Spanish peseta had joined the ERM in June of 1989, before the UK, was seen by some as damaging for the UK's reputation. The Prime Minister was eventually persuaded to set conditions for sterling's entry, which included that inflationary pressures should be easing and that other member states should have made international capital flows completely free and their domestic financial sectors deregulated. Although the conditions were not fully met, Mrs. Thatcher agreed to let sterling enter the ERM in October 1990, not full-heartedly, but because of the growing number of ERM advocates and probably because she was coming under increasing political pressure. Sterling had recovered from the lows early on in the year (DM2.71, on 19 March) and the central rate was set at DM2.95. The authorities chose a wide band (6% in both directions), the same as applied to the peseta. According to Connolly (1995, p.103), the Bundesbank was not impressed. While some questioned whether the entry level of sterling had been too high, Connolly argues that

Chart 7 Base rates January 1990-November 1996



the Bundesbank was opposed to sterling's entry full stop. But the UK authorities had presented their partners more or less with a *fait accompli* and sterling's entry had effectively been a unilateral decision. As the Bundesbank had unsuccessfully sought a DM revaluation in 1989, the entry of the UK into the ERM (with interest rates at 15%, inflation at 10% and the current account of the balance of payments showing substantial deficits) could further complicate the management of the system from the Bundesbank's perception. On entry, UK authorities announced a 1% cut in base rates.

In late November 1990, Margaret Thatcher was forced to resign as leader of the Tory party and thus as Prime Minister. She was replaced by John Major, who in turn was succeeded as Chancellor by Norman Lamont.

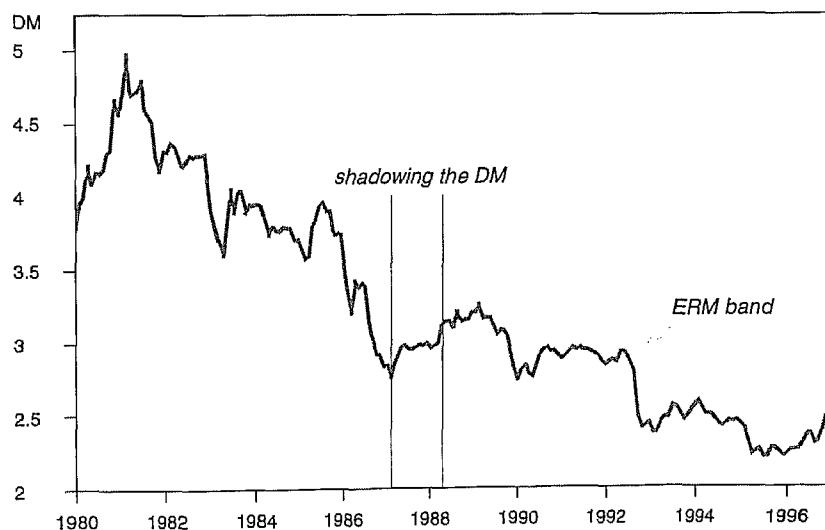
While the European economy was experiencing a burst of growth following German reunification, the UK economy, which had been subject to a very restrictive stance on monetary policy for more than two years, entered a recession almost at the same time that sterling was made part of the ERM. International uncertainty was increased by the start of the Gulf War in August 1990 and the subsequent rise in oil prices. Despite growing evidence of a drop in inflationary pressures in the UK, the continued negative development of the real economy with sterling remaining within a narrow fluctuation margin in the ERM, meant that the next easing of monetary policy did not occur until March of 1991.

The recession was much more persistent than had been anticipated. The rise in property prices following the 'Lawson boom' had increased indebtedness (and had led to a significant drop in the savings rate) of private households in particular. The rise in real incomes and the high level of inflation during the upswing had obviously led to the expectation that debt burdens would become more bearable quickly as real incomes were expected to continue to increase and real debt levels would be eroded by inflation. When the economy slowed, subsequently fell into recession and inflation started to come down, these expectations had to be adjusted. The savings rate had to move back up as households needed to restructure their financial positions. With house prices falling this took much longer than had been anticipated, prolonging the recession. Another problem was that import penetration increased during the recession, which limited the contribution that foreign trade could make to GDP growth. The rise of import penetration can perhaps be seen as evidence that sterling was indeed overvalued.

Gradually, interest rates were brought down further. Base rates fell 3.5 percentage points in 1991. While a drop in sterling to below the lower limit of its unofficial narrow band late in 1991 did not stop the UK authorities from bringing rates down, the sharp fall that had occurred in the differential between UK and German money rates was beginning to make itself felt. Base rates were then put on hold as sterling remained relatively weak. The Bank of England stated: *'With sterling close to its lower limit, a further reduction of UK rates, even if justified by the prolongation of the recession, would have risked sterling's position in the ERM and might have to be reversed at short notice'* [Bank of England Quarterly Bulletin, May 1992, p.155]. This quotation makes clear that priority was given to the exchange rate

target at a time when there was significant tension between this target and the requirements of the domestic economy. The general election in April 1992 led to an unexpected Tory victory which gave sterling a boost. As sterling maintained its strength during the following weeks, base rates were cut another 50 basis points in June, but the difference between UK and German three-month money rates had by now narrowed to a mere 20 basis points. Given sterling's ERM membership, room for further rate cuts was exhausted although the economy was still not showing any signs of recovery. In June the Danish 'No vote' shook foreign exchange markets and in July the Bundesbank pushed the discount rate up another nudge. While the latter move was not particularly relevant, as the Lombard and repo rates were left unchanged, financial markets saw it as a sign that the monetary easing that many European economies required at this stage was not going to come about in the short term. Pressure on exchange rates increased and the UK authorities supported sterling through massive interventions, hoping to avoid using higher interest rates for sterling's defence. However, after the lira was devalued and the Germans cut interest rates by a disappointingly stingy 25 basis points, pressure increased. In the morning of Wednesday 16 September 1992, the UK authorities announced a 2% rise in interest rates to defend sterling. Only hours later they announced a further rise of another three percentage points. It was obvious that base rates of 15% were completely inappropriate for the UK economy and the same day sterling was withdrawn from the system and rates were brought back to 10%. John Major, who had given sterling the final push into the ERM only two years earlier, now condemned the system, saying it had 'fault-lines'. Chancellor Lamont, who had had little to do with sterling's ERM entry, was made the scapegoat and ultimately sacked in May 1993.

Chart 8 Sterling / DM exchange rate



The UK experience of participating in the ERM was obviously an extremely unpleasant one. It must be said, though, that the experiment could have hardly taken place under more unfavourable circumstances. These included:

- At the start of ERM membership the UK economy moved into recession, long before continental Europe. Given the excesses of the Lawson boom and the high level of indebtedness of the private household sector, the domestic forces supporting a recovery were weaker than normal, although this was only clearly seen with hindsight.
- While UK inflation peaked soon after sterling's entry, it was well in excess of inflation in the core-ERM countries.
- Reunification had given the German economy a boost and inflation was accelerating there as a result. Thus, the required policy mix in the UK was very different from the one required and produced by the anchor country. The situation was, therefore, a mirror image of the 1987 disaster of shadowing the Deutschemerk but equally disastrous.
- The level of DM2.95 was probably too high.
- At the time, the ERM had developed into a relatively rigid system where adjustments of central rates had become politicised. Devaluations were increasingly seen as a national disgrace.

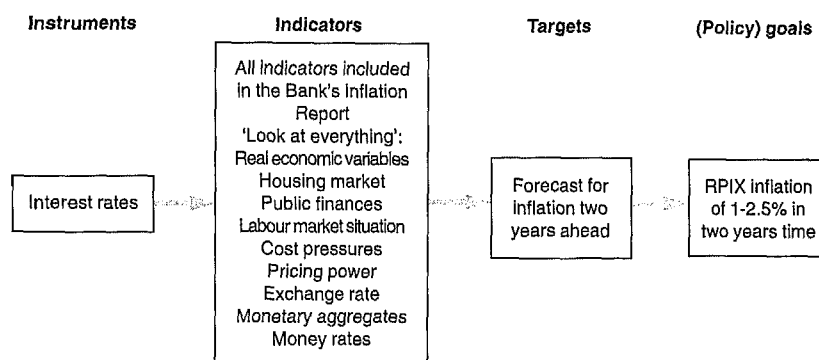
3.6. *A new framework: October 1992*

When sterling left the ERM UK authorities obviously did not have a complete new framework for monetary policy ready immediately. The absence of a framework did not really matter in the short term as the direction that monetary policy would take during the following couple of months was clear: the exchange rate was allowed to float downwards and interest rates were cut aggressively. The monetary policy framework as it is in operation at present developed over time.

The central question was what to target. Given the experience with monetary targeting and with exchange rate targeting, these two were definitely both out. The two competing targets were nominal GDP and inflation. The latter was chosen following examples set by the authorities in New Zealand and Canada, although substantial differences exist between the framework and implementation of monetary policy in these countries. The UK authorities considered that the advantages and flexibility that a nominal GDP target could bring would also be gained by an inflation target. In addition, information about inflation is more readily available and more accurate than nominal GDP data and the authorities' performance is easier to see. A third reason for the authorities to choose an inflation target was that a nominal GDP target may be confusing. If the authorities were to believe at any stage that the non-inflationary growth potential of the economy had increased, they would then have to revise upwards their nominal GDP growth target, but that might be interpreted as wavering on their low inflation commitment. An inflation target does not suffer from that disadvantage [King, (1994a) p.118-120].

The next question was which inflation rate to use and what the target should be. The government chose a target range of 1-4% for RPIX (retail price index excluding mortgage interest). A sub-target was set stating that by the end of the current parliament the figure should be in the lower half, implying a target of 1-2.5% for 1997. A long term indication of no more than 2.5% was given as a guideline for RPIX. By focussing on future inflation, and in doing so on forecasts for future inflation (officially inflation two years into the future), rather than on present inflation, the authorities have in fact included a target, i.e. *intermediate*, in the policy framework.

Figure 2 The transmission mechanism under the new policy framework as of 1992



The government decided that as much openness and transparency as possible should be given to the conduct of monetary policy, as monetary policy is not only about getting and keeping inflation down, but also about gaining credibility. The openness and transparency was also likely to work as a disciplining force on the policy makers. In order to assist this process, the Bank of England was asked to prepare quarterly reports on the outlook for inflation with a time horizon of two years. The first report was published in the Bank's Quarterly Bulletin in February 1993. Since the February 1994 issue, they have been published separately, although they are published on the same day as the Bulletin. The purpose of the Inflation Reports is to provide economic agents, in particular the financial markets, with an objective, expert opinion on the progress being made towards the inflation objective.¹⁴

The quarterly Inflation Reports are impressive booklets – in colour – of some 50 pages, covering everything you ever wanted to know about UK inflation, and more. The detailed disaggregated analysis is an indication of the 'looking at everything' philosophy on which the new framework is built [Haldane, 1995, p.12]. This represented a significant departure from the simple rules that had – in theory – applied to the targeting of monetary aggregates and targeting the exchange rate. As we have seen, even under those

regimes the authorities were looking at more than just the simple rules and when they did not, the results were particularly bad. The 'look at everything' approach could perhaps be said to imply an eclectic view. However, the connotations of that word are too negative in a monetary policy context to do the new framework justice. Crockett¹⁵ argues that the new framework is a synthesis between rules and discretion, an explicit recognition of reality in which neither extreme (strict rules nor total discretion) can possibly lead to satisfactory results on a sustained basis.

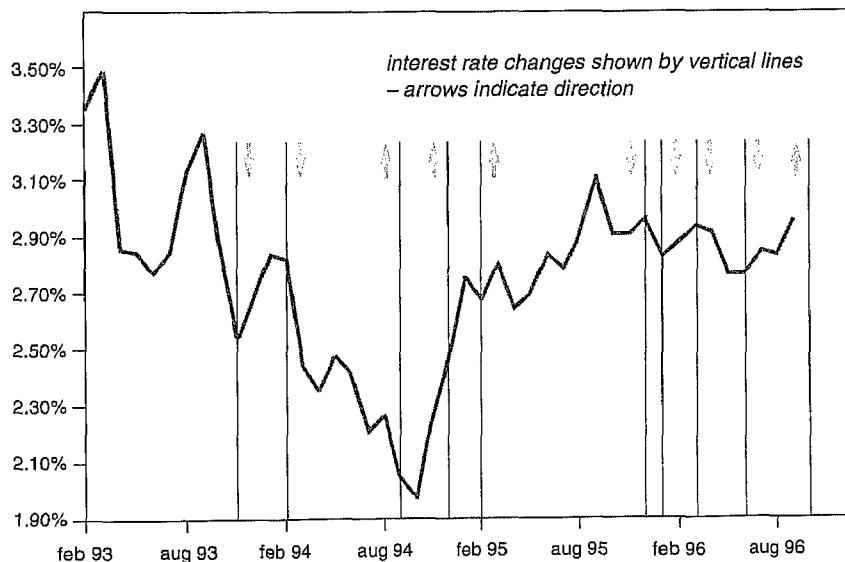
The number of separate inflation indices mentioned in the Inflation Reports is impressive. Apart from RPI (Retail Price Index), RPIX (RPI excl. mortgage interest) and RPIY (RPIX excl. indirect taxes) the Report includes HARP and THARP (RPIX and RPIY respectively corrected for user costs of housing excl. interest) and breakdowns of some of these into tradables, non-tradables, services and goods etc. And these are only the ones covering the retail level! The Reports also provide an analysis of monetary aggregates and, in fact, since the departure from the ERM, the authorities have continued using a target for M0 while they have added one for M4. The targets are obviously not given the same weight as in the 1980s and are not much more than an indication. As inflation is now the target variable, the authorities refer to 'monitoring' ranges for the monetary aggregates. Interestingly, velocity, in particular of broad money, has been much more stable in the 1990s than in the previous decade (possibly because the effects on financial deregulation etc. have had their impact), and as a result monetary aggregates are now experiencing a much more stable relationship with nominal GDP, which is probably why Lamont decided to reintroduce a monitoring range for a broad aggregate. Using them as (intermediate) targets would probably be more successful than in the 1980s, although there is some recent evidence that increased merger and takeover activity and the start of the official gilt repo market in 1996 have distorted the broader aggregates.

The Inflation Reports also give a detailed analysis of the state of the real economy, concentrating on demand and supply. In particular, the size and development of the output gap has become quite important. It then looks at the labour market and pricing behaviour in different sectors of the economy and at different stages of the production process, which includes looking at the exchange rate. The Bank has been putting a great deal of explicit emphasis on 'what the market thinks'. This is measured both by surveying private sector forecasters on their inflation forecast, the results of which are discussed in the Inflation Report, and by calculating implied inflation rates from the yield difference between conventional gilts and index-linked gilts. In the Reports' conclusions, the Bank provides a short-term forecast and a long-term (2 year horizon) forecast for inflation. In addition, degrees of risks around the central projection are given. The range is wide. In the February 1996 Inflation Report different shades of red (degrees of risks) add up to a range of some 0.75% to 4.5% for inflation two years later around a central projection of just under 2.5% [Bank of England, Inflation Report, February 1996, p.48]. While everybody involved in economic forecasting will appreciate the difficulties in giving an exact forecast for inflation two years into the future, the range seems large and a cynical view would be that such a range typifies the hedge-your-bets attitude. However, conducting monetary policy will always include an element of judgment.

Indeed, the 'look at everything' character of the new framework necessitates a great deal of judgment as the large number of variables looked at are most unlikely to all point in the same direction all the time.

The third element of the new framework is the publication of the Minutes of the monthly monetary assessment meetings between the Chancellor and the Governor. The two discuss the prospects for inflation and until the Labour-government made the Bank of England independent following the May 1997 general election, the Chancellor then decided on interest rates. When Eddie George became governor of the Bank of England in 1993 he expressed his desire that the Bank would be given a more prominent role against a backdrop of an international debate on central bank independence and the Maastricht Treaty stating an independent central bank as a condition for entry into EMU. It took a while before he got his way. In late 1993, the Governor made it clear to the press that the Chancellor and he disagreed on interest rate policy. This shook financial markets and Ken Clarke, who had succeeded Norman Lamont as Chancellor in May 1993, decided on the publication of the Minutes. The Minutes of each meeting are published two weeks after the subsequent meeting, which means that they are published with roughly a six week delay. While the Bank of England was not independent, the publication of the minutes of these meetings added to the importance of the Bank's opinion. If the Chancellor wanted to deviate from the advice he got from the Bank, he had to have good reasons as financial markets could react sharply if it was felt that the Chancellor was taking interest rate decisions for motives other than inflation and was

Chart 9 Retail price inflation (excluding mortgages)
February 1993-October 1996



taking risks with the inflation target. The Bank was also given some discretion as to the exact timing of the interest rate changes. Changes must, however, be implemented before the next monthly meeting. Another (for the UK) innovative element of the new framework was the press release issued by the Treasury, stating the reasons for a change in interest rates.

The enthusiasm on the part of the authorities for the new framework and their realisation that some marketing would enhance their chance of success in keeping inflation low and building up credibility led to what almost looks like a campaign of speeches and lectures by the Governor and the Bank's Chief Economist.¹⁶

While the opinion of the Bank of England mattered more in the new framework than previously, the Old Lady clearly was not independent. The 'Roll Report'¹⁷ looked at the issue of independence for the Bank and recommended the immediate introduction of independence. Gordon Brown surprised financial markets by making the Bank of England independent immediately after he took up his responsibilities as Chancellor, following the Labour victory at the early-May 1997 general election. In fact, a new body was given the authority to decide on interest rates, the Monetary Policy Committee (MPC). The MPC consists of nine members, five of which are from the Bank of England, the remainder being external independents appointed by the Chancellor. Decisions are taken by majority vote, the governor has the casting vote. The MPC meets every month on the Wednesday and Thursday following the first Monday of the month and any rate change is announced at noon on the Thursday.

3.7. The new framework in practice: rules and discretion

It was clear that monetary conditions had to be eased considerably when sterling left the ERM. This was achieved by a sharp depreciation of the exchange rate while base rates were reduced from 10% just prior to sterling's departure to 5.25% by March 1994. The economy recovered, although with the benefit of hindsight the figures indicate that the recovery actually started before sterling left the ERM. There can be no doubt, however, that the strength of the recovery was greatly helped by the easing of monetary conditions. Despite sterling's depreciation, inflation remained subdued owing to the large output gap and the disinflationary forces in the global economy.

Given the wide variety of indicators that are included in the Inflation Report and that it could quite easily give contradicting signals, it was always going to be interesting to see what would trigger a reversal of monetary easing. If it were to become clear that interest rate decisions really depended on one or two indicators only, then the credibility of the new framework could be undermined. Timing is also of crucial importance. It is easy to say that the inflation outlook two years in the future will be crucial in interest rate decisions, but the uncertainties surrounding the central forecast are such that it takes some courage to implement rate increases at a time when there are no clear immediate signs of rising inflation. There is always a danger that policy makers will focus on current

Chart 10 Manufacturing production (yoy): June 1993-October 1996

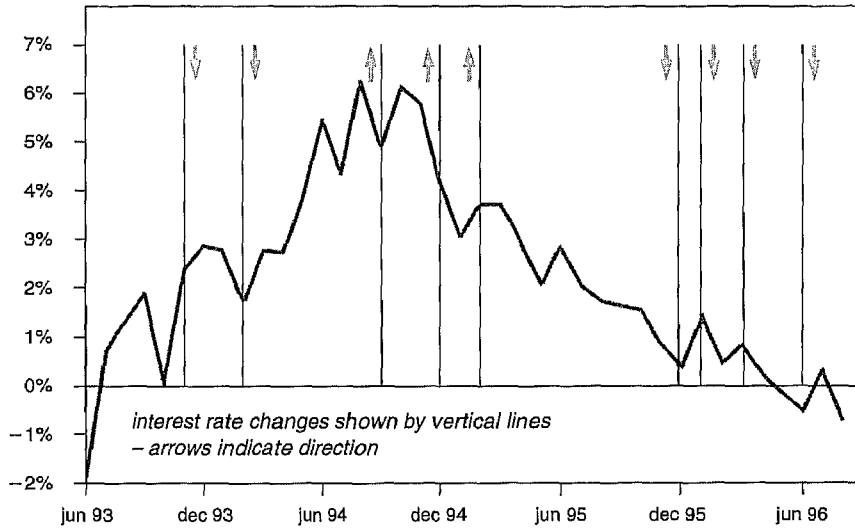
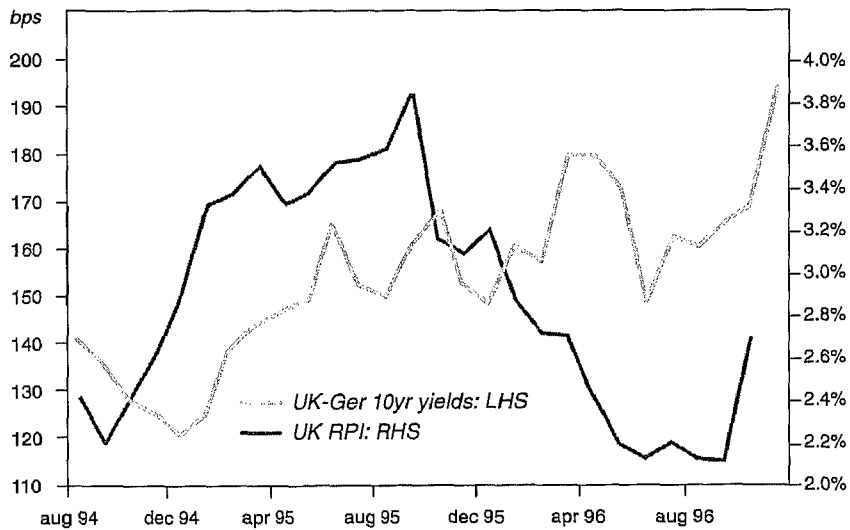


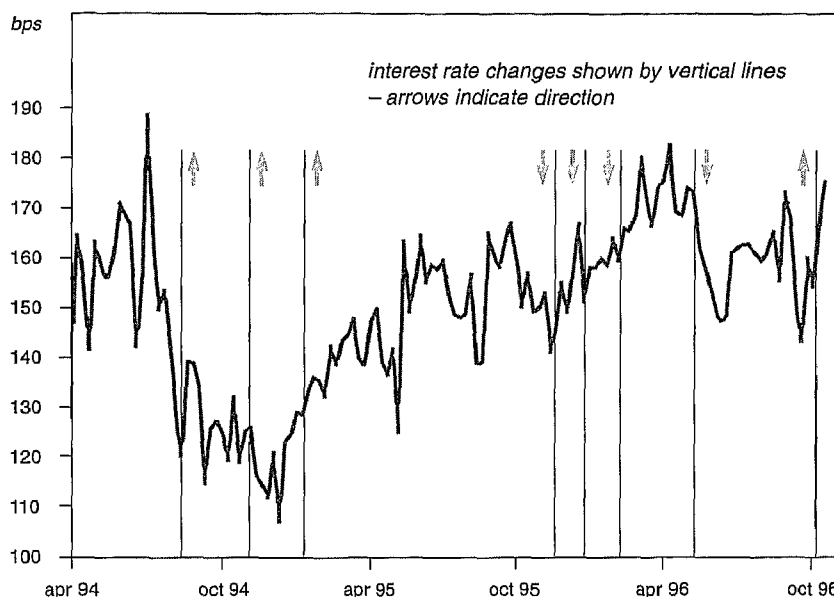
Chart 11 Uk-German 10-year yield spread and UK inflation August 1994-November 1996



inflation. Given the lags involved in the inflationary process that would be a mistake. The strong focus on current inflation in the period immediately after the shadowing of the Deutschemark was undoubtedly partly to blame for the depth of the subsequent recession. The opposite could happen too.

The first base rate increase after sterling's departure from the ERM, 50 basis points, was implemented on 12 September 1994, which was followed by similar increases on 7 December and 2 February. Interestingly, the phase of tightening started while inflation was still falling and very low in absolute terms: RPIX was barely over 2%. The early start was encouraging and added to the credibility of the new framework. Having said that, while inflation forecasts for two years ahead should lead the way, the tightening started shortly after the Bank's central forecast for inflation had actually been lowered. In the May 1994 Report, inflation two years down the road was forecast at 3-3.5%. In the August issue this had been lowered, but the Bank still felt that inflation was likely to be over 2.5% while the following Report talked about 'around 2.5%'. The rate hikes appear to have been triggered by the fact that the economy was growing - and had done so for some time - at a pace above trend (see chart 10). In addition, the Bank argued that the output gap was smaller than had been thought previously. Early in 1995, the weakness of sterling was added to the list of reasons for tightening. The financial markets were impressed by the early start of the tightening process. The market's perception of the inflation rate in the year 2001 (see chart 13) fell by some 25 basis points after the first hike. The spread between yields on 10-year UK gilts and German bonds also developed favourably. However, as chart 11 suggests, the UK-German yield spread widened out again as UK headline inflation picked up.

The next interesting phase was the period from May to September 1995. At the five monthly monetary assessment meetings (which were soon dubbed the 'Ken and Eddie show') during this period, the Chancellor and the Governor disagreed about what policy action was needed, with the Chancellor ignoring the Bank's advice that rates should be raised. With the political situation looking fragile,¹⁸ the fear had been all along that political arguments would interfere with economic arguments in conducting monetary policy. At the time, the economic situation had become somewhat unclear. Some indicators were suggesting that economic growth had slowed considerably, while others were pointing to continued firm growth. The minutes of the monthly meetings made clear that there was a fundamental difference in view on the real economy. While the Chancellor expressed doubts as to the strength of the economy, the Governor was more optimistic. In addition, the Governor argued that the effective depreciation of sterling was a worry as a drop in the sterling index of almost 6% came close to unwinding the effects of the monetary tightening that had started in the last part of 1994. But the Chancellor would not budge. A hostile reaction by the gilt market to the Chancellor ignoring the Bank's advice did not materialise. The issues involved were clear to financial markets and market participants simply sided with the Chancellor. Being aware of the potential dangers of letting the markets know so explicitly about the differences in views, the Governor went out of his way to stress that the two men's interests are completely parallel [Governor, 1995]. Gradually it became clear that the Chancellor had

Chart 12 Uk-German 10-year yield spread: April 1994-November 1996

most likely been correct in his assessment, which must have been quite a blow to the Bank's standing and credibility, which at the time was also suffering from the collapse of Barings. The markets were therefore not upset that it took the Bank five months to come to the same conclusion as the Chancellor. As more evidence of a growth slowdown came through, the market's implied inflation rate in 2001 (given by index-linked real yields) fell substantially.¹⁹

Late November, the 1996 budget was presented, which was based on a real GDP growth assumption of 3%. As this was ahead of independent forecasts, commentators concluded that the Chancellor had based his forecast on a significant lowering of interest rates, but he denied this categorically. At the December meeting the Governor argued that the economy had been weaker than had been anticipated and the most recent inflation indicators were positive. He advised a quarter of a percent rate cut. The Chancellor followed the advice. The Minutes made clear that he had considered a half point cut, while at the same time spelling out three strong arguments against a rate cut.

The Chancellor conceded that the economy was likely to strengthen in the course of 1996 and that rate cuts late-December might prove procyclical. He also expressed some concern over broad money as M4 growth had accelerated and was exceeding the 3-9% monitoring range. In addition, Clarke noted that the economy had perhaps not been quite as weak as he had thought [Minutes of 13 December 1995, pp.8,9].

Another quarter point cut was implemented in January. The financial markets did not take the January cut very well as it was believed that the Governor and the Chancellor had again been at odds, which was actually not the case. In March rates were cut by another quarter. Although the Governor and the Chancellor agreed on this cut, the markets did not take it well. Inflation expectations, as implied by the yield difference between conventional gilts and index-linkers, rose more than a quarter point.

In June 1996, another period started in which the Governor and the Chancellor disagreed on policy actions. The May Inflation Report had been relatively benign and when sterling appreciated by 3% in trade-weighted terms between early May and early June (implying a monetary tightening and improving inflation prospects) the Chancellor cut rates again in June, against the Bank's advice. Initially, however, the markets did not worry about the disagreement, probably giving the Chancellor the benefit of the doubt. Clarke also stressed that he would raise rates again (preemptively) if and when necessary.

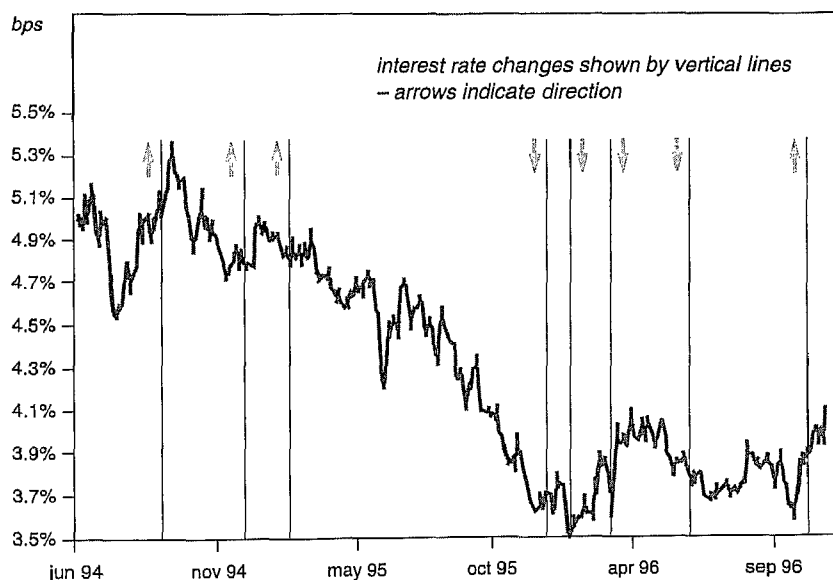
Soon after the June rate cut, economic data and survey evidence started to point to a gathering pace of recovery. At the same time, inflation data started to get worse and came in ahead of market expectations. Financial markets did not like that combination. Implied inflation started to rise and the spread of UK yields over core European yields rose at a time when many high-yielding markets were narrowing in significantly. Somewhat unexpectedly, the Chancellor decided on a quarter percent rate increase in late October, but the markets were unimpressed. When sterling then appreciated, the Governor was quick to point out that a rise in sterling was not the same thing as a rise in interest rates, presumably in an effort to nip in the bud the risk that sterling's strengthening could lead to a repeat of the June rate cut or stand in the way of further rate hikes.

As the inflation news remained poor and political uncertainty over the general elections continued, the gilt market performed very badly. By mid-November (former) high-yielding markets such as Sweden, Spain and even Italy all had lower yield levels than the UK in the 10-year area. Credibility was probably, once again, the main issue. The Bank had started to call for another rate increase late 1996, threatening that if a quarter point rise was not implemented at once, the Bank would probably have to call for a sharper rise soon. But the Bank's unjustified, aggressive stance during the previous two years had made financial markets lose faith in the Bank's judgement. The Chancellor had also suffered a loss of credibility in the eyes of the markets, as he was more and more being seen as letting political considerations enter the decision making process. At the same time, the strong appreciation of sterling early in 1997 was leading to an improvement in some of the inflation indicators and to a weakening of economic growth.

When the new Chancellor Gordon Brown gave the authority to decide on interest rates to the Monetary Policy Committee the markets reacted euphoric, with the spread between 10yr gilt and bund yields declining rapidly (some 45 basis points between end-April and mid-May). Apart from installing the MPC, the new Chancellor also raised interest rates by 25 basis points in May, while the MPC added another 75 in equal steps in their first three meetings in June, July and August, bringing the base rate to 7%.

To summarise this section, the policy makers have so far succeeded in keeping inflation low, using the new framework of inflation targeting and more recently Bank of England independence in the conduct of monetary policy. The international environment has been helpful as international inflationary pressures have been subdued in recent years, but domestic pressures have also stayed at bay. Looking at what has so far triggered monetary policy decisions, it is tempting to conclude that the strength of the economy relative to its trend and recent developments of inflation indicators are the crucial considerations. This means that policy decisions are still at least partly backward-looking despite a forward-looking framework. But, if the Bank's forecast for inflation is a range from 0.75% to 4%, then that is difficult to use for policy decisions aimed at keeping inflation below 2.5%. The tightening phase in the last part of 1994 started only shortly after the Bank had in fact lowered their inflation forecast. The disagreement between the Chancellor and the Governor during the five months from May 1995 on also came down to a different view on the strength of the economy. The threat to the new framework is therefore that it could develop from targeting inflation into targeting nominal GDP. That is not necessarily a bad thing, but it would represent a departure from the original intentions and if the official framework is not changed it may add to confusion and make full credibility more difficult to attain. While inflation has remained subdued, the new framework has not (yet) led to complete credibility, although even in this area substantial progress has been made. The survey of independent forecasters shows that by the end of

Chart 13 Implied inflation in 2001¹: June 1994–November 1996



1. Calculated on the yield differential between conventional and index-linked gilts

1996 the majority of them were still predicting inflation above 2.5% two years ahead, although their forecasts had gradually come down. In addition, the markets have taken a more benign view, particularly after Bank of England independence.

The main questions as regards credibility remain to what extent the Bank can develop a positive track record in forecasting inflation and how forward-looking the MPC will be in implementing interest rate changes. When the decision was made on 7 March 1996 to cut interest rates (0.25%) for a third successive time, the Governor went on record as saying that a cut was justified *'but with the possibility that rates would have to be raised again at some point further ahead, if monetary growth did not begin to moderate and when there was clear evidence that the growth of demand and output had begun to accelerate'* [H.M. Treasury, Minutes of the Monthly Monetary Meeting, 7 March 1996, p.6]. In other words: 'we cut rates although we are worried about M4 and while we expect the economy to strengthen anyway', hardly the sort of statement that will boost confidence and credibility.

4. Concluding remarks

The word that springs to mind when thinking about UK monetary policy over the last fifteen years or so is 'unfortunate'. The Tory government of Mrs. Thatcher, which had been given a legacy of high inflation and high budget deficits, started off with the monetarist principles of targeting monetary aggregates. Openness and a medium-term focus for their policies should help in forcing down inflationary expectations. However, largely as a result of financial deregulation and innovation, the monetary aggregates soon became completely distorted, preventing them from giving useful signals to monetary policy makers. Another word that springs to mind is 'inconsistency' of internal and external objectives of economic policy. Early on in the 1980s, it became clear that UK monetary policy could not ignore the exchange rate. The original framework for monetary policy thus quickly became hollow. Despite all the problems with monetary targeting, inflation fell significantly. Nigel Lawson concluded that the best way forward for establishing a solid framework was to join the ERM, but he was unable to convince the Prime Minister. When he implemented an informal exchange rate target in 1987, the unexpected strength of the currency forced him to lower interest rates when that was completely inappropriate given the strength of the economy, which was partly the result of his expansionary, politically motivated, budget. The economy overheated seriously and a lot of the ground that had been gained on inflation since the start of the decade was surrendered as headline inflation soared and hit double digits in 1990.

The official membership of the ERM, which started in October 1990, was an equally painful and unfortunate experience. The business cycle of the UK economy had become completely desynchronised from the core-European cycle. The inevitable deep recession, following the Lawson boom, and the backdrop of a prolonged economic upswing in Germany following unification, made the UK and Germany an unlikely combination of countries to follow the same monetary policy while having their exchange rate linked in

the ERM. Monetary and exchange rate policy as implemented during the UK's ERM membership made the recession undoubtedly deeper and longer. Inevitably, exchange rate stability had to be given up in order to speed the process towards internal economic stability.

The new policy of inflation targeting that the authorities engaged in after sterling had been withdrawn from the ERM has been reasonably successful both as regards keeping inflation low and improving credibility. It must be said, however, that the system has not yet been seriously tested. The relative weakness of the OECD economies and more generally the disinflationary forces that have been characteristic of the global economy in recent years have helped in keeping UK inflation at bay, although credit must be given to UK authorities for also keeping domestic inflationary pressures under control. Financial markets have not yet given UK authorities full confidence and the medium term inflation rate as implied by financial markets is still well ahead of the authorities' target. Obviously, the only way to establish undisputed credibility is by building up a convincing track record. This will take time. Bank of England independence, granted in May 1997, has been a large step in the right direction.

Like monetary targeting and targeting the exchange rate, the new framework could be undermined. Three dangers stand out. Firstly, if the policy makers concentrate on only a very limited number of variables in making interest rate decisions, they will make the larger part of the Bank's Inflation Report redundant. Secondly, there is always the danger that they may not be able to resist the temptation to be less forward-looking than they should be. A third problem can arise in relation to the very high degree of openness. At times the markets have seen the monthly monetary meetings as something akin to a battle between the Chancellor and the Governor, or perhaps between the Treasury and the Bank, although disagreement usually did not lead to any adverse reaction in the markets. An issue in the present MPC-era is the question how the 'outside members' will behave in their voting. In addition, how will the market react if the Bank of England representatives and the 'outsiders' vote differently? Having granted such an exceptionally high degree of openness, the authorities would lose credibility if some of the openness was to be reversed. In addition, it is probably fair to say that the Bank lost part of its credibility for being seen as overly aggressive at many Clarke-George meetings.

While the UK has a reasonable chance of qualifying for EMU, EMU has had little or no (explicit) impact on the building of the new monetary policy framework. There seems to be little discussion in the UK as to how the introduction of 'German style' monetary policy instruments would impact on the financial system. But then, of course, the British government has negotiated an opt-out clause. Meanwhile, EMU is a sensitive political issue. Rumours suggest that the Blair government is more positive about EMU membership than they dare to admit openly, but they are committed to holding a referendum before taking a decision to join. While ERM membership was seen as the best way to reduce inflation and inflationary expectations, the need to join EMU for that purpose only will be non-existent if the new framework for monetary policy continues to

prove successful. With considerable skepticism in the UK on questions such as whether or not EMU will ever happen, it would not appear likely that either the policy framework or the way monetary policy is conducted will be greatly affected by the EMU discussion. The Major government had firmly ruled out UK participation in what has been dubbed 'ERM-2', a system that should somehow rein in the currencies of countries that will not participate in EMU and that should start being operational in the not too distant future, well before EMU itself starts.

Appendix 1. MTF5 Projections and Outcomes

M0

	84/85	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97
Mar 84	4 to 8	3 to 7	2 to 6	1 to 5	0 to 4								
Mar 85		3 to 7	2 to 6	1 to 5	0 to 4								
Mar 86			2 to 6	2 to 6	1 to 5								
Mar 87				2 to 6	1 to 5	1 to 5	0 to 4						
Mar 88					1 to 5	1 to 5	0 to 4	0 to 4					
Mar 89						1 to 5	0 to 4	0 to 4	(-1) to 3				
Mar 90							1 to 5	0 to 4	0 to 4	(-1) to 3			
Mar 91								0 to 4					
Mar 92									0 to 4				
Mar 93										0 to 4			
Mar 94											0 to 4		
Nov 94												0 to 4	
Nov 95													0 to 4
Outturn	5.5	3.5	4	5	7	5.75	2.7	3	2.8	6.0	7.0	6.0	

M1

	81/82	82/83	83/84	84/85	85/86	86/87
Mar 82		8 to 12	7 to 11	6 to 10		
Mar 83			7 to 11	6 to 10	5 to 9	
Mar 84						
Outturn	15.6	13.6	12.54	15.3	19.6	23.5

Sterling M3 (£M3)

	79/80	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89
Jun 79	7 to 11									
Mar 80		7 to 11	6 to 10	5 to 9	4 to 8					
Mar 81			6 to 10	5 to 9	4 to 8					
Mar 82				8 to 12	7 to 11	6 to 10				
Mar 83					7 to 11	6 to 10	5 to 9			
Mar 84						6 to 10	5 to 9	4 to 8	3 to 7	2 to 6
Mar 85							5 to 9	4 to 8	3 to 7	2 to 6
Mar 86								11 to 15		
Mar 87										
Outturn	16.2	19.4	12.8	11.2	9.4	11.5	17	19.2	20.7	21.2

M4

	92/93	93/94	94/95	95/96	96/97
1992*	4-8				
1993		3-9			
1994			3-9		
1995				3-9	
1996					3-9
Outturn	2.8	5.0	4.1	10.0	

* M4 monitoring range introduced on 12 November 1992, in the Chancellor's Autumn statement.

PSBR

	79/80	80/81	81/82	82/83	83/84	84/85	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01
Jun 79	4.5																					
Mar 80	4.75	3.75	3	2.25	1.5																	
Mar 81		6	4.25	3.25	2																	
Mar 82			4.25	3.5	2.75	2																
Mar 83				2.75	2.75	2.5	2															
Mar 84					3.25	2.25	2	2	1.75	1.75												
Mar 85						3.25	2	2	1.75	1.75												
Mar 86							2	1.75	1.75	1.5	1.5											
Mar 87								1	1	1	1	1										
Mar 88									-0.75	-0.75	0	0	0									
Mar 89										-3	-2.75	-1.75	-1	-0.5								
Mar 90											-1.25	-1.25	-0.5	0	0							
Mar 91												-0.25	1.25	2	1	0						
Mar 92													2.25	4.5	4.75	3.5	2.5	0.75				
Mar 93														5.75	8	6.5	5.5	4.5	3.75			
Mar 94															7.75	5.8	4.2	2.25	1.5	0.25		
Nov 94																5.1	3.1	1.7	0.7	-0.25	-1	
Nov 95																	3	1.75	0.75	0	-1	-1.5
Outturn	5	5.7	3.5	3.3	3.2	3.1	1.6	0.9	-0.75	-3	-1.5	0	2.4	6.1	7	4.1						

Note: negative values indicate a Public Sector Debt Repayment

PSL2

	81/82	82/83	83/84	84/85	85/86	86/87
Mar 82		8 to 12	7 to 11	6 to 10		
Mar 83			7 to 11	6 to 10	5 to 9	
Mar 84						
Outturn	12.4	11.3	10.7	14.1	13.8	13.9

Appendix II. Definitions and Changes to the Monetary Aggregates

I. Aggregates covered in the Bank of England Quarterly Bulletin Statistical Annex

M0 (the wide monetary base)

Notes and coins in circulation outside the Bank of England and bankers' operational deposits at the Bank.

M4

UK non-bank, non-building society private sector's holdings of notes and coin together with all sterling deposits (including certificates of deposit) held with UK banks and building societies by the non-bank, non-building society private sector.

II. Other Aggregates referred to in this contribution

M1

Notes and coin in circulation outside the Bank of England + Private sector interest and non-interest-bearing sterling sight bank deposits.

£M3

M1 + Private Sector sterling sight and time bank deposits + Private sector holdings of sterling certificates of deposits + public sector sterling sight and time bank deposits.

PSL2 (Private Sector Liquidity)

M1 + Private sector sterling time bank deposits (original maturity of up to two years) + Private sector holdings of building society deposits minus Building Society holdings of money market instruments and bank deposits Private sector holdings of sterling CDs + Private sector holdings of money market instruments and certificates of tax deposit.

III. Important Changes to Aggregates in recent years

March 1984

- £M3: old definition minus deposits of the UK public sector

June 1986

- PSL2: old definition + building society term shares and SAYE deposits and bank deposits with an original maturity of over two years.

May 1987

- £M3 renamed M3, and previous M3 renamed M3c
- PSL2 renamed M5
- M4 = M3 (was £M3) + private sector holdings of building society shares and deposits and sterling certificates of deposit minus building societies' holdings of: bank deposits, bank certificates of deposit and notes and coin.

July 1989

- M1, M3 and M3c are no longer published.

February 1991

- Non-interest bearing M1 is no longer published as an aggregate, though its components are still shown.

May 1991

- M5 and M4c are no longer published.

Source: Various Bank of England Quarterly Bulletins and Inflation Reports.

Notes

- 1 The author would like to thank Jenny Pollock, Aisling Reilly, Aisling Savage, Imelda Sexton, John Kelly and Neil MacDermott for assistance, support, comments and suggestions. However, they cannot be held responsible for any part of this contribution.
- 2 The Corset enabled the Bank of England to make banks hold interest free deposits with the Bank if their interest bearing liabilities grew faster than an earlier announced guideline.
- 3 For targets and outturns see Appendix 1 at the end of this contribution.
- 4 For definitions of monetary aggregates, see Appendix 2 at the end of this contribution.
- 5 Goodhart, 1989, p. 302 and Lawson, 1992, p.78.
- 6 Fjorde, 1983, p.200, calls this: '*the political economy of the money supply strategy*', as opposed to '*practical macroeconomics*', with undoubtedly the emphasis on the word '*political*'.
- 7 For a more detailed description of the system of money market management see Ferris and Jones, 1994, pp. 121-131.
- 8 According to Lawson, the Prime Minister was angered as she felt that such a miscalculation on the part of the Bank of England had brought the government into ridicule and with it the credibility of its counter-inflationary strategy. She threw a '*tantrum*' [Lawson, 1992, p.84].
- 9 In response, a group of no less than 364 well known – and presumably lesser known – economists wrote an open letter in The Times in March 1981 criticising the government's policy, but to no avail.
- 10 It is also interesting to notice the different perceptions that Margaret Thatcher and Nigel Lawson express in their respective memoirs of how the drop in inflation during the first term of the Tory government from 1979 to 1983 was achieved. Mrs. Thatcher maintains: '*Our success in bringing down inflation ... had been achieved by controlling the money supply*'. [Thatcher, 1993, p.688] She goes on by saying: '*The only effective way to control inflation is by using interest rates to control the money supply*' [Thatcher, 1993, p.690]. This contrasts sharply with Lawson's: '*... a tight monetary policy had brought down inflation, largely, although not exclusively, via the exchange rate*' [Lawson, 1992, p.416].
- 11 Another indication of differences of opinion between Thatcher and Lawson emerges from the fact that in their respective memoirs the former Prime Minister and the former Chancellor both inelegantly accuse the other of being fundamentally soft on interest rates [see e.g. Thatcher, 1993, p.698].
- 12 Deregulation, desegmentation and product innovation in the financial sector during the 1980s brought the Bank of England to quite regularly revise their definitions of the various monetary aggregates. See Appendix 2. The Bank of England even advocated a 'public debate' on monetary aggregates by explicitly inviting outsiders, on occasions, to come forward with suggestions as regards definitions of aggregates.
- 13 With the benefit of hindsight, it is somewhat amusing to read that Lawson was not too worried about rising house prices partly because his advisers were not concerned, but also because he took comfort from the fact that a similar sharp rise in property prices in Japan was not spilling over into general inflation. [Lawson, 1992, p.638].
- 14 The Bank of England's Chief Economist effectively argues that these publications are needed because of a lack of credibility. He compares UK monetary policy makers with a captain of a ship who in the past has steered on to the rocks. In such a case '*passengers might wish to ask for expert advice*' [King (1994a) p.118].
- 15 Crockett, 1994, pp.180-183
- 16 See e.g. Governor 1994a, 1994b and 1995; and King 1993, 1994a, 1994c, 1995a and 1995b.
- 17 Roll, 1993.
- 18 The Prime Minister was under pressure within the Conservative Party, the Tories were trailing Labour in opinion polls by a wide margin and scored very poorly in by-elections.
- 19 At the meeting on 29 September 1995, Eddie George made a tactical retreat albeit not enthusiastically, saying: '*that the Bank was still not persuaded that the inflation target was more likely than not to be achieved by mid 1997 without further tightening*', but that the Bank's advice was: '*to wait until the position became clearer before making any policy move*' [HM Treasury, Minutes of Monthly Monetary Meeting: 29 September 1995, p.5].

Italy: between a rock and a hard place

*By Caroline van den Berg**

At the beginning of the 1980s, the Italian financial system was among the most regulated in Europe. The sharp decline in inflation in the beginning of the 1980s played an important role in the process of financial liberalisation and deregulation. This process was further strengthened by the pressure exercised by the large number of directives that the European Union (EU) issued to eliminate the barriers impeding the free movement of capital played an important role in the process of financial liberalisation and deregulation. Yet, it was only in the second half of the 1980s that financial market reform started to gain momentum. This chapter describes the changes that have taken place in the Italian financial system since the 1980s. It will also investigate the impact of these changes on the effectiveness and efficiency of Italy's monetary policy.

1. The Financial System

The Banking Law (*Legge Bancaria*) of 1936 established the structure of Italy's financial system. This Banking Law was formulated at a time, when Italy was going through a severe economic and financial crisis. One of the causes of this crisis was the interdependence of the banking sector and private enterprise. Hence, in the new Banking Law banks were no longer allowed to hold stakes in non-financial enterprises.

The key innovation of the Banking Law of 1936 was the separation of short-term and long-term credit. The overriding concern of the authorities was to safeguard the monetary function of the banks by curbing their capacity to transform short-term deposits into long-term loans that could put the banks' liquidity at risk. Banks (*aziende di credito*) provided short-term credits with a maturity up to 18 months. Special credit institutions (*istituti di credito speciale*) which were directly controlled by the government, provided medium-term and long-term credit. These special credit institutions issued bonds - guaranteed by the government - to finance their credit operations. They were not subject to the monetary restrictions imposed on banks as they could not issue any short-term credit.

* None of the conclusions of the paper should be viewed as representing the views of the World Bank or those of any of its affiliates. Any mistakes are the author's only.

The introduction of geographical boundaries on credit operations of the 1936 law, reinforced the segmentation of the financial sector. In most cases, banks could only provide credits within the boundaries of the municipality or province in which they were incorporated. New entrants, as well as domestic expansion of existing banks through the opening of new branches or subsidiaries, required specific authorisation of the monetary authorities. As this authorisation was seldom given, banks were encouraged to operate locally. The ultimate result of this policy was a highly decentralised banking system.

An important feature of the financial system at the beginning of the 1980s was the predominant role of the government. As a result of past rescue operations and reorganisations, the government controlled almost all banks directly or indirectly. In 1991, government-controlled banks still provided 79 percent of the deposit base, 87 percent of the financial investments and 58 percent of the sector's employment. Due to the large scale of government control, the Italian banking system was characterised by political patronage (*lottizzazione*) which assigned senior positions in public sector banks between the various political parties. Political patronage not only reinforced the bureaucratic nature of the public financial institutions, it also invited political interference in governance and strategy. The bureaucratic structure of many Italian banks was a major constraint on efficiency, which was reflected in low productivity.

As a consequence, the Italian banking system showed a notable lack of sophistication in 1980, that was reflected in few available financial instruments and an inefficient payment system. Competition in the banking sector was very limited due to the widespread segmentation of the banking sector, and the strict foreign currency and capital controls. Subsequently, margins between lending and borrowing rates were very large and perpetuated the inefficient allocation of financial resources throughout the economy.

In the beginning of the 1980s, the government not only dominated the supply of credit, but also the demand for credit. The expansive fiscal policy that the government adopted since the mid-1970s, had resulted in increasing government deficits. The high financing requirements prompted the government to issue short-term Treasury Bills and (indexed) medium-term and long-term Treasury Certificates. The issuance of these government securities was a huge success in a period characterised by high inflation, large household savings and a lack of short-term investment alternatives. The issuance of government securities had the most profound impact on the financial markets during this period. Because most of these government securities were linked to short-term interest rates, a money market started to evolve. As a result, the public finances became increasingly sensitive to short-term interest movements.

Contrary to the rapid expansion of the money market in the 1970s, the development of the capital market lagged far behind. High inflation had given rise to a sharp reduction in loan maturities, which resulted in serious liquidity problems for the special credit institutions providing medium-term and long-term credit. The absence of an efficient stock exchange significantly reduced the access of private enterprises to the capital

Table 1 Economic Performance of Italy

Indicator	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
real GDP (%)	0.6	0.2	1.0	2.7	2.6	2.9	3.1	4.1	2.9	2.1	1.2	0.7	-1.2	2.2	3.0	1.7
inflation (%)	18.0	17.1	14.9	12.0	9.0	6.3	5.8	5.7	6.4	6.2	6.8	5.4	4.8	4.7	5.7	3.9
budget deficit (as % of GDP)	11.6	11.3	10.7	11.6	12.6	11.6	11.0	10.7	9.9	10.9	10.2	9.5	9.6	9.0	7.2	6.7
net interest payments on debt (as % of GDP)	5.5	6.6	7.0	7.5	7.4	7.8	7.4	7.6	8.4	9.1	9.7	10.9	11.6	10.3	10.5	10.0
public debt (as % of GDP)	59.9	64.9	70.0	75.2	82.3	86.3	90.5	92.6	95.6	108.4	110.3	116.7	118.4	123.9	123.0	123.1
saving ratio (as % of disposable income)	20.8	19.3	22.3	20.6	18.9	18.2	17.8	16.9	16.7	18.2	18.2	17.7	15.8	14.8	13.1	12.8
current account (as % of GDP)	-2.2	-1.4	0.4	-0.6	-0.9	0.3	-0.3	-0.8	-1.4	-1.6	-2.1	-2.3	1.2	1.5	2.5	3.2
M2 (money supply) growth (%)	11.3	20.7	18.6	18.5	12.1	10.3	7.3	9.6	10.7	9.4	9.1	4.7	8.1	1.7	2.5	0.1*
total domestic credit (%)	16.6	19.2	19.4	19.4	17.2	15.5	12.9	14.0	14.9	13.2	12.7	11.6	7.6	6.2	5.2	2.8*
to private sector (%)	11.0	10.7	11.0	14.6	11.0	9.9	9.0	2.9	18.2	15.0	13.6	10.2	7.2	1.0	2.7	-0.7*

* Values for September 1996

Sources: Banca d'Italia, Ordinary General Meeting of Shareholders, Rome, various issues; OECD, OECD Economic Surveys: Italy, Paris, various issues.

market. The access of the corporate sector to the capital market was further limited because corporate bonds, as opposed to government bonds, were not exempt from tax.

2. Developments in Italy's Financial Markets

2.1. Factors Contributing to Changes in Financial Markets

The pace and character of financial innovation since the 1980s has been largely influenced by three major developments.

The government's *budget deficit*¹ was 11.6 percent of GDP in 1981. Between 1981 and 1990, the budget deficit has only been marginally reduced. Since 1991, however, the budget deficit started to decrease. In 1996, it was 6.7 percent of GDP, and it is estimated to decline to under 3.5 percent in 1997. The lack of success in curbing the budget deficit in the 1980s was mainly due to lack of political commitment.

As a consequence of large and chronic budget deficits, public debt increased from 60 percent of GDP in 1981 to about 124 percent in 1996. The large volume of public debt is in itself a major impediment to reducing the budget deficit, due to soaring interest payments on this debt. In 1996, interest payments made up 20 percent of total government expenditure. Since 1992, the primary budget deficit² has turned into a small surplus, which in 1996 was about 3.4 percent of GDP. According to a recent OECD study³, Italy needs a primary budget surplus of 3.5 percent of GDP to enable it to stabilise the debt-to-GDP ratio. As a growing part of the budget contains interest payments, the budget has become more sensitive to changes in interest rates. Monetary and fiscal policy objectives increasingly contradict.

Although the government has implemented structural reforms to promote fiscal convergence in the past few years, the budget deficit is still the *sword of Damocles* hanging over the Italian economy. One of the major budget issues, apart from debt interest payments, is pension reform. The national pension fund (INPS) registered a large deficit of close to 4 percent of GDP in 1994. In view of the ageing population, this gap is going to increase rapidly in the near future. The government announced a set of structural measures in September 1994 to limit this pension deficit, and in August 1995, Parliament passed a new law on pension reform⁴. The pension reform law will only have a small impact in the short run, but savings are expected to accumulate to Lit100 trillion (US\$62 billion) by 2004. Although the reform has been an important step in creating a more viable pension system, it will continue to rely on large-scale government transfers. In view of the need to reduce budget deficits, additional measures will be required.

Inflation decelerated rapidly in the beginning of the 1980s. Inflation still ran at 21 percent in 1980, but had decreased to about 6 percent in 1986. The decline in consumer prices reflected a sharp decline in international commodity prices, and a restrictive monetary

policy stance. Industrial restructuring in the beginning of the 1980s increased the flexibility of the industrial sector significantly, and reduced production capacity constraints. Between 1986 and 1991, little improvement was made in further reducing inflation due to persistent wage inflation. Even though unemployment increased, the indexation of wages through the *scala mobile* mechanism prevented a further decline in inflation. Between 1991 and 1996, inflation declined from 6.2 to 4.0 percent. This decline is remarkable considering the sharp devaluation of the Italian lire since September 1992. Flagging demand and wage moderation during this period have had a positive impact on inflation. However, the impact of the rapidly declining inflation on the public debt ratio was less positive.

Regulations from the European Union also played an important role in the process of financial innovation. Italy's entry into the wide band (with a fluctuation margin of 6 percent) of the Exchange Rate Mechanism (ERM) in 1979 significantly contributed to the transformation of the monetary regime of the 1980s. The creation of an internal market in 1992 prompted the Italian authorities to relax the controls on domestic and international financial flows. In 1987, Italy agreed to realize a free movement of capital by July 1, 1990. In addition, the Second Directive on Banking Activity coordinated banking legislation at the European level. This directive urged Italy to deregulate its sheltered financial markets and so doing, supported the process of modernization of the banking sector.

2.2. Deregulation and Liberalisation of Financial Markets

The process of financial deregulation and liberalisation evolved quite differently in Italy compared to that in other countries. Initially, the monetary authorities stimulated the process of financial deregulation and liberalisation – essentially by gradually transforming the structure and the regulatory environment of the sector. The role of banks and special credit institutions in this process was mainly passive. The high profit margins of banks, due to the complete segmentation of financial markets, did not incite them to play a major role in transforming the financial system.

Securitization – Equity Markets. The beginning of the 1980s was characterized by rapid economic growth, and a general improvement in the financial position of industry due to a successful restructuring programme. The economic climate, in combination with the structural reforms that changed the regulatory and institutional framework by increasing the transparency of the market, prompted the process of securitization. In 1983 and 1985, the Government enacted legislation to strengthen the powers of the supervisory body CONSOB (*Commissione Nazionale per la Società e la Borsa*) that supervises the stock market. This legislation was supplemented by the Stock Market Law of 1991, the law on multi-functional investment firms or SIMs (*Società di Intermediazione Mobiliare*) of 1992, and the law on take-over bids (*offerte pubbliche d'acquisto*) of 1992⁵. The transparency of the market has increased due to technological improvements (such as screen-based trading and modernisation of the settlements system) and additional regulatory measures including provisions against insider trading.

Table 2 Equity market indicators

Indicators	1980	1985	1990	1994	1995	1996
market capitalisation (in trillions of lira)	21.9	98.9	170.8	266.3	325.6	386.2
as % of GDP	5.6	12.3	13.2	16.3	18.4	20.6
annual turnover (in trillions of lire)	7.3	26.4	50.7	193.2	140.4	156.5
number of listed securities	134	148	223	258	n.a.	n.a.
MIB-index (1990=100)	16	50	100	104	95	107
shares as % of financial assets households	6.9	9.5	n.a.	17.7	15.6	17.7

Sources: Euromoney Research Bulletin, Guide to Italy 1995, January, 1995; Banca d'Italia, Ordinary Meeting of Shareholders, 31 May 1995; Banca d'Italia, The Size and Development of the Financial Markets, speech by the Deputy Director General in Turin, 8 March 1991; IMF, International Financial Statistics Yearbook.

In the past three years, securitization has been further boosted by the approval of new rules on investment funds. Voluntary private pension funds have been permitted since 1993. The rules on pension funds were meant to help the Government in its reform of the current pension system, but as such, they will also help to deepen and broaden financial markets.

The privatisation programme has also had a positive impact on equity markets. In 1992, the Government presented a medium-term strategy privatisation programme, that contributes to fiscal convergence with the other member states of the European Union. Between 1992 and 1994, the Italian Government sold assets worth Lit17 trillion (or about US\$9 billion), of which Lit11 trillion was financed through the stock market. Privatisation of remaining state companies was then postponed, although between January 1996 and April 1997 the Government sold another Lit 14 trillion (US\$ 9 billion) worth of assets. The privatisation of Stet (telecommunications) and ENEL (electricity) has been delayed several times and is now not expected to take place before the end of 1997⁶. The medium-term fiscal programme of the Government contains large privatisation proceeds, and suggests the importance of the privatisation programme in improving the Government's public debt position, and its future impact on the stock exchange.

The interest in new investment opportunities, the high level of household savings and the very limited supply of securities has resulted in a sharp increase in the MIB index (Milan Stock Exchange indicator). Between 1981 and 1990, the MIB index increased six-fold. Since 1990, the MIB index has hardly risen at all because of the impact of the economic recession. In spite of all the improvements, equity investment remains small. Only 6 percent of Italians are equity holders, compared to 19 percent in the US, 25 percent in the UK, 12 percent in Germany and 15 percent in France⁷. The main factor contributing to the limited size of the equity market is the very small number of listed companies. Corporate ownership in Italy is characterised by a small number of large business groups with extensive cross-holdings (accounting for about 80 percent of the

market capitalisation at the MIB)⁸ and a large number of small and medium-size firms that are mostly family-owned. Until recently, many smaller firms were not interested in an official listing at the stock exchange due to high transaction costs and, more importantly, fear of losing family control of the company. The Government has introduced specific measures to make listing more attractive, but the protection for small shareholders is still inadequate while the taxation of corporate income is biased in favour of debt financing as opposed to equity financing.

Securitization – Bond Markets. The Italian bond market is the third largest in the world, behind the American and the Japanese markets. Soaring public sector deficits have led to a spectacular growth in the bond market. In 1996, gross issues totalled Lit 1,099 trillion (US\$ 756 billion). The bond market is still completely dominated by government debt. Domestic investors hold almost 85 percent of government securities as the domestic savings ratio is high.

The Italian authorities have put a great deal of effort into developing the Treasury's debt management policy to ensure a more rational management of its liabilities and the creation of a more transparent and liquid public debt market. This process started with the 'divorce' between the *Banca d'Italia* and the Treasury in 1981, when the potential for the monetization of public debt was reduced. The number of instruments increased in the 1980s. Nowadays, the range of instruments include bills (BOTs), medium-term to long-term bonds (BTPs), zero-coupon bonds (CTZs), floating rate notes (CCTs), long-term securities with a put option (CTOs) and short-term and long-term Ecu-denominated securities (BTEs and CTEs). An important step in increasing the

Table 3 Bond market indicators

Indicators	1980	1985	1990	1994	1995	1996
total gross issues (in trillion lira)	152	431	782	1,059	1,042	1,099
as % of GDP	39	53	60	65	60	60
total net issues (in trillion lira)	29	116	120	250	83	168
in US\$ billions	37	60	100	154	62	108
1. net government issues:			95.9%	90.4%	105.1%	58.9%
– short-term bills			37.2%	7.6%	-1.8%	-16.6%
– floating rate notes			45.2%	15.0%	-35.9%	18.4%
– medium- and long-term bonds			-11.1%	41.7%	161.8%	34.8%
– ecu-denominated securities			2.5%	-1.8%	-9.8%	-2.9%
– option certificates			22.2%	-1.2%	-12.8%	-12.3%
– other			-1.0%	29.1%	3.7%	37.5%
2. other net government issues			0.8%	-0.3%	-1.5%	1.8%
3. net financial sector issues			5.0%	8.9%	-0.6%	38.5%
4. net private sector issues			-1.0%	1.0%	-5.0%	0.7%
Note: This includes Lit76 billion of securities for the consolidation of the treasury's overdraft on its current account with the Bank of Italy.						
Sources: Banca d'Italia, Ordinary General Meeting of Shareholders, various issues.						

transparency and liquidity of the market was the introduction of a screen-based secondary market (*mercato telematico secondario*) in 1988. The Treasury took additional measures to improve the competitiveness of the screen-based secondary market by improving the settlement process, reforming withholding tax and increasing competition in the market.

Corporate debt accounts for only a very small part of the bond market. Net issues by non-financial corporations were negligible in 1996. The reforms have not yet resulted in a flourishing corporate debt market as they coincided with an economic recession, and a period of relatively high interest rates that limited new issues for corporate borrowers.

Banking reform. The role of banks has changed substantially in the past two decades. Until the early 1980s, banks were the only financial intermediaries in an environment characterised by very few financial instruments and a lack of competition. Subsequently, they collected most household savings. In the 1980s, the Government started to finance its deficits increasingly through the market. Households increasingly started to invest their wealth in government securities, which resulted in a weakening of the banks' intermediary role. Bank deposits made up almost 67 percent of the financial assets of the private sector in 1975 compared to only 12 percent in 1995.

The weak financial position of the corporate sector and the establishment of credit controls in the beginning of the 1980s, caused a rapid growth in derivated financial products, such as factoring and leasing. Banks and special credit institutions could not provide these services as banks were not allowed to provide long-term credit, while specialised credit institutions did not supply small-size credits. Hence, new firms entered the financial market. By 1990, they had a market share that was equal to about 9 percent of total bank lending⁹. However, the impact of these financial firms on the market was more limited than these figures suggest as many of these new firms were financed directly by banks and special credit institutions.

Reforms in the banking sector began in earnest with the deregulation measures announced by the Fanfani-government in 1987. These measures included a relaxation of the geographical restrictions, that were eventually phased out in 1990. The government also lifted the functional division between, on the one hand, short-term and, on the other hand, medium-term and long-term credit. Banks were allowed to provide medium- and long-term credit if they met certain solvency criteria. This opened the road to the establishment of universal banks, which could supply a wide range of financial services. Italian banking legislation was recently consolidated in the 1993 Banking Law¹⁰ that coordinates the Banking Law of 1936 with the many provisions that have been adopted to amend and supplement it. In the 1993 Banking Law, the distinction between the different types of banks was lifted¹¹. Banks are now allowed to engage directly in activities, such as factoring, leasing and merchant banking. The recent banking regulation also includes measures to safeguard the separation between banking and commerce. Nevertheless, the new law has significantly relaxed the constraints on shareholdings by banks in non-financial firms. Banks may acquire equity stakes in non-

financial enterprises to an overall investment limit of 15 percent of own funds and a concentration limit that restricts their holdings in an individual firm to 3 percent of their funds. Finally, non-financial enterprises may acquire stakes in banks. To safeguard the separation between banks and commerce, non-financial enterprise may, as a rule, acquire only up to 5 percent of a bank's capital.

The Amato Law of 1990 accelerated the modernisation of the Italian banking system. This law tried to promote mergers and/or acquisitions between all types of banks. It allowed banks to become joint-stock companies which could be quoted on the stock market. It has contributed to a concentration in the banking sector, although the process has been much slower than originally anticipated. In 1986, Italy had about 1,100 banks with a global network of 13,645 branches. In 1996, the number of banks had declined to 937¹² while the number of branches had grown to 24,406. Between 1990 and 1996 there were 240 mergers. Most of these concerned small, local banks. One of the largest mergers up to now has been that of three Rome-based banks into the Banco di Roma¹³ and the largest acquisition that of the special credit institution (Crediop) by Istituto Bancario San Paolo.

Privatisation of public banks will contribute to the modernisation of the banking sector, as it will end political patronage and the possibility to politically influence banks' investment decisions. The government's privatisation programme included the sale of some state-owned banks and insurance companies. Large parts of the Banca Commerciale Italiana, Credito Italiano, IMI and INA were sold. The largest banking group, Istituto Bancario San Paolo, is going to be privatized in 1997.

Internationalisation of the financial system. Although the financial integration of Europe has helped to promote internationalisation, the degree of internationalisation of the Italian banking system is still rather low. This is partly due to the profitability of the banking system in the domestic market, and the low degree of efficiency of Italian banks in comparison to most other European banks. The presence of foreign banks in Italy has been modest. Between 1988 and 1992, the number of foreign banks even declined due to banking regulation disfavouring foreign banks.

The gradual removal of exchange controls and dismantling of the barriers impeding a free movement of capital have resulted in a sharp increase in capital flows. Capital flows increased rapidly between 1987 and 1990. In 1982, capital inflows were equal to Lit5 trillion (US\$4 billion), whereas by 1990 they had increased tenfold to Lit52 trillion (US\$43 billion). Foreign portfolio investments increased sharply. Italian households have started to invest part of their income in foreign assets, albeit still a very small part. In 1996, about 4 percent of household assets were held in foreign assets.

For the monetary authorities, borrowing on the international market does not derive from the need to have large-scale access to alternative financial sources. The absorption capacity of the domestic market is very large due to high household savings. Moreover, the size of the Euromarket rules out frequent large borrowings. Borrowing on the

international market would also increase the foreign currency share of the public debt which could have serious implications for domestic monetary policy. Therefore, the share of foreign debt in the total public debt never exceeded more than 5 percent. The activities of the Treasury in the Euromarket were partly aimed at sending signals regarding the lengthening of maturities. This policy was quite successful. In March 1990, the Treasury succeeded in issuing a 10-year Ecu bond. A year later, the Treasury began to issue 10-year fixed rate securities in lira. The Eurolira bond market has developed rapidly since its establishment in 1985. New issues increased from Lit225 billion (US\$100 million) in 1985 to Lit23 trillion (US\$15 billion) in September 1994. Most of the buoyancy in the Eurolira bond market is due to its increasing degree of deregulation, instrument innovation and the diffusion of derivatives. However, the market is not yet very liquid; bid-ask spreads are still high.

3. Monetary Policy

Responsibility for monetary policy is divided among different agencies. Monetary policy is the responsibility of the Interministerial Committee for Economic Planning (ICEP), the Interministerial Committee for Credit and Savings (CICR), the Treasury and the central bank, the *Banca d'Italia*.

The ICEP has to develop the criteria for national economic planning. It has to formally approve the monetary policy objectives that the *Banca d'Italia* develops. The *Banca d'Italia* does not have a statutory task with respect to the formulation of monetary policy, but the Italian Constitution states that the republic has the duty to protect savings, implying that the *Banca d'Italia* should pursue the goal of monetary stability.

The *Banca d'Italia* is responsible for the implementation of monetary policy. The CICR¹⁵, chaired by the Minister of the Treasury, directly supervises the banking sector. Until recently, it set the reserve ratios for deposits held by banks, but its role in setting reserve ratios has been taken over by the *Banca d'Italia*. These reserve ratios play an important role in monetary policy. The *Banca d'Italia* is also responsible for the daily supervision of the banking sector. Hence, monetary policy and the supervision of financial institutions are both tasks of the *Banca d'Italia*¹⁶.

Because of the liberalisation and deregulation of financial markets and the changes in the macro-economic environment, monetary policy has changed dramatically in the past two decades. The *Banca d'Italia* has increasingly been using market-oriented monetary instruments, but still had to resort to the use of direct controls in the 1980s .

3.1. Monetary Policy until 1981

In the 1970s, the *Banca d'Italia* used direct monetary instruments, of which credit ceilings (the so-called *massimale*) were the most important. The *Banca d'Italia* periodically defined monetary targets for total domestic credit. When the target was exceeded, banks were forced to hold deposits at the *Banca d'Italia* on which they did not earn any interest. The credit ceilings were selectively used, as small credits, credits from small banks, and credits from special credit institutions were exempt from these controls. Portfolio investment requirements (*vincolo de portafoglio*) required banks to invest a certain percentage of their deposits in long-term bonds issued by special credit institutions. The compulsory reserves forced banks to hold part of their deposits at the *Banca d'Italia* at interest rates lower than the prevailing market rates. These measures were supplemented by discount rate interventions and restrictions on foreign exchange and capital transactions.

The restrictive monetary policy employed during this period was only partially successful. Due to the selectivity with which the credit ceilings were applied, a large part of total credit was effectively exempt from the credit ceilings. The selective credit ceilings, moreover, forced banks to act evasively by splitting large credits into small ones. Although official interest rates were adjusted frequently during this period, they lay below the rate of inflation. Because of the subsequent negative real interest rates, the private sector was induced to contract debt resulting in a large demand for credit. Monetary financing of public deficits also contributed to the lack of success of monetary policy. Until 1981, the *Banca d'Italia* was forced to clear the market for Treasury Bills and Treasury Certificates. This obligation compelled the central bank to finance each budget overrun the government contracted. The obligation to finance government budget overruns systematically supported the dependent position of the *Banca d'Italia* as an executing agency for the Treasury.

3.2. Monetary Policy from 1981 until 1990

From 1981 on, the *Banca d'Italia* was no longer forced to clear the market for government securities. This landmark in monetary policy is usually referred to as the "divorce" (*divorzio*) between the Treasury and the *Banca d'Italia*. At the auctions of Treasury Bills and Certificates, the *Banca d'Italia* became one of the market agents. As a result, the Treasury was forced to issue its securities against prevailing market rates. Nominal interest rates were increased substantially, with the ensuing result that negative real interest rates turned positive. Because of the divorce, the dependency of the *Banca d'Italia* on the Treasury decreased, while the effectiveness of monetary policy increased. Since the divorce though, every budget overrun has not automatically resulted in monetary financing. However, during this period, the Treasury still had an automatic current account credit facility (*Conto Corrente di Tesoreria*) at the *Banca d'Italia* that could amount to 14 percent of total government expenditure as envisaged in the annual Financial Act. The Treasury could use this current account when the market for government securities

could not be cleared. As a consequence, part of the government budget was still financed monetarily during the 1980s, albeit at a decreasing rate.

The initial phase of liberalisation and deregulation increased the number of investment options for households, inciting them to display a more selective investment behaviour. As a result, the possibilities to influence the money supply through the use of short-term interest rates increased. Consequently, the *Banca d'Italia* has not extended the credit ceilings since 1983¹⁷. The cancellation of credit ceilings marked the transformation from a period of direct credit control to one that increasingly relied on indirect instruments to influence the money supply.

During this period, the basic objectives of monetary policy were to control inflation in order to reduce the inflation differential between Italy and its main trading partners and to maintain the stability of the lira in the Exchange Rate Mechanism (ERM). The operational variables used by the *Banca d'Italia* were broad money (M2)¹⁸ and the growth rate of domestic credit to the private sector¹⁹. Each year, the *Banca d'Italia* defined a target zone for these variables.

Since 1983, the monetary authorities have used various instruments to influence the money supply.

The major innovation in this period was the development of certificates of deposits. In most other countries, banks developed this instrument to evade regulations. However, in Italy it was the *Banca d'Italia* that tried to stimulate the use of this instrument. Due to the tax exemption on government securities, banks were initially not very interested in using this instrument. Yet, after the tax exemption on government securities ended in 1986, the market for certificates of deposits grew very rapidly. In 1990, certificates of deposits made up 26 percent of banks' total deposit base.

Standing facilities. Re-financing activities were the most important instruments of monetary policy in the 1980s. These activities included discounting of bills with maturities not exceeding 4 months at the discount rate, ordinary advances, and advances in compliance with the Ministerial Decree of 1974. Ordinary advances took the form of credit lines agreed with individual banks with a formal duration of not longer than 4 months, although they generally included automatic renewal clauses. They are used in periods of monetary squeeze. Advances in conformity with the Ministerial Decree of 1974, were mainly used during banking crises when banks were on the verge of collapse. In addition, the *Banca d'Italia* used fixed maturity advances (*anticipazioni a scadenza fissa*), applying different premiums above the discount rate for the various transactions²⁰.

Open market interventions. Open market interventions mainly took place through repurchase agreements (repos), through which the *Banca d'Italia* used to change the demand for credit and therewith the money supply. Repos were introduced in 1979 by the *Banca d'Italia* to control liquidity. In 1982, these transactions became subject to reserve requirements and consequently they became more expensive. Open market interventions took the form of repurchase agreements for Treasury Bills. The competitive auction method in which bids were placed for volume and price was established in 1981.

Credit Ceilings. From January to June 1986 and from September 1987 to March 1988, the *Banca d'Italia* had to temporarily impose credit ceilings to avoid a very sharp increase of the short-term interest rates as a consequence of tensions in the ERM.

Investment requirements (vincolo di portafoglio). Banks – with the exception of certain categories of small banks - were obliged to invest a given percentage of their deposits in long-term bonds issued by the special credit institutions. This requirement was gradually reduced and finally abolished in December 1986.

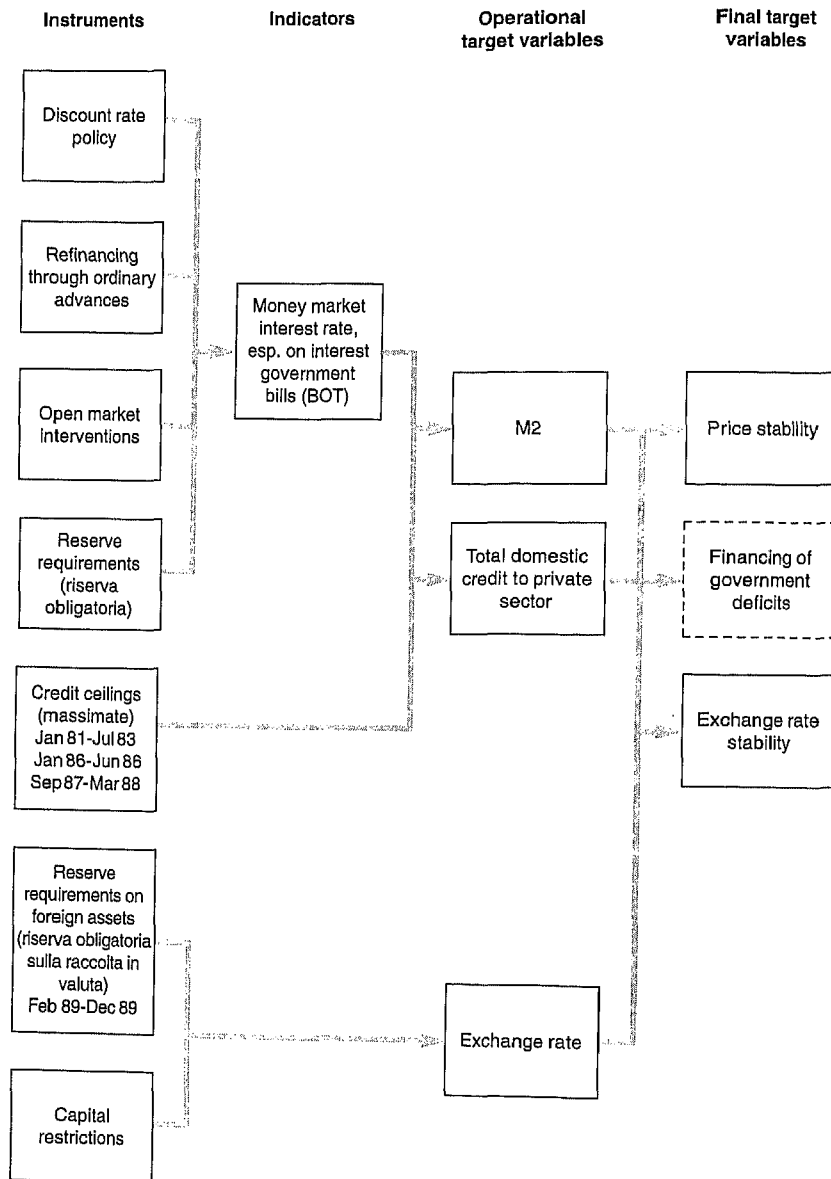
Reserve requirements. The use of compulsory reserves (*riserva obbligatoria*) was widespread. Banks, with the exception of certain categories of small banks (i.e., 'monte di pegno' and the 'casse rurali e artigiani'), were obliged to hold compulsory reserves. These compulsory reserves were held in the form of deposits earning 5.5 percent, while compulsory reserves with regard to certificates of deposits were earning 8.5 percent. The requirement was equal to 25 percent of the monthly increases in banks' customer deposits net of the corresponding increases in their own funds until the ratio of compulsory reserves to net deposits reached 22.5 percent. In 1989, a supplementary compulsory reserve with regard to the foreign currency funds of banks (*riserva obbligatoria sulla raccolta in valuta*) was enforced. This measure was implemented in an attempt to decrease the volume of loans in foreign currency, because they resulted in an appreciation of the lira.

Monetary policy during the 1980s had a restrictive character due to the large borrowing requirement of the government, the deficits on the current account and the exchange rate stability that the ERM required. Yet, monetary policy during this period was still not very effective. The lack of success was due to the negative impact that some monetary instruments generated in the Italian financial markets.

Households held a large part of the public debt during this period. In 1988, households held about 32 percent of total government debt. In addition, a large part of the public debt was directly or indirectly linked to short-term interest rates. The effect of using interest rates as a regulatory instrument was limited due to the positive impact it had on households' disposable income. Because of higher interest rates, households earned more (interest) income on their government securities.

The size of the public debt and its composition also reduced the possibilities of the *Banca d'Italia* to conduct an effective monetary policy. Financing a large public deficit with minimum recourse to monetary financing meant a policy of high interest rates. This policy resulted in high budgetary costs. The interest burden of the public debt in 1990 was 9.7 percent of GDP. Theoretically, an increase in the discount rate has an adverse impact on credit demand. In Italy, however, a discount rate increase resulted in an increase in credit demand exercised by the government. Data regression shows that there is a positive correlation between the growth of domestic credit and the discount rate. In such a context, any increase in the interest rate directly pushed up the government's borrowing requirement, and hence credit demand.

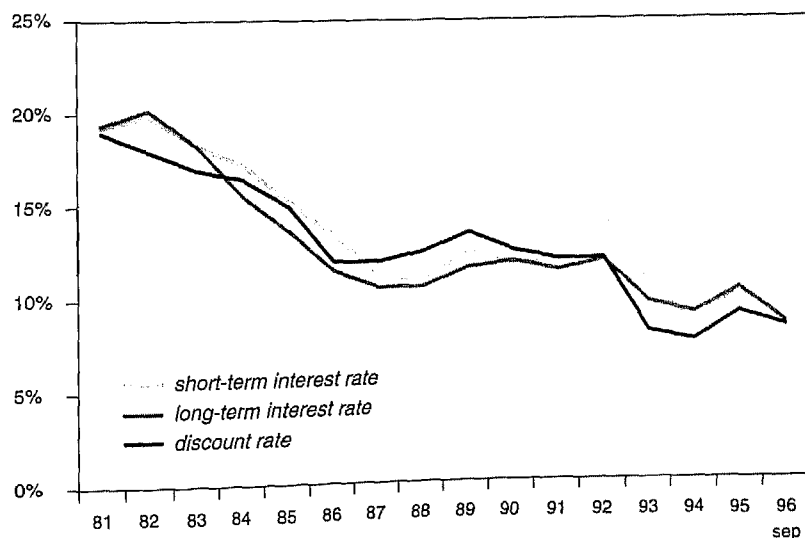
Figure 1 Monetary policy during the 1980s



The government did not have many instruments at its disposal to finance its government deficits. High inflation, in combination with the increasing government borrowing requirements in the 1970s and the beginning of the 1980s, resulted in an indexation of interest on government securities and a shortening of debt maturities. With the sharp decline in inflation, the authorities were able to reduce the volume of government securities with variable interest, and hence improve the average debt maturity. The average maturity of public debt increased from slightly above one year in 1983 to 2.6 years in 1990, but the trend during the 1980s was erratic. Unfavourable expectations with respect to inflation, and the size of the budget deficit rapidly translated into a shift of the demand for medium- and long-term to short-term government securities. Such a shift in demand obliged the monetary authorities to raise interest rates to avoid an obvious reduction of the debt maturity.

During the 1980s, the money and capital markets showed structural surpluses, suggesting that the process of financial liberalisation and deregulation was not completed. During a number of years, short-term interest rates lay below the discount rate. Until September 1986, government securities were tax exempt. Interest taxation on government securities was gradually implemented and by September 1987, government securities were subject to a withholding tax of 12.5 percent, which was still lower than the tax rate applied to interest payments on current accounts, and (inter)bank deposits²¹. The inverse rate structure that characterised the Italian financial markets during the 1980s was due to the absence of a well-functioning capital market. At the end of the 1980s, the capital market was still not very developed. Government paper dominated the bond market, while the size of the equity market was still very small.

Figure 2 Interest rate developments from 1981 to 1996



The effectiveness of open market interventions depended on to what degree the banking sector let the change in government securities affect the credit volume. A large part of the financial assets of banks consisted of government securities. In 1988, banks held about 15 percent of total government debt. The effectiveness of monetary policy could be hampered when banks changed the composition of their portfolio by selling their government securities in order to prevent a liquidity squeeze.

As a consequence, the burden of adjustment during the 1980s was mainly borne by the external sector. The restrictive monetary policy led to major inflows of foreign capital (especially after 1988 when exchange controls were dismantled), surging money reserves and an appreciation of the Lira, resulting in a deterioration of the competitiveness of the Italian export industry. The temporary strength of the Lira at the time was underpinned by the exclusion of a realignment by the Italian authorities.

3.3. Monetary Policy in the 1990s

In the 1990s, the autonomy of the *Banca d'Italia* was gradually increased. In February 1992, the *Banca d'Italia* was given complete authority to make changes in the official discount rate. The *Banca d'Italia*'s autonomy was also extended by legislation to reform the Treasury's overdraft facility (*Conto Corrente di Tesoreria*) at the *Banca d'Italia*, a result of the second stage of EMU. The elimination of the overdraft facility brought Italian law in line with the provisions of the Maastricht Treaty. The provisions in this treaty prohibited the Treasury from financing the public deficit using monetary methods²². In addition, legislation was passed that significantly increased the power of the *Banca d'Italia* to set banks' compulsory reserve ratios²³.

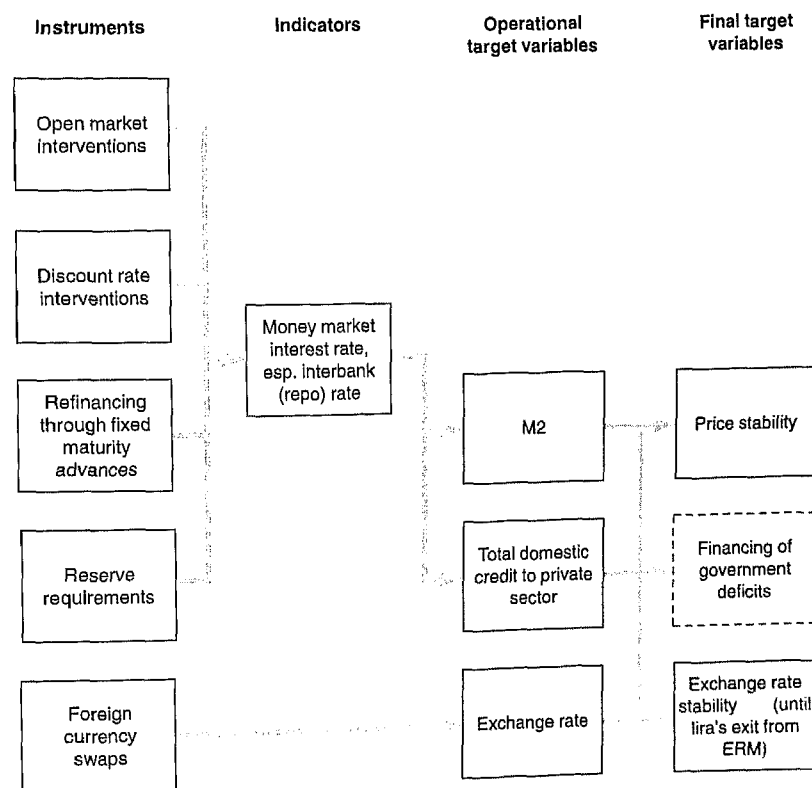
The monetary policy environment changed significantly in the beginning of the 1990s. The fluctuation range of the lire in the ERM was narrowed in January 1990 to the normal fluctuation margin of 2.25 percent, while in July 1990 all foreign exchange controls were abolished. Due to these two changes, Italy experienced a substantial loss in monetary autonomy. Increasingly, the conflicting aims of monetary policy began to emerge: on the one hand, the need to keep interest rates high in order to restrain inflationary pressures and, on the other hand, to keep them low in order to ease the burden of interest payments on the public debt. In 1992, the lira started to depreciate in its ERM band. In September 1992, speculation against the lira forced a realignment of the ERM currencies reducing the central value of the lira by 7 percent. However, as speculation against the lira continued, the lira was suspended from the ERM.

The lira's exit from the ERM did not change the basic objectives of monetary policy. The monetary authorities still aimed to curb inflation in order to reduce the inflation differential between Italy and its main trading partners and to maintain exchange rate stability. However, the framework for policymaking has changed. As the *Banca d'Italia* has gained greater autonomy in monetary policymaking, it could pay more attention to monitoring monetary trends. The operational variable used by the *Banca d'Italia* was the growth of M2. The *Banca d'Italia* adjusted the definition of the M2 aggregate in 1990 to

accommodate increasing capital mobility²⁴. The *Banca d'Italia* also used total credit growth to the non-state sector and the monetary base as monitoring indicators.

During the 1990s, the range of monetary policy instruments was extended. As a result of the elimination of the Treasury's overdraft facility at the *Banca d'Italia*, it was no longer possible for the Treasury to finance its deficits monetarily. The *Banca d'Italia* has been increasingly using open market interventions instead of traditional refinancing instruments. Still, the existing refinancing instruments and reserve requirements were also subject to reform in the 1990s.

Figure 3 Monetary policy during the 1990s



Open market interventions. The *Banca d'Italia's* open market interventions predominantly take the form of temporary security-based repurchase agreements. This instrument has become the main mechanism of controlling liquidity. However, the use of repurchase agreements requires a well-functioning interbank market. Due to the segmentation of the

banking sector, the interbank market was originally used to allocate funds between banks having an excess of deposits over loans and banks having a deficit. Because the functional division of the banking sector was lifted in 1987, the need for re-allocating funds among the various categories of banks diminished. The scope and the depth of the market grew, because of innovations in the payments system, and the introduction of an automated interbank deposit system. Mobilisation of compulsory reserves (because of the reduction in reserve ratios) assisted the modernisation and strengthening of the interbank market, while the abolition of the withholding tax on interbank deposits in 1992 also had a positive impact on the development of this market. Banks became increasingly able to manage their liquidity more efficiently. As a result, the volatility of interbank interest rates fell significantly²⁵, and the informative value of the interbank interest rates increased considerably. In the 1990s, the interbank rate (especially the repo rate) has increasingly replaced the Treasury Bill rate as the most important determinant of the lending rate.

Bond repurchase agreements are made at the discretion of the *Banca d'Italia*. The rate at which they are settled is determined by a competitive auction. Participants in Government Bill (BOT) auctions and market-makers in the government bond on-screen market have automatic access to repo facilities which are settled against market rates.

Since February 1994, the *Banca d'Italia* has also been using outright operations in Treasury Bills on secondary markets²⁶. These transactions are carried out with government paper with short and long residual maturities. This instrument is not primarily used to control the monetary base, but its main function is to keep order in the secondary market. Foreign currency swaps are also part of the instruments of the *Banca d'Italia*, and were introduced after the lira's exit from the exchange rate mechanism.

Standing facilities. In May 1991, the regulation on fixed-maturity advances was modified to allow for a single premium to be added to the discount rate. The size of this premium, up to ceiling of 1.75 percent, depends on the need to control the money supply. The higher premium on fixed-rate advances has accentuated the last-resort character of this instrument. Banks rely on fixed-maturity advances only on a residual basis. Accordingly, the rate on fixed maturity advances has ended up essentially as a ceiling on the interbank rates²⁷. With the reform of the fixed-maturity advances, the monetary authorities have created a system for controlling short-term interest rates and managing *Banca d'Italia* refinancing that closely resembles the model used in Germany (where the discount rate and the Lombard rate play leading roles).

Reserve requirements. In October 1990, the *Banca d'Italia* introduced changes in the compulsory reserves system. These changes coincided with reform of the Treasury account. The EC directives required the abolition of the current account facility that the Treasury held at the *Banca d'Italia* to ensure the independence of the *Banca d'Italia*.

The mobilisation of compulsory reserves, aimed at deepening the money market and improving its efficiency, gave prominence to short-term interest rates as an indicator of

the stance on monetary policy. Due to changes in the regulation on compulsory reserves, more than Lit 53 trillion (US\$ 33 billion) of compulsory reserves was released during 1993 and March 1997. The release of these reserves did not result in a sharp rise in the monetary base as, at the same time, the Government was absorbing liquidity by transforming its overdraft facility into long-term securities²⁸. The release of the reserves resulted in a decline in the lending rate. As a consequence, gross interest margins in the banking sector have slowly declined²⁹. Although the efficiency of the financial system increased significantly during this period, due to a sweeping wave of reform, bank margins have not yet declined rapidly. Yet, experience in the beginning of the 1980s shows that there is a substantial time lag between a reduction of interest margins in the banking sector and structural financial reforms.

Table 4 Reserve requirements since last reform of July 1994

Characteristics	Reform of June 1994
Institutions subject to reserve requirements	All banks
Deposit liabilities subject to the requirements	Lira funds from residents and non-residents and foreign currency funds from residents <i>Exempt:</i> repos with customers, interbank deposits, lira funds from non-resident banks other than branches of Italian banks, and CDs, savings certificates and bonds not repayable for 18 months
Exempt amount	Lit200 billion
Reserve ratio	16% of the change in the reference aggregate
Interest paid on reserve ratio	5.5% on all compulsory reserves
Mobilisation	From July 15, 1994, January 15, 1995, and July 15, 1995 respectively 8, 9 and 10 percent of compulsory reserves

Since the sharp devaluation of the lira in September 1992, Italy has generated substantial current account surpluses on its balance of payments. Although these surpluses have given the *Banca d'Italia* some room to manoeuvre, monetary policy still has a restrictive stance. In the era of floating exchange rates, the instable political situation and more specifically the prospects of the pace of fiscal consolidation have had severe repercussions on the financial markets and on the exchange rate. The success of monetary policy in such a context depends on the progress made in reducing government deficits and public debt.

The effectiveness of monetary policy has improved significantly over the past few years. Interest rates have become increasingly useful as indicators for the stance of monetary policy. BOT rates have increasingly lost their predictive capacity as indicators of developments in the money market. The interbank rate and especially the repo rate, have

become important money market indicators. Moreover, the exclusion of non-resident banks' lira deposits from the reserve requirements and the abolition of the withholding tax have made Eurolira rates more responsive to domestic rates, and has linked the interbank market with the Eurolira market.

Like in the preceding decade, the impact of interest rates is partially offset by the positive effect an interest rate increase has on households' disposable income. Households consider their holdings in government securities as part of their disposable income,³⁰ which accordingly affects their spending decisions. In 1996, 33 percent of government securities were held by households, 2 percent by companies and 28 percent by banks. From mid-1994 on, long-term interest rates were no longer structurally below the short-term interest rates, suggesting that in this period the capital market is more developed than in the early 1980s due to the impact of financial deregulation and liberalisation. But the development of the capital market still lags behind that of the money market. The capital market is only partially developed. It is completely dominated by the government while the private capital market remains underdeveloped. Stock market capitalization is still low.

Since 1984, the *Banca d'Italia* has set target ranges for broad money (M2). This indicator has been reasonable successful. The growth of M2 moved along the target ranges set by the *Banca d'Italia*³¹. Yet since 1992, this indicator has performed less well in explaining the behaviour of money demand. In 1995, the *Banca d'Italia* stopped announcing a specific target range for M2. With increasing financial innovation, the volatility of the ratio of M2 to nominal GDP seems to have increased. The reduction of reserve requirements, the restructuring of the banking system and increased public access to the equity markets associated with the privatisation programme may also change the range of assets that are substitutes for money, altering the influence of interest rates on money demand. These changes may make the money stock less reliable as a monetary target or indicator than at present. It is likely that as Italy has not yet completed the process of financial innovation, the volatility of the money demand may increase in the future.

However, the *Banca d'Italia* was less successful in maintaining the stability of the exchange rate. Between 1992 and 1996, the nominal effective exchange rate declined by 21 percent. There are even some indications that the lira is currently undervalued³². The monetary authorities in Italy succeeded to bring the lira back in the ERM mechanism at the end of 1996 so that Italy can participate in the third stage of the European Monetary Union (EMU). To ensure access to EMU, the currency has to be within the normal band of the ERM in the two years preceding EMU, which is still planned for January 1, 1999.

The size of the public debt and its composition reduces the possibilities of the *Banca d'Italia* to conduct an effective monetary policy. Italy's public debt ratio is declining, albeit very slowly, and hence interest payments are still very high. An effective monetary policy can not stem this tide, as it cannot be a substitute for lack of an effective budget policy. The government has started to seriously tackle the high budget deficit. Although the budget deficit is very large, the pace with which the structural budget has been

reduced, is faster than in any of the other OECD countries. The government's financing requirement will decline to 3 percent in 1998. As a result, the public debt will decline to 115 percent in that same year. If the Italian government is able to achieve these objectives, Italy's budget problems will become easier to handle and as a consequence its monetary policy will become more effective.

4. Future Developments

Liberalisation, deregulation and internationalisation have already resulted in an increasingly competitive financial system. Yet, the modernisation process has still not been completed.

Financial Markets. The liberalisation of the financial markets will result in increasing competition in the banking sector. The dissolution of the legally enforced maturity segmentation, and branch expansion have already resulted in a modest decline in banks' interest margins. Increasing competition has also resulted in a growing number of mergers and take-overs. The number of the former specialised credit institutions has been reduced by half in the past few years. Since the new Banking Law has only been in effect since January 1994, its impact on the banking sector is not yet very clear. At the same time, the performance of many Italian banks is rather poor, reflected in, amongst other things, the low rate of return on equity and the high level of bad debts. The sharp decline in net interest income has not yet been matched by a significant decline in operating costs. In 1994 about 20 percent of the banks made losses, which will be an incentive to more mergers and take-overs in the banking sector. As a result, it is likely that the concentration process will gain more momentum in the years ahead.

The increasing competition has already resulted in a shift in banks' activities. Banks and special credit institutions which used to focus on their corporate clients, have long neglected retail banking. In the early 1990s a number of regulations governing banks' retail activities were liberalised. For instance, the proportion of residential property that could be financed by mortgage was raised. Consumer credit has increased rapidly. The payments system has developed rapidly, and the number of branches per inhabitant is presently in line with the European average. The old maxim, that Italy was 'overbanked, but underbranched' seems to be overtaken by a new reality.

The changes in the financial markets have resulted in a decline in household savings. Household savings were equal to 23 percent of disposable household income in 1980, but declined to about 15 percent in 1995. Households are increasingly able to consume more against the background of relatively smaller savings because they have gained easier access to credit. Lower lending rates and transaction costs also reflect the success of financial deregulation and liberalisation. Moreover, the insurance sector has been developing rapidly in the past decade. The decline in household savings is having its impact on the funding base of the banks, whose deposit base is growing, but only very slowly.

Monetary Policy. The *Banca d'Italia* faces a number of problems that have an adverse impact on the effectiveness of future monetary policy. Since 1993, the *Banca d'Italia* has been gradually reducing the reserve requirements. The percentage of compulsory reserves in Italy still remains higher than that imposed by other EU countries, and is therefore putting Italian banks at a competitive disadvantage compared to banks abroad. In view of European integration, it is likely that the reserve requirements will decline further. A subsequent reduction of the compulsory reserves, however, has major implications. In December 1996, compulsory reserves still amounted to Lit 72 trillion (US\$ 47 billion). The release of the compulsory reserves coincided with the transformation of the Treasury overdraft facility into interest-bearing treasury deposits (although the interest rate on these deposits is still below the market rate). The impact of the release of the compulsory reserves was thus largely neutralised. A further reduction of the minimum reserve coefficients will have a significant impact on both the budget deficit and the control of monetary aggregates.

Also weakening the effectiveness of monetary policy is the adverse impact of the use of the discount rate. As households hold a large part of the government debt, an increase in the discount rate results in a larger disposable income, while the demand for credit by the government increases due to its higher interest payments on public debt. The share of households financing public debt is still growing, even though the opportunities to invest abroad have substantially increased since the abolition of exchange and capital controls in 1990. Households have been attracted by the high domestic real interest rates. Up until now, financing the government debt has not yet resulted in any problems, but the price to be paid is reflected in the high real interest rates including a higher risk premium. In Italy, the real long-term interest rate has been around 5 to 6 percent since 1990, which is higher than that in any of the other G-7 countries.

The need to continue to reduce the government budget becomes increasingly more urgent with the liberalisation of the financial markets, its impact on household saving behaviour, and the low average debt maturity. Italy's gross public issues were about 59 percent of GDP in 1996. This high rate of turnover presents a threat to monetary policy, as this could easily spin out of control. The *Banca d'Italia* has been able to continue with its policy to increase the average maturity of the public debt (from 2.6 years in 1990 to 4.3 years in 1994). In 1996, about 60 percent of the public debt was denominated in medium- and long-term securities, compared to 48 percent in 1990. The financial system is still exposed to external shocks and to changing expectations in domestic markets as has been shown clearly in the developments of the past years. The fragility of the financial system therefore still poses a threat for the future.

European Monetary Union. Countries entering the Economic and Monetary Union have to fulfil a number of conditions in advance for the adoption of a single currency. In particular the conditions with regard to the sustainability of the government's financial position, still exclude Italy from entering EMU at this moment. Its government deficit is higher than 3 percent of GDP, while the ratio of government deficit to GDP is far above the required 60 percent of GDP. However, given the progress made by Italy since 1991 in this respect, there still is a good chance the country will enter EMU in 1999.

The EMU will result in a single monetary policy, which requires full harmonisation of monetary instruments. It is assumed that European monetary policy will be essentially based on that of Germany. As Italy's monetary instruments resemble those of Germany, no large adjustments will have to take place. Italy currently pursues a monetary policy (M2). Its instruments include standing facilities, with an interest rate corridor made up by the discount rate and the rate on fixed-maturity advances. More important, however, are open market interventions, which predominantly take the form of repurchase agreements (i.e. repo facilities). Outright transactions and foreign currency swaps are less important. The auction procedure for open market interventions in Italy is, just like that in Germany, mainly based on interest tenders. Still, reserve requirements are important, and despite the mobilisation of these reserves in the 1990s, they still accounted for close to 4 percent of GDP in 1996, which is significantly larger than the reserve requirements being implemented in Germany. As a consequence, a further mobilization of reserves will be necessary to bring Italy more in line with the rest of Europe. The problems associated with mobilizing these reserves should not be underestimated. A reduction in minimum reserve requirements would result in a large increase in the monetary base, and as a result could create serious problems in controlling liquidity if the Government does not make important progress in reducing its budget deficits.

5. Evaluation

Financial deregulation and liberalisation have radically changed the Italian financial landscape in the past decade. These changes have had a profound impact on monetary policy. The reduction in reserve requirements, the restructuring of the banking system and increased public access to the equity markets have changed the range of assets that are substitutes for money. These changes have altered the influence of interest rates on money demand.

Since 1984, the *Banca d'Italia* has set target ranges for broad money (M2). With increasing financial innovation, the volatility of the demand for money seems to have increased. These changes have made the money stock less reliable as a monetary target or indicator. Subsequently, the use of a stringent money supply policy has become increasingly difficult. The current macro-economic situation, which is characterised by large government deficits, and a rapidly evolving financial system, demarcates the context in which monetary policy has to operate. Monetary aggregates will be important for the medium-term orientation of monetary policy, but it is likely that in the short run the *Banca d'Italia* will continue using interest rates as the most important instrument of monetary policy.

Implementation of monetary policy has faced, and is still facing, major problems due to the existence of large government budget deficits. The conflicting aims of monetary policy have emerged more clearly in the past decade: on the one hand, the need to keep interest rates high to restrain inflationary pressures and ensure exchange rate stability

and, on the other hand, the need to keep them low to ease the burden of interest payments on public debt.

Consequently, the emphasis in monetary policy has shifted continuously between the objectives of monetary stability, exchange rate stability and the financing of budget deficits. The *Banca d'Italia* has been overall successful in achieving its goal of monetary stability. Inflation declined from 21 to 4 percent between 1980 and 1996. Although the authorities were able to maintain the lira's position within the larger fluctuation margins of the ERM in the 1980s, increasing financial deregulation and innovation made it increasingly difficult to achieve exchange rate stability without dire consequences for the financing of government deficits, and the lira had to leave the ERM in 1992. It returned to the ERM at the end of 1996, which would ensure that Italy will be allowed to participate in the EMU, planned to be implemented in January 1999. However, it is still unsure whether Italy will be part of the first or the second wave of countries joining the EMU.

The burden of interest payments on public debt has been reduced due to the fall in the rate of inflation and the resulting reduction in the nominal long-term interest rates. But real interest rates have been increasing as interest rates increasingly reflect market conditions. These deficits make financial market reform more costly as interest rates will have to include a higher risk premium. The Government has recently started to tackle the high budget deficits. In 1996, public debt amounted to 124 percent of GDP. The effectiveness of Italy's future monetary policy will mainly depend on the success of the Government in reducing these budget deficits. Although the current developments are positive yet, especially now that Italy has started a final sprint by taking structural fiscal measures and introducing a Eurotax to cut the budget deficit to the 3 percent EMU target, Italy still has a long way to go in reducing its budget deficits. When the Government succeeds in pursuing the present deficit reduction, it will help Italy to consolidate its future monetary policy, and to ensure its participation in the EMU. When public debt and the interest rate sensitivity of the public budget are not significantly reduced, monetary and budgetary policies will remain potentially in conflict with each other, and the *Banca d'Italia* will find itself caught between a rock and a hard place.

Notes

- 1 Government is defined as the central government, local government and social security institutions, but does not include state agencies.
- 2 The primary budget deficit has been defined as the budget deficit minus interest payments on public debt.
- 3 OECD, Italy: 1994/1995. Paris, November 1994.
- 4 The 1995 law modified a number of the 1994 measures so as to increase its political acceptability.
- 5 This law on take-over bids was further adjusted in 1994.
- 6 Privatization of Stet and ENEL was originally scheduled for 1995, but have been postponed several times and is now expected to take place before the end of 1997.
- 7 Euromoney, Guide to Italy 1995. January 1995, pp. 10.
- 8 Mahmood Pradhan, Privatization and the Development of Financial Markets in Italy in: Finance and Development, December 1995.
- 9 Bank lending is defined as lending by banks and special credit institutions.
- 10 The 1993 Banking Law went into effect on January 1, 1994.
- 11 Until the introduction of the new Banking Code, *Banca d'Italia* distinguished seven categories of banks which mainly differed in the scope of their activities.
- 12 The number of banks does not include central credit institutions and foreign banks.
- 13 The merger of the Banco di Roma included the Cassa di Risparmio di Roma, Banco di Roma and Banco di Santo Spirito.
- 14 The state still owns 3.3 percent of Credito Italiano, 27.4 percent of Banca Commerciale Italiana and 28 percent of IMI.
- 15 Apart from the Minister of the Treasury, the Ministries of Finance, Public Works, Budget and Economic Planning, Foreign Trade, Industry, Agriculture and Forestry and EC Affairs are also represented. Before the approval of the new Banking Code, the Ministries of State Shareholdings and the Mezzogiorno (Southern Affairs) were also represented in this organization.
- 16 For example in Germany, implementation of monetary policy and supervision of the financial sector are separate tasks.
- 17 The credit ceilings were not abolished; they were no longer extended. The credit ceilings resulted in distorted competition in the financial markets as they weakened the position of banks versus special credit institutions and also that of larger banks versus smaller banks.
- 18 M2 was defined as notes and coins, and sight deposits held by non-money creating institutions, and savings deposits and certificates of deposits.
- 19 The growth of domestic credit to the private sector is defined as the credit growth because of bank loans in lira or foreign currency, special credit institutions' credits and bonds issued by the corporate sector. The total domestic credit growth also includes the financing requirements of the government.
- 20 For transactions taking place within 90, 120 or 150 days, the penalties or premiums added to the discount rate were 3, 2 and 1 percentage points respectively. In 1984, the relevant periods were changed to 5, 15, and 30 days, while in 1985 the penalties were changed to 2.25, 1.25 and 0.50 percentage points.
- 21 The withholding tax on interbank deposits was abolished on January 1, 1992.
- 22 After the elimination of the overdraft facility, the Treasury opened a new interest-bearing account with the central bank. The central bank's claims against the Treasury, accumulated since 1948 under the overdraft facility, amounting to Lit95 trillion (or 6 percent of GDP), will be transformed into long-term government securities carrying an interest rate of 1 percent per year. In addition, since January 1994 the *Banca d'Italia* no longer acquires government securities when issued nor provides temporary financing for Treasury Bills purchased by the market.

- 23 The *Banca d'Italia* was given independence in fixing the ratios of the compulsory reserves, determining the definition to calculate the reserve requirements, and the interest rates payable on compulsory deposits.
- 24 M2 is now defined as notes and coins, banks' current accounts, residents' current accounts in foreign currency, post office current accounts, current accounts with other bodies, banker's drafts issued by the *Banca d'Italia*, banker's drafts issued by other credit institutions, bank savings deposits, certificates of deposits issued by banks and post office savings accounts. The new extended M2 also includes lira and foreign currency deposits with Italian banks operating abroad.
- 25 The interest rates on the interbank market – prior to the mobilization of required reserves - could fluctuate from 2 to 14 percent within only a few hours. Banca Commerciale Italiano, Monetary Trends: The Italian Interbank Market. July, 1994.
- 26 These operations are conducted with the primary dealers of the screen-based market for Treasury securities (MTS).
- 27 The *Banca d'Italia* grants the advances on the basis of discretionary criteria (to avoid providing systematic coverage of structural deficits or inefficient management by banks), and since the amount of the advances is subject to quantitative limits, interbank markets can rise above the fixed-maturity advance rate in case there is a lot of tension in the money market.
- 28 This problem is not yet solved, as the Government currently pays interest on these long-term securities to the *Banca d'Italia* which lies below the market rate.
- 29 Interest margins are defined as the difference between deposit rates paid by banks, and lending rates charged by banks.
- 30 The Ricardo-Barro theorem does not seem to apply here, as interest payments on the public debt have generally not been financed by tax increases, but by new issues of securities.
- 31 With the exception of 1991, when the growth in M2 was 9 percent while the target zone was 5 to 8 percent. Monetary overshooting was due to a higher than anticipated public sector borrowing requirement.
- 32 See: IMF Staff Country Report No. 95/36, Italy - Background Development and Issues, Washington D.C., May 1995. This report states that the lira is currently undervalued if announced (budget) policies are pursued (i.e., if the authorities succeed in pursuing fiscal adjustment and maintaining moderate inflation).

Financial markets and monetary policy in Spain

*By Paul Hilbers and Gera Voorrips**

1. Introduction

Spain's post-war economic development has been remarkable. During the first decades the Spanish economy still had many of the characteristics of autarchy. The establishment of Spain's membership of the International Monetary Fund in 1958 and a Fund-supported economic adjustment programme in 1959 marked the beginning of a more open economic system. The 1960s saw high economic growth rates, mainly due to receipts from tourism and transfers from Spanish workers abroad. Also, an industrial base was set up. However, it was not until the fall of the Franco regime in the mid-1970s that the process of opening up the Spanish economy really started.

During the late 1970s, the emphasis was on political reform, and the economy suffered heavily from the oil price shocks. In the early 1980s, however, the economic and financial reform programme gained pace. This process was enhanced by Spain's membership of the European Community (EC), which dates back to January 1986. The country underwent a process of transition from a rigid, state-controlled and protectionist economic environment to a modern market economy. This transition process has been very fundamental and, although starting from a different position, it shares a number of characteristics with the transition presently taking place in some Eastern European countries. The process includes the gradual lifting of controls, the opening up of markets to foreign investors and competition, the liberalization of the financial sector, the abolition of rigid direct monetary instruments and the introduction of new indirect controls. In 1989 a major step was taken with the peseta joining the EC Exchange Rate Mechanism (ERM). Although the economic growth performance has improved since the difficult times of the early 1980s and inflation has declined considerably, this was unfortunately accompanied by increasing budget deficits and a persistent unemployment problem (Table 1). Recently, developments have been promising, with the exchange rate strengthening, inflation coming down, improving budgetary outcomes, and the current account showing a minor surplus.

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Table 1 Spain: Main economic indicators (period averages)

	1960s	1970s	1981-85	1986-90	1991-95	1996
inflation (%)	5.8	15.0	12.1	6.6	5.7	3.6
real GDP growth (%)	7.3	3.5	1.5	4.5	1.4	2.2
unemployment (% of labour force)	2.5	5.4	18.0	18.9	21.1	22.2
current account deficit¹ (-)	-1.3	-0.8	-0.7	-1.1	-1.5	0.5
budget deficit¹ (-)	0.0 ²	-0.6	-5.3	-3.8	-5.8	-4.4

Source: European Economy, December 1996; OECD Economic Outlook, December 1996.

1. In percentage of GDP.
2. Average for the period 1964-70.

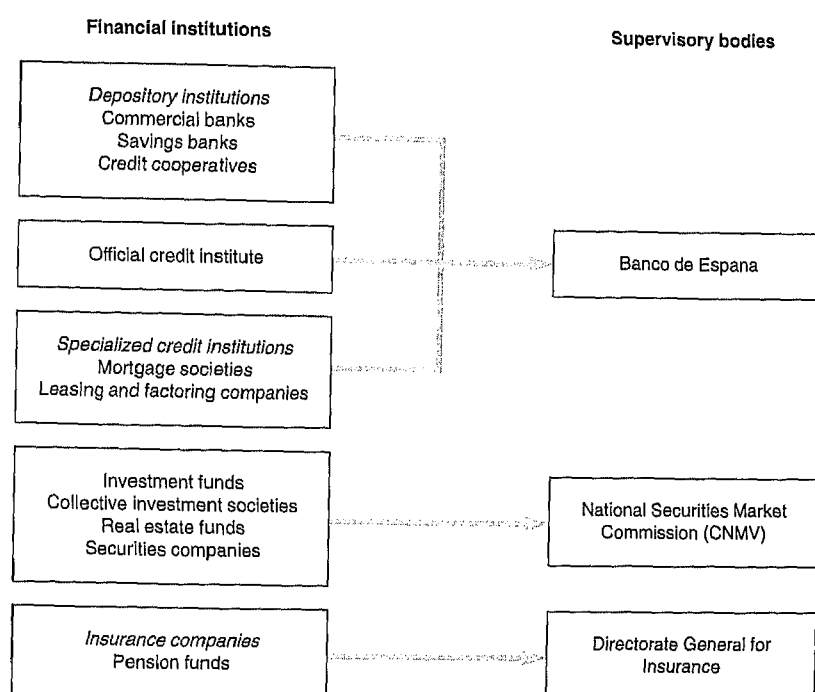
Below we will first describe the main developments in Spain's financial sector during this 'transition' period. In doing so, a distinction is made between the structure of the financial system (types of institutions), the functioning of the financial markets, and the implications of the process of liberalization and deregulation. Subsequently, we will turn to the changes in monetary policy implementation. It appears that there have been important changes, in terms of both the instruments used and the indicators and targets of monetary policy. These changes were sometimes caused by financial deregulation, while in other cases they initiated it. Furthermore, these changes reflected the internationalization of the Spanish economy in general, including its membership of the EC and the ERM. Our main conclusions, particularly with regard to future developments, are summarized in the last paragraph.

2. The Spanish financial system

2.1. Financial institutions

Initially, the financial sector (consisting mostly of banks) was strongly regulated and used as an instrument to support the economic policies of the government. Gradually, however, it has evolved into a modern system with mainly universal banks, but also including other types of financial institutions. According to the classification of the Banco de España, the following financial institutions can be identified (Figure 1). The banking system includes depository institutions and other credit institutions. The depository institutions can be considered universal banks and comprise commercial banks (about 165¹), savings banks (about 50¹) and credit cooperatives (about 100¹). The other credit institutions include specialized credit institutions (e.g. factoring and leasing companies, and mortgage loan companies) and the Official Credit Institute. All the credit institutions are supervised by the Banco de España. Other financial institutions, outside the banking

Figure 1 The Spanish financial sector



Source: Casado, Compy and Chulia (1995, p 14)

system, include securities companies, a large number of (collective) investment companies (unit trusts), real estate funds, insurance companies and pension funds. These other financial institutions operate under the supervision of the National Securities Market Commission (CNMV) or the Directorate General for Insurance².

Traditionally, there were different regulations for savings banks ('Cajas') and commercial banks. Savings banks were geographically limited in their operations and were obliged to invest substantially in government debt and community projects. This led to a relatively large involvement of savings banks in the retail market and mortgage financing. On the other hand, commercial banks traditionally focused on the financing of industrial enterprises. Nowadays, the two types of institutions are subject to the same regulations, and only the property structure still differs³. Nevertheless, although the composition of the balance sheets has converged and savings banks have succeeded in capturing a larger market share, basic patterns in their assets and liabilities continue to exist (Table 2)⁴. As a consequence of the process of liberalization, the state-owned credit institutions were reorganized. In 1991 some of the official credit entities were merged with the Postal Savings Institution and the Banco Exterior to form 'Argentaria'. This state-owned bank has since been partly privatised⁵.

Table 2 Assets of the Spanish financial system (1000 bn pta)

	1985	1990	1996 ¹
banking system	45.1	83.3	131.8
commercial banks (of which foreign)	26.9 (3.2)	42.6 (6.7)	77.8 (15.5)
savings banks	12.0	25.4	42.7
credit cooperatives	1.2	2.1	4.2
other credit institutions	6.5	13.2	7.1
other financial institutions²	0.3	1.5	16.9

1. As of October 1995.
2. Data available for portfolio investment institutions only.
Source: Banco de España, Statistical Bulletin.

The credit cooperatives (sometimes called cooperative savings banks, e.g. rural banks, general cooperatives) only form a minor part of the banking system. They are traditionally net providers of funds to the interbank market. Foreign banks were initially small in size as they were generally not allowed to enter the Spanish market before 1978 and restrictive regulations were in place until the end of the 1980s⁶. As they did not have a large retail network at their disposal, these foreign banks were not able to attract substantial funding from the non-bank private sector. This has improved somewhat since the elimination of interest regulations, when foreign banks became able to introduce high yielding deposit schemes. Nevertheless, the emphasis of foreign bank activity seems to be on the financing of the corporate sector, the introduction of innovations and the development of niches. The market share of foreign institutions has grown considerably over the past decade; at present they represent about one tenth of the Spanish banking sector.

The so-called other financial institutions form a fairly diverse group, ranging from investment firms to mutual funds and from unit trusts to pension funds, which have shown a remarkable expansion in recent years. This was stimulated by favourable tax treatment and strong promotional efforts⁷. The EC regulation for investment firms has applied since 1990 and has led to capital adequacy rules, thus creating a homogeneous competitive environment for these firms⁸. Private pension funds, which offer different kinds of insurance (old age, orphanage, disability etc), have also emerged. It was not until 1987 that a regulatory framework was introduced, when demographic changes and negative outlooks for the public pension funds were felt. Participation in a pension fund is possible on a voluntary basis and serves as a complement to the public schemes of social security⁹. Mortgage funds appeared in 1992, initiated by government measures to stimulate investment in mortgages by enlarging the possibilities of securitization of these assets. It should be noted that almost all insurance companies as well as a large proportion of the investment funds are managed by banks.

As a result of the opening up and liberalization of the Spanish banking system, competition has increased markedly. This was one of the reasons for a reorganization of the Spanish banking sector. As a result of many mergers and take-overs in the period up to 1992, the Spanish market is nowadays dominated by a group of large banks. The five largest depository institutions are Banco Bilbao Vizcaya, Banco Santander, Argentaria, Banco Central Hispanoamericano and Caja de Ahorros y Pensiones de Barcelona. In 1994 these banks controlled about 65% of the total assets of the depository institutions. This shows that some Spanish banks, and commercial banks in particular, are very large players in the national market. However, the presence of the large Spanish banks in the international arena, though increasing, is only moderate¹⁰.

In the period 1978-84 the Spanish banking industry was hit by a banking crisis¹¹. The problems were related not so much to the increased competition in the banking sector, but rather to imprudent lending policies and to the concentration of risks in other financial institutions and companies or to speculation in the real estate business. The banking crisis worsened in 1982 and 1983, and all in all about half of the commercial banks were affected. The majority of them were small and medium-sized banks which held over 20% of the total deposits of the financial system. Savings banks were less affected, because they were less involved in financing the corporate sector and, in general, exposed to a lower level of risk.

After a three-year period of trial and error, the Depositor Guarantee Fund was established in its final form in 1980 (in 1982, Depositor Guarantee Funds were set up for savings banks and credit unions as well). Its main tasks include ensuring the continuance of the operations of a bank in trouble and, in case of liquidation, the insurance of depositors (to a maximum of Pta 2.3m per depositor as of the end of 1995). Its general way of operating is to assume legal ownership of the problem bank, so as to be able to reconstruct the capital base. Subsequently, the bank is offered for sale to solvent banking institutions. This way the great majority of problem banks were rehabilitated, and only three banks had to be closed. A special case was the large Rumasa group, which ran into problems in 1983. As this group was very large (50,000 employees) and consisted of banks as well as companies, it has been temporarily nationalized and restructured, financed directly by the government and the banking community. The latest problem in the banking sector dates from 1994, when it became clear that the fifth largest bank at that time, Banesto, was heavily overvalued. Eventually, Banesto was sold to Banco Santander after a restructuring of its capital base by the Depositor Guarantee Fund¹².

Although bank solvency regulations had existed since 1962, the supervision of banks was only marginal. After 1982 it was sharpened as a reaction to the prevailing banking crisis. As a result, the bad loan provision increased to a relatively high level, also in international respect, and may have dampened profits somewhat during the recession in 1993/94. The current capital adequacy requirements are in line with the 1988 BIS standards and the 1989 EC directives. Furthermore, provisions for loan and country risk were elaborated during the 1980s¹³.

2.2. Financial markets¹⁴

The transformation of the Spanish financial markets has been impressive, in essence because of the combination of the initially underdeveloped financial market and the EC membership which created an important incentive for Spain to change its financial system in many respects. This has resulted in the development of different financial markets, which vary both in maturity and in the products traded. Apart from the interbank market, where relatively short-term paper dominates, there is a book-entry government debt market for public bonds of short, medium and long-term maturity. In the stock market, equities and private bonds are predominant. Commercial paper, foreign bonds and private bonds are traded on the AIAF (Asociación Intermediarios de Activos Financieros). Finally, there is a strongly growing derivatives market, including the futures market and the options market (MEFFSA). The book-entry government debt market is by far the most important trading place for securities (Table 3). Also as a result of EC regulations adopted in 1990-93, a level playing field has been created for all players to trade in the different markets, as both banks and other financial institutions are allowed to become direct members of the financial markets and settlement bodies¹⁵.

Table 3 Annual turnover Spanish securities markets (1000 bn pta)

	1985	1987	1990	1995
book-entry debt market	—	7.4	15.7	192.9
stock exchange	0.9	5.1	5.0	13.3
AIAF	0	0	0	0.8
derivatives market (1000 contracts)	—	—	0.3	52.2

Source: Banco de España, Annual Reports.

The interbank market for deposits was initiated in the middle of the 1970s when the Banco de España sought to facilitate the implementation of monetary policy. This market served to redistribute the liquidity injected by the issuance of monetary regulation loans (see section 3). In the early 1980s, the money market showed a relatively quick expansion, the reasons of which can be found in the sharp fluctuations in inflation, resulting in a preference for short-term investments (mostly deposits and government debt paper). Furthermore, in 1990 the Banco de España issued certificates in the interbank market (CEBES) to neutralize the effects of the large decrease in the cash reserve requirement. These certificates are traded among financial intermediaries in the interbank market and can act as collateral in monetary operations. Finally, in addition to the commercial and savings banks, securities firms and brokers are active on the money market.

In 1987 the book-entry government debt market was created to facilitate the financing of the Spanish government. The government could not continue to be financed through the Banco de España, as this hindered the realization of monetary policy objectives and the effectiveness of open market instruments. Practically all government debt is now traded on the book-entry debt market, which functions as both the primary and secondary market. It is administered by the Banco de España. All kinds of financial intermediaries as well as foreign central banks and international organizations can be members, but only credit institutions can act on behalf of third parties. Short-term promissory notes and treasury paper, as well as notes with maturities of 3-5 years and bonds with a maximum maturity of 15 years are traded. Although most trade is still in the form of short-term paper, long-term government issues have gained importance, as the government has tried to lengthen the average maturity of its debt. The functioning of the secondary market has improved markedly and nowadays this market is much larger than the primary market. This is due, inter alia, to the introduction of marketmakers. The market grew more than thirty-fold in the period from 1988 to 1995, while the majority of deals concern repo-like transactions.

The stock exchange is concentrated in Madrid, where over 80% of the turnover of the national stock markets (Bilbao, Valencia, Barcelona and Madrid) is realized. Although the stock exchange was the only general accessible (because secondary) market until 1987 (when the book-entry government debt market was created), the market was quite thin. It was only in 1988, when the new Securities Markets Law was adopted, that the important reforms implied by this law awakened the stock market. A new regulatory body (Comisión Nacional del Mercado de Valores, CNMV), appointed by the government, was set up. In the period 1981-1990, the total amount of shares quadrupled, while the amount of fixed income securities grew fifteen-fold, mostly in the short segment. Nevertheless, in spite of the large amount of fixed income securities outstanding, actual turnover is concentrated in the shares segment.

The derivatives market MEFESA was established in 1989 and obtained the status of official secondary market in 1991. All derivatives of variable income securities are traded on the Madrid MEFESA, while the Barcelona MEFESA is specialized in fixed-income derivatives. Traded volumes have increased significantly since 1991, with the options market being by far the largest. An over-the-counter (OTC) market has emerged for the wholesale segment.

Finally, the AIAF must be mentioned, which was established as a market for trading fixed income securities such as commercial paper, since private bonds tended to be crowded out by the government's demand for credit (especially in 1989 when banks were obliged to curb their lending). In 1986, the AIAF was reorganized, as it was forced to improve its transparency and make its legal status clear. The products traded are bonds, commercial paper and securitized mortgage loans. Matador bonds, i.e. bonds denominated in pesetas but issued by non-residents, form the second segment of this market. Until 1992 commercial paper represented the most important business, but the best prospects for the AIAF seem to lie in the matador bonds segment.

Although the securities market underwent considerable modernization, this was initially not matched by a large increase in turnover. Only in the past six years has turnover on the stock exchange increased considerably. The most significant increases, however, can be found in the book-entry debt market and in the derivatives segment. In general, government debt trade overshadows trade in all other securities. Possibly as a consequence of this, disintermediation has not been very large (Table 4), especially compared to developments in the Anglo-Saxon countries. In Spain more than 40% of private sector liabilities are vis-à-vis the banking sector. The limited disintermediation may point to a certain underdevelopment of corporate finance, possibly as a consequence of the traditionally strong ties between firms and banks. These are reflected in large (though decreasing) holdings of industrial assets by banks, making bank credit the primary source of finance. In this respect the Spanish financial sector bears a resemblance to the German, whereas it clearly differs from e.g. the Anglo-Saxon financial system. Another explanation lies in the large demand for capital by the government, which crowds out other credit demand. The moderate degree of disintermediation can also be related to the fact that the banking sector manages most insurance funds and investment funds, and thus also controls that part of the financial sector which lies outside the banks' direct business.

Table 4 Disintermediation in the Spanish Financial System

(In % of GDP)	1985	1991	1995
total liabilities			
central government	50.8	51.5	71.1
firms and households		177.3	174.8
of which:			
vis-à-vis the banking sector			
government	26.9	23.9	32.3
firms and households	70.2	78.4	73.6
vis-à-vis portfolio investment institutions			
government	0.4	3.3	9.3
firms and households	0.4	0.9	1.0
Source: Banco de España, Annual Reports, Statistical Bulletins.			

2.3. Deregulation

The financial markets have undergone a gradual but nevertheless impressive process of deregulation and change, especially since the Moncloa pact for new economic policy was concluded between the major political parties in 1977. Until then, severe limitations on capital flows made the control of monetary developments relatively easy for the Banco

de España. Furthermore, the regulatory framework was meant to enhance investment in certain basic industries, so as to promote Spain's economic development. However, during the 1980s a process of capital liberalization took place. This was strongly influenced by Spain's membership of the European Community from 1986 onwards, as the EC was in the process of forming the open internal market in 1992. Spain's financial deregulation process can be divided into two parts: the deregulation of the domestic market and the liberalization of international capital flows (Table 5).

With respect to domestic deregulation¹⁶, an important aspect was the abolition of rules for interest rates set by the banks. In 1987, the gradual deregulation of controls for different categories of liabilities and assets came to an end with the complete liberalization of interest rates. Another important element of domestic deregulation was the elimination of investment ratios. In 1985 all financial institutions became subject to uniform rules concerning the computable base and the required ratios. Under these

Table 5 Main developments in the Spanish financial sector

1974	Start of interbank market
1978	Foreign banks are permitted to operate in Spain
1978-84	Spanish banking crisis; establishment of Depositor Guarantee Funds
1985	Uniform regulation for all Spanish depository institutions
1986	Spain becomes member of EC Foundation of AIAF
1987	Foundation of book-entry government debt market Introduction and regulation of private pension funds Interest rate liberalization completed Non-residents allowed to borrow on the Spanish capital market Equal tax treatment corporate and public bonds
1988	New Stock Market Law; Foundation of CNMV EC directive on freedom of capital movements in 1990
1989	EC regulation on capital adequacy requirements of banks
1990	EC regulation investment firms
1991	Options and futures market (MEFFSA) obtains official status
1992	Mortgage funds appear Liberalization of investment ratios completed Abolition of all remaining capital controls in Spain (February) Temporary reintroduction of capital controls (September-October)
1994	Start stage two of EMU; prohibition on monetary financing Law of Autonomy of the Banco de España adopted

rules, part of the 'computable liabilities' (comparable to the relevant liabilities for the cash reserve requirement; see below) had to be invested in special projects (bonds of the official credit institutions and credits at preferential rates for specific purposes), and part of them (10% in 1986) in government Treasury notes (Pagares de Tesoro). From 1985 onwards, these investment coefficients were gradually brought down (1986: 23%, 1987: 11%), and in 1992 they were abolished altogether. However, even nowadays these compulsory investments account for a considerable part of the assets of the banking system. This is caused by the fact that these assets cannot easily be traded (preferential credit rates). Consequently, they will only disappear from the banks' balance sheets when they mature. It should be mentioned that savings banks are still obliged to invest part of their profits in social projects.

A last element of the domestic deregulation was the substantial reduction of the cash reserve requirement for banks, which was brought down to 2% in 1993, from around 18% in 1989. Clearly, the abolition of the investment ratio and the reduction of the reserve requirements affected fiscal and monetary policy. The resultant increase in liquid reserves was absorbed by the then fully-grown government debt market as well as by the special operations of the Banco de España (e.g. issuance of CEBES) to mop up liquidity.

Finally, the evolution of the capital adequacy ratio shows the transition from relatively direct controls on the operations of the banking system to a more indirect form of control to ensure the solvency of institutions. Some initial rules, to adapt the capital adequacy ratio so as to take into account the amount of risk of the assets, were set up in 1985. From 1989 onwards, these rules were sharpened in conformity with EC directives in this area, which followed the BIS capital adequacy ratio of 8%. As a result of their relatively high profitability and the lack of sharp competition until a few years ago, Spanish banks can comply with these rules fairly easily.

The liberalization of international capital movements was boosted by Spain's membership of the European Community, as the EC was in the process of forming the free internal market in 1992. In addition to the first and second banking directives, which provided EC-wide rules for the establishment and regulation of banks, a directive on capital movements was also decided on. In 1988, the EC Council of Ministers decided that the movement of capital had to be completely deregulated by July 1990. Spain, Ireland, Portugal and Greece were granted a derogation until the end of 1992. Although Spain had a right to derogate longer, it abolished all remaining capital controls in February 1992. In April 1994 the second banking directive was incorporated in Spanish law¹⁷. In 1993, an EU directive was adopted to harmonize the position of investment funds by establishing the one-licence principle. A similar harmonization has taken place in the insurance market, where mutual recognition of supervision between EC countries has applied since 1993.

A first step in the process of international liberalization was the authorization of the entry of foreign banks into the Spanish market in 1978. Nevertheless, most of these banks were limited in the scope of their operations as they were not allowed to have more than four branches. Although the rules for the establishment of new banks were harmonized in 1988 and also came to apply to non-residents, certain restrictions (e.g. on external financing and the number of branches) were maintained until 1992. Since 1986, a gradual breakdown of restrictions has been taking place on long-term capital movements, both on direct investment flows and portfolio adjustments. In 1987 controls on foreign currency operations by banks were relaxed and in 1988 all outward direct investment and trade in medium and long-term securities was liberalized. Since 1990 also short-term capital flows have been gradually deregulated, resulting, as mentioned above, in a complete liberalization of all capital movements in 1992. Furthermore, in 1991 the withholding tax for purchases of public debt by non-residents was abolished. Nowadays, the only limitations still in place are on direct investment by non-EU members in special sectors (media, aerotransport, defence)¹⁸.

A result of this liberalization was an inflow of foreign capital which put upward pressure on the peseta until the turbulence of the European exchange markets in the fall of 1992. Spain then temporarily reintroduced some forms of capital controls. Speculation against the peseta was discouraged by requiring domestic banks to hold non-interest bearing deposits at the Banco de España for certain transactions (loans to non-residents in pesetas, assets in foreign currencies, etc)¹⁹. Although these capital controls may have dampened exchange rate volatility for a while, in the longer run they did not prevent the peseta from devaluating (November 1992) and negatively affecting the attractiveness of Spanish securities for non-residents, at least temporarily.

2.4. Consequences

As a consequence of the restructuring and the liberalization of the financial sector, competition has increased markedly in the Spanish financial system. This induced a process of concentration and badly needed innovation, which in turn has improved the capability of Spanish banks to compete in the more globalized financial market, particularly within Europe. The changes in the financial sector have led to significant shifts in the assets and liabilities of the institutions. Banks show an increased proportion of credit and loans in their portfolios and operations in foreign currency have grown in importance. With respect to their performance, relatively strong solvency and profitability ratios still support Spanish banks²⁰. Nevertheless, an improvement in cost efficiency will be necessary as the large gross interest margin experienced by Spanish banks is gradually declining, also as a result of increasing international competition²¹. In general, the innovation process for new products is hampered somewhat by still relatively shallow underlying markets. Also, deregulation has not led to disintermediation, as the banking sector dominates most financial markets and continues to attract the bulk of private savings.

Another consequence of the domestic liberalization process has been a rise in the cost of financing government debt. In this respect, it has been calculated that seignorage income amounted to around 1% of GDP at the end of the 1980s. The elimination of the investment coefficient and the decrease in the reserve ratio are the main reasons for a decrease in seignorage income since then²². On the other hand, the development of the government debt market and opening it up to non-residents has improved the depth of this market and thus facilitated the financing of government debt. Finally, the development and deepening of the financial markets has influenced the policies of the monetary authorities, a subject dealt with below.

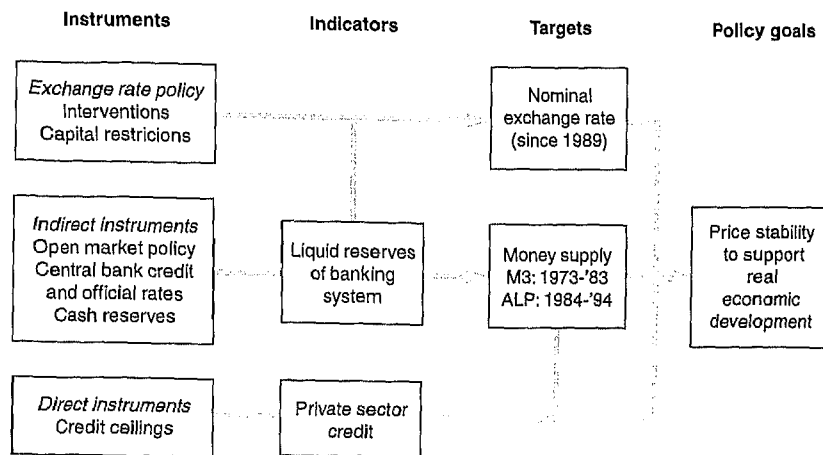
3. Monetary policy

Monetary policy in Spain has changed considerably, in line with the changes in the financial system. In fact, over the past decades practically all aspects of monetary policy ranging from the instruments used to the final targets to be achieved- have undergone substantial changes. This can best be illustrated in terms of the monetary transmission channels envisaged by the authorities. The transmission (or, in other words, the monetary control strategy) during the 1970s and 1980s is summarized in Figure 2, while the present state is reflected in Figure 3. Within these diagrams a distinction is made between *instruments* (which the central bank can use), *indicators* (which give an indication of the policy stance), *targets* (quickly available variables which can be influenced by monetary instruments and have a predictable relation to the final objectives), and *policy goals* (the final aims of monetary policy)²³. Instruments and policy goals (also called final targets) are relatively clear-cut elements of the transition, but the distinction between indicators and (intermediate) targets can be rather vague. As in many other countries, the main reason for changes in the transmission channels was the breakdown of previously stable relationships within the transmission. This was due, inter alia, to the process of integration and liberalization of financial markets. Below we will discuss the Spanish transmission channels in reverse order, i.e. from the developments in final policy goals to the changes in instruments.

3.1. Policy goals

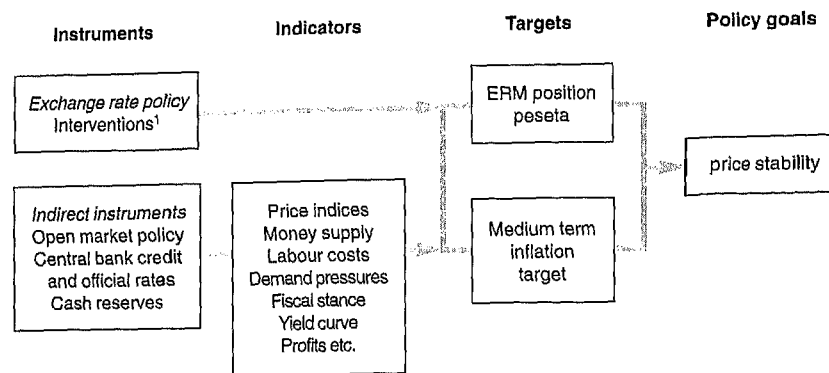
As in many other countries, reducing inflation became a more prominent objective of economic policy after the oil crises of the 1970s. Prior to that, economic policy had been mainly aimed at controlling domestic demand in order to reach sustainable economic growth. Anti-inflationary policies were continued by the socialist government under Prime Minister González which took office in 1982, and were an important element of the so-called Boyer plan in 1985, named after the then Minister of Finance. Inflation has come down substantially since the 1980s, to levels only slightly above what could be considered price stability (an inflation rate between 0% and 2%).

Figure 2 Monetary transmission in Spain during the 1970s and 1980s



In 1995, the Banco de España decided to pursue a direct inflation targeting strategy, mainly due to the increased difficulties in determining the demand for money²⁴. Inflation (as measured by the CPI) was to be reduced to 3.5%-4% in the first months of 1996 and to less than 3% in the course of 1997²⁵. These goals have been realized. This new strategy has strengthened the position of inflation as the key target of monetary policy, and can be considered a result of the Law of Autonomy which was adopted in 1994. This law gives the central bank complete freedom in determining its targets and instruments. In line with the legal requirements, the Banco de España will submit a biannual report (in March and September) to Parliament on inflationary trends and ways to achieve price stability in the medium-term. However, there are no sanctions associated with the inflation targeting strategy, as in for example New Zealand; in this respect, the Spanish strategy bears more resemblance to e.g. the form of anti-inflation policy conducted in the United Kingdom (see the contribution of De Jong to this volume for an evaluation of the monetary policy in the United Kingdom).

Figure 3 Monetary transmission in Spain as from 1995: inflation targeting



1. Only to be used in exceptional circumstances.

3.2. Targets and indicators

As early as 1973, the Banco de España started to design a monetary policy framework based on the money supply as a target variable (Table 6). In 1978 monetary targets for M3 were announced for the first time. M3 included cash and sight, savings and term-deposits. This relatively broad money concept was chosen because there was a high degree of substitutability between these different kinds of deposits with banks. In 1984 the money supply concept was broadened further. The newly adopted concept of liquid assets held by the public (ALP: *activos líquidos en manos del público*), has been used as an intermediate target since. Outside Spain, ALP has also been indicated as M4. The target zone depended on expected GDP growth and inflation, as estimated by the Ministry for Economic and Financial Affairs. However, the definition of ALP was adjusted from time to time to include new financial instruments that resulted from the financial liberalization and innovation process, and functioned as close substitutes for monetary assets. Studies were held on a regular basis by the Banco de España to determine the stability of demand for ALP. In the early 1990s it became increasingly difficult to develop a reasonably stable money demand function.

In addition, the monetary policy conducted by the Banco de España became more and more influenced by its international environment. At first, domestic monetary indicators and targets determined the stance of monetary policy, with exchange rate implications being more or less accepted. This policy has gradually developed into one under which short-term interest rates were determined on both the basis of domestic considerations (e.g. the perspectives for growth and inflation) and on the level of the peseta exchange rate. This shift in emphasis from internal to external considerations – even before Spain joined the ERM – was prompted by developments in the real economy since the mid-1980s and the shift in the money demand function as a result of financial innovations.

Table 6 Major changes in monetary policy Implementation

1973	Money supply becomes target
1978	Targets for M3 are officially announced
1984	Shift from M3 to ALP as target
1986	Spain joins the EC
1989	Spain joins the ERM
1989-90	Direct ceiling on credit to private sector
1993	Widening of the ERM bands to 15% Cash reserve requirement reduced to 2%
1994	Independence Banco de España strengthened by new legal framework
1995	Adoption of direct inflation targeting

As a result of the growing importance of exchange rate considerations there has been a shift in the use of the indicators as well. The entry of the peseta into the ERM in June 1989 was, of course, an important step in this respect. During the days of monetary targeting, the level of liquid reserves of the banking system were an important indicator, based on the hypothesis of a relatively stable money multiplier. However, the transition towards the use of the exchange rate as the main target resulted in a shift from quantitative money market indicators to price indicators (e.g. short-term interest rates). In fact, during the period 1989-93, the Banco de España conducted a mixed strategy involving the setting of monetary targets and exchange rate commitments. Priority was at all times given to attaining the exchange rate targets, which meant less strict control over the money stock, which was reset as an objective to be met in the medium-term.

Since the implementation of the new monetary policy framework in 1995, the range of indicators or information variables has been broadened (Figure 3). A set of indicators for inflation, demand pressure and inflationary expectations are analyzed, in addition to the development of ALP, interest rate movements and the stance of fiscal policy. Although the exchange rate continues to play a role as a target, the Banco de España seems less willing to counteract strong speculative pressure on the peseta. This was illustrated by the devaluation of the peseta by 7% within the ERM in March 1995. Eventually, the market rate bounced back to the pre-devaluation level. Nevertheless, given the relevance of the exchange rate for the rate of inflation, exchange rate considerations remain an important element in determining the stance of monetary policy. In fact, Spain is one of the few countries that combines an exchange rate peg (ERM commitment) with direct inflation targeting, which in a sense implies that there are two nominal anchors. Generally, this does not pose a problem since neither of them is a strict short-term point target. Only when inflationary and exchange rate developments diverge strongly, a choice between the two targets may have to be made. In practice the exchange rate, and

in particular the ERM position of the peseta, plays a role similar to that of an indicator, while inflation is the medium-term objective of monetary policy.

3.3. *Monetary instruments*²⁶

There is of course an interrelationship between the choice of (intermediate) targets of monetary policy and the instruments with which to achieve these targets. However, more factors determine the selection of monetary instruments, e.g. the process of financial liberalization and integration, the financial policies of the government, the prevailing exchange rate policy and the functioning and characteristics of the financial markets.

As noted above, monetary policy in Spain is now fully conducted with the aid of indirect instruments, i.e. instruments that work through their impact on money market conditions²⁷. Since the banking system as a whole has a net debtor position with the central bank, due in part to the prevailing cash reserve requirements, the Banco de España has to provide liquidity to the banks. In principle it does so through open market operations.

The basic financing of the banking system takes place three times per month in the form of repos in central bank certificates and government debt paper against the ten-day intervention rate. The rate on these repos is the main reference rate in the Spanish money market. In exceptional cases, the Banco de España also grants credits to banks for one day, up to a maximum of 80% of the capital and reserves of each individual bank, against the overnight lending rate. Certificates of deposit or Treasury Bills are required as collateral for such one-day loans. There is also a last resort facility at a higher rate, but this facility and its rate are not formalized. Furthermore, the Banco de España uses outright open market operations in government paper to fine-tune the banking system's liquidity. In practice, the Banco de España intervenes daily in the government debt market.

Cash reserve requirements were introduced in the early 1960s for investment banks only. For other banks, including savings banks, the requirement was introduced in 1971. However, in the early years rates tended to be different for different categories of banks. In 1978 the rates were harmonized, but there have been frequent changes since then with respect to eligible assets, the method of calculation (daily averages, ten-day averages, lags), eligible liabilities, the frequency of adjustments and the institutions affected. In 1990 a far-reaching reform of the reserve requirement took place²⁸. As mentioned above, the level was reduced in steps from 18% in 1989 to about 2% in 1993. The level has remained practically unchanged since. The reserves are not remunerated. The resultant increase in the liquidity of the banking sector was subsequently mopped up by the sale of certificates of the Banco de España (which are gradually being redeemed). Also, the function of the cash reserves has changed: in the early days they were mainly considered an automatic brake on monetary expansion (based on a stable money multiplier),

whereas nowadays they function primarily as a means to guarantee sufficient liquidity within the (interbank) payment system, while stabilizing the money market interest rate (through averaging provisions).

Comparing Figures 2 and 3, one might state that while the first part of the transmission process became more indirect (switching from direct controls such as credit ceilings to indirect instruments affecting money market liquidity), the second part in a sense became more direct (moving from money supply targeting to direct inflation targeting). This development is, of course, in no way unique to Spain. In many other medium-sized industrialized countries, e.g. Canada, New-Zealand, Finland, Sweden and the United Kingdom, a similar development took place²⁹.

3.4. European monetary integration

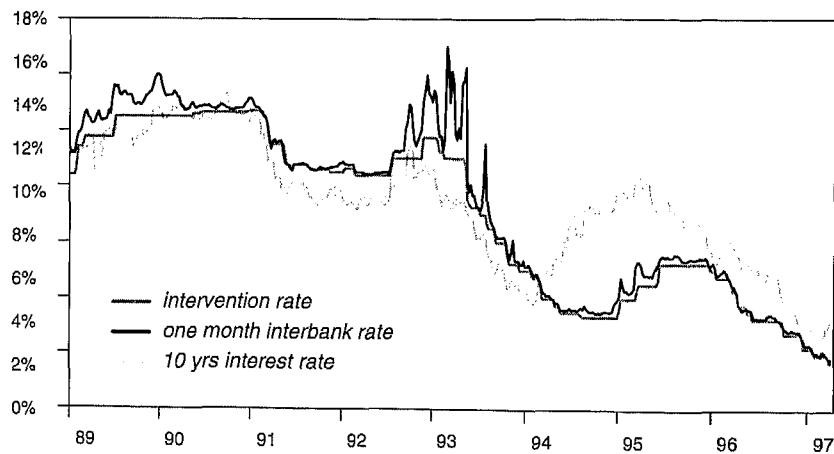
It has already been noted that the process of European monetary integration has influenced the operation of Spanish monetary policies as well as the position of the Spanish monetary authorities³⁰. In line with the Maastricht Treaty, the legal independence of the central bank to conduct monetary policy was significantly increased by the adoption of a Law of Autonomy of the Banco de España, in June 1994³¹. It replaced the Decree Law of 1962, under which the Bank was in fact a direct arm of the government. According to the new law, the Banco de España will direct its policy to the primary goal of price stability, without taking instructions from the government: "the Bank shall define and implement monetary policy with the primary objective of achieving price stability". Secondly, the government or affiliated bodies cannot run overdrafts, not even temporarily, on their accounts with the central bank. Furthermore, the Bank may not directly acquire any securities issued by the Treasury or by government bodies, although it may carry out open-market operations in the secondary debt market. On the other hand, some government influence will continue, since the law states that, without prejudice to the objective of price stability, monetary policy shall support the general economic policy of the government. Furthermore, the Governor and members of the Governing Council are appointed by the government and the minister of Economy and Finance may attend the meetings. Finally, the new law states that exchange rate policy is formulated by the government, in consultation with the Banco de España.

One more consequence of the process of European monetary integration is the increased importance attached to consolidation of the public accounts, as implied by the excessive deficit procedure of the Maastricht Treaty. In the past, the Spanish monetary authorities were often confronted with the consequences of imbalanced budgetary policies. Traditionally, the Bank had to finance deficits and to neutralize its monetary expansionary effects. This more than once forced the monetary authorities to adjust their policies. This has changed considerably: the prospects for the monetary integration of Spain into Europe will depend to a large extent on the improvement of public sector balances which show a favourable development since 1993. The general government

financial deficit amounted to about 4.4% of GDP in 1996, whereas the debt-ratio (EMU definition) is stabilizing at 70% of GDP.

Another implication of European integration has been the liberalization of banking regulations and international capital movements, as discussed above. This has also influenced monetary policy, albeit in a more subtle way. On the one hand, the room to manoeuvre has decreased: since the Spanish financial markets are open to foreign competition, domestic monetary conditions are more difficult to control as international capital flows play their part. As a consequence, interest rates and the exchange rate have gradually increased in importance as monetary indicators, to the detriment of the role of the money supply ALP³². On the other hand, financial deregulation has led to narrower ties between the domestic markets, thus facilitating the transmission of monetary policies. As a result, the relation between the intervention rate and (inter)bank rates has clearly improved (Chart 1)³³. This relationship is stronger for the commercial banks than for the savings banks, which tend to change their interest rates more gradually³⁴. The lowering of the reserve requirement has also helped to increase the impact of money market rates on deposit rates. As in most other financially integrated economies, the longer end of the yield curve is not only influenced (indirectly) by monetary policy operations, but also more and more by developments in foreign capital markets and by confidence in macroeconomic and structural policies which affect e.g. inflationary expectations.

Chart 1 Spain: interest rates



4. Looking ahead

The financial sector in Spain has rapidly evolved into a modern system, able to measure itself with its European competitors. This is reflected in the disappearance of many regulations and rigidities and the opening up of the market, especially to the EU. As a consequence, the many different types of financial institutions have given way to large universal banks and specialized financial institutions, and funds and foreign participants have entered the financial markets. At the same time, the variety of the products traded and the depth of the markets have increased considerably. Supervision of the financial system has been rationalized and should enhance the solvency and liquidity of the system. This should improve the efficient allocation of savings in Spain and facilitate the transmission of monetary policies.

The main challenge for the financial sector is to continue the innovation and adaptation process, particularly in view of the increasing presence of foreign competitors and opportunities abroad. To this end, increased cost-efficiency is necessary, to be able to withstand pressures on profit margins under the influence of increased national and international competition. When these conditions are met, the Spanish banks may find themselves in a favourable position to continue to be a dominant player on the domestic market, because of their solid capital base and their extensive branch network.

In terms of both monetary instruments and indicators, and targets of monetary policy, it appears that there has been an important shift from a rigid, largely domestic approach towards a market-oriented, international perspective. In other words, monetary policy in Spain has also 'opened up', in line with the country's international aspirations. In this respect, three important developments can be distinguished. Firstly, in terms of targets there has been a move from general economic considerations to the money supply and subsequently to the inflation rate. Secondly, the exchange rate has become a crucial factor in monetary policy implementation. Thirdly, the instruments of monetary policy have been improved and more indirect and market-based instruments have been developed. During this process, monetary developments have been controlled reasonably well, and inflation has come down to the levels prevailing in other parts of the EU. The new direct inflation targeting strategy has made monetary policy more credible and transparent (through the publication of inflation reports in spring and autumn), and has resulted in a further decline of inflation.

In conclusion, we may say that Spain has gone through a period of remarkable change in its monetary and financial system. The main challenge will be to consolidate the improvements in the functioning of the system, while pursuing macroeconomic policies that will support Spain's intention to enter stage three of EMU.

Notes

- 1 As of 1994.
- 2 Lygum, Pere and Steinherr (1989; p 31); Casado, Campoy and Chulía (1995; p 14). For a description of the Spanish financial sector, see also Burink (1990).
- 3 Commercial banks are limited companies, while savings banks are owned by institutions in the region from which they originate, and are not allowed to attract capital through the issuance of securities. Furthermore, savings banks profits are not distributed to the shareholder(s), but are often allocated to cultural and social schemes.
- 4 Canals (1994; p 106).
- 5 Casado, Campoy and Chulía (1995; p 45).
- 6 Exceptions were Barclays Bank, which operated under a grandfather clause, and Deutsche Bank, which acquired a retail chain in the late 1980's.
- 7 García-Vaquero and Maza (1994).
- 8 García-Vaquero (1994; pp 69-71).
- 9 Casado, Campoy and Chulía (1995; pp 30,98).
- 10 According to the rating method of the Banker of July 1995, there is no Spanish bank in the first 50. This does not preclude Spanish banks from being profitable; for this reason, Banco Popular has been nominated 'best bank' in the past.
- 11 De Juan (1993; pp 115-125).
- 12 Edey and Hviding (1995; p 55).
- 13 Carbo (1994; p 17); Fuentes (1993).
- 14 For a more detailed description, see García-Vaquero (1994; pp 71-78), Lygum, Pere and Steinherr (1989; pp 68-70) and Pellicer (1992; pp 84-89).
- 15 With the exception of the derivatives market, see García-Vaquero (1994; pp 69-71).
- 16 Carbo (1994); Canals (1994); Casado, Campoy and Chulía (1995); Fuentes (1993); Lygum, Pere and Steinherr (1989).
- 17 Bakker (1994; p 358); Casado (1995; p 39). During the 1980's the Spanish financial markets were still not very well integrated internationally, see Lemmen and Eijffinger (1993).
- 18 Casado (1995).
- 19 Fieleke (1993).
- 20 In 1994 before-tax profits of banks amounted to 11.5% of own resources (savings banks: 16%; source: Banco de España Annual Report 1994, p 120).
- 21 Fuentes (1993, pp 45-47); the gross interest margin decreased from about 4% during 1985-89 to 3.5% during 1990-94.
- 22 Galy, Pastor and Pujol (1993; p 22).
- 23 For details see e.g. Eijffinger (1986).
- 24 Vega (1994).
- 25 Banco de España (1995).
- 26 Sanz and Val (1993).
- 27 An informal form of direct credit control was last being implemented in the late 1980's.
- 28 See Santos (1993) for details.
- 29 For the Canadian experience, see Freedman (1994).
- 30 Escrivá and Malo de Molina (1991).
- 31 See Banco de España (1994).
- 32 Sanz and Val (1993).
- 33 Alejano and Peñalosa (1995; pp 35-38).
- 34 Cruz Manzano and Galmés (1995).

The Netherlands: a demonstration of dedication

By Jos Custers and Monique van Gils

1. Introduction

The Netherlands is known for its international orientation and reputed for its trading skills. This outward orientation is also reflected in the fact that the Netherlands was a co-founder of the European Community in 1958, as well as one of the six founding countries of the European Monetary System (EMS) in 1979. The country is aiming at participation in the Economic and Monetary Union (EMU) right from the start of stage three, which should begin in 1999. For more than a decade now, the Netherlands has been preparing itself for European unification. This has had a major influence on the social, political and economic environment.

After a short introduction to the Dutch economy, this chapter will deal with the most important changes of the last decade in the Netherlands in the banking sector, the financial system and monetary policy and give an overview of their current status. The final section contains an outlook on future developments in these areas.*

2. The Dutch Economy

The Netherlands, a relatively small country, is one of the world's most densely-populated countries. Measured by the value of its Gross Domestic Product, the Dutch economy belongs to the top 15 world-wide. Per capita GDP amounted to about US\$ 25,556 in 1996, a middle-position in the group of OECD-countries.

International trade has always been important for the Dutch economy. Its openness is reflected by, among other things, the relatively high share of exports and imports of goods and services in GDP (over 50 percent and 45 percent respectively). These shares are substantially higher than in most other countries. Almost 80% of Dutch exports consist of transshipment to the partner countries of the European Union. More than a quarter of total Dutch exports goes to its main trading partner, Germany.

The openness of the Dutch economy and the strong international competition confronting businesses stimulate enterprises to continuously modernise and innovate. The investment/GDP ratio is relatively high for an advanced industrial nation. The savings ratio is even higher, mainly due to the widespread and well-developed capital-based pension system.

As a large number of political parties contest the elections and no party is able to obtain an overall majority, the Netherlands is traditionally governed by stable coalition governments, drawn from the big moderate parties. This form of government contributes to the ongoing stability and continuity of policy that are typical of the Dutch political environment. Government policy on the economic environment is being pursued according to three main lines. First, the government tries to enhance economic growth potential by improving the functioning of markets. Furthermore, economic policy is aimed at stimulating employment. Finally, the government continues to restructure the public finances. The government budget deficit (EMU-definition) has been reduced from almost 6.6% of GDP in 1982 to 2.4% of GDP in 1996. In the years to come, the government is determined to keep the budget deficit below 3% of GDP. This policy is to keep the deficit well within the criterion for entering the third phase of EMU. An even more important reason is public debt/GDP ratio redress, which at 78% of GDP in 1996 is generally considered to be too high. The relevant EMU criterion allows for on 60%. With a budget deficit below 3% GDP and economic growth expected to be moderate, the debt/GDP ratio can be expected to fall gradually in the years to come.

Table 1 Key figures Dutch economy

	1994	1995	1996
GDP-growth*	3.4	2.1	3.3
unemployment (% total labour force)	7.5	7.0	6.6
savings (% GDP)	24.3	24.5	24.5
Investment (% GDP)	18.7	19.4	19.5
current account (% GDP)	5.1	5.1	5.1
government budget deficit (% GDP)	3.7	4.0	-2.4
inflation	2.7	2.0	2.1

* GDP amounted to USD 315 bn in 1996.
Source: Central Bureau of Statistics.

3. The Dutch Banking Sector

3.1. The Dutch central bank

Monetary policy and banking supervision in the Netherlands are conducted by the Dutch central bank (*De Nederlandsche Bank*, DNB). According to the Bank Act of 1948, the Dutch central bank is not part of the government, but holds an independent position. Although the Minister of Finance remains ultimately responsible for budgetary and monetary policy and in theory has the authority to give directives to the central bank, the government does not interfere in the policy of the central bank.

This political independence is considered important because it enhances the credibility of the central bank's policy. A politically independent central bank is the best guarantee that monetary policy will not be determined by short-term considerations.¹

The main task of the Dutch central bank is to regulate and stabilise the internal and external value of the Dutch guilder. According to the Bank Act, "It shall be the duty of the Bank to regulate the value of the Netherlands monetary unit, in such a manner as will be most conducive to the nation's prosperity and welfare, and in so doing seek to keep the value as stable as possible". Section 5 of this chapter will deal with monetary policy more extensively.

Two other tasks of the Dutch central bank that are laid down in the Bank Act are supplying bank notes for circulation in the Netherlands and supervision of the credit system.

In the following section, the prudential and structural supervisory tasks of DNB as laid down in the Act on Supervision of the Credit system of 1992 (*Wet Toezicht Kredietwezen 1992*) will be described.

3.1.1. Prudential Supervision

One of the supervisory tasks of the central bank is the prudential supervision of the banking system. This prudential supervision aims at maintaining a sound banking system. Initially, this supervision was especially concerned with protecting the banks' creditors. Today, prudential supervision is also aimed at preventing bankruptcy of individual banks in order to limit systemic risk. Supervision to minimise systemic risk has become known as macro-prudential supervision. Micro-prudential supervision is meant to prevent the bankruptcy of an individual bank.

Regulation in the field of banking supervision is becoming increasingly internationally determined. The Basle Committee on Banking Supervision plays an important and leading role in this. Although the recommendations of this Committee, laid down in the Basle Capital Accord², are not imperative, they are implemented by the countries represented in the Committee such as the Netherlands and by many other countries. Furthermore, most of the Committees' recommendations were adopted by the European Union and incorporated in EU-directives.

The Dutch central bank exercises its prudential control by means of a licence system, liquidity and solvency directives and recommendations and guidelines relating to the administrative organisation.

3.1.2. Structural policy

Another supervisory task of the Dutch central bank regards the supervision of structural developments in the financial sector. This so-called structural policy is aimed at the prevention of undesired developments in both the banking and the insurance sector. In particular, the central bank wants to prevent two specific developments. First, it wants to

prevent developments which could result in unacceptable risks regarding solvency and liquidity. Second, it wants to prevent undesired concentrations of power in the Dutch financial sector which are considered unacceptable from a competition point of view. *The structural policy focuses on three parts of the financial sector. These are the banking sector itself and banks' participations in non-financial institutions, such as industrial companies, a concept which is called 'Banque d'Affaires'. The third part concerns the strong ties between banks and insurance companies, the so-called "All finantz" or "bancassurance" concept.*

Since 1982, the structural policy has been liberalised step by step, due to the increasing competition from foreign institutions and the creation and liberalisation of the Internal Market within the European Union.

Although the structural policy has been liberalised, it has not been abolished. A bank still needs a declaration of no objection from DNB before, for instance, it can acquire or increase a qualified participation in, or enter into a merger with, another enterprise or institution.

The liberalisation of the structural policy has led to the development of universal banks (also called financial conglomerates), especially since 1990. It must be said that banks and insurers are still not allowed to integrate fully. A complete financial merger is, also under the new regulations, not permitted. This means that banking and insurance activities still have to be carried out through subholdings, coming under a holding company. This development meant that prudential supervision of these new types of companies had to be adjusted as well, in order to get an overall insight in the risks of the whole company. Therefore, the Dutch central bank and the Insurance Chamber (*Verzekeringkamer*), which is the supervisory authority for insurance companies, have laid down a 'Protocol' for the supervision of institutions that render both banking and insurance services.³

According to this Protocol, financial conglomerates are supervised according to the so-called 'solo-plus' model. The supervision of the bank within the financial conglomerate is exercised by the central bank and the supervision of the insurance company by the Insurance Chamber. Supervision of the holding company, when authorized to operate as a bank or an insurer, will be exercised by either the central bank, the Insurance Board, or both depending on what kind of activities make up a predominant proportion of the total activities. When the holding itself is not registered as a bank or an insurer, it is not supervised. Nevertheless, the holding should meet several conditions, for instance regarding the expertise of the board of the holding.

The Netherlands was one of the first countries in the world to introduce regulations in the field of financial conglomerates. There are no international regulations concerning supervision of financial conglomerates yet. It is expected that international regulations will be substantially based on the Dutch solo-plus approach.

Table 2 Registered banks in the Netherlands (1996)

universal banks	97
central co-operative credit institution	1
securities credit institutions	18
savings banks	26
mortgage banks	6
branches of EU banks	12
EU banks/cross border services	120
branches of non-EU banks	12
total	292

3.2. Banking structure

The banks in the Netherlands can be categorised according to their activities and the way they are organised. The group of credit institutions consists of universal banks, co-operative banks, security credit institutions, savings banks, mortgage banks, branches of EU banks, EU banks that provide cross-border services and branches of non-EU banks. At the end of 1996, there were 97 universal banks in the Netherlands, 37 of which were foreign banks. Universal banks carry out all kinds of financial services, with the objective of maximising profits.

The second category consists of co-operative banks. In the Netherlands, the Rabobank organisation is the only co-operative banking group. By officially creating financial ties between Rabobank Nederland (the central credit institution) and nearly 500 local independent member banks and a number of affiliated institutions, all these institutions are jointly considered as an integrated private economic entity. On the basis of this "Cross-Guarantee System" (*kruiselings garantiesysteem*), DNB checks the collective solvency position of the Rabobank Group.⁴

The third group of institutions consists of securities credit institutions (total number 18). Their principal business is to provide services as intermediaries in stock exchange transactions.

The fourth category consists of savings banks. Their major objective is to stimulate private savings. For a number of years, these banks have been broadening their activities by offering current accounts and personal and commercial loans to their customers. Therefore, most of them are now similar to universal banks. The remaining 26 savings banks are of regional significance only.

The last specific category of banks is the mortgage banks. These (6) banks are solely engaged in granting long-term loans secured by mortgages on real estate, with an emphasis on loans to individuals. Most of them are part of large financial institutions.

The banks mentioned above are established in the Netherlands as a legal entity. Beside these banks, there are also banks operating in the Netherlands which are branches of foreign banks or which are rendering cross-border services without an office-base in the Netherlands. At the end of 1996, there were 12 branches of EU banks operating in the Netherlands and 120 EU banks which have applied to render cross-border services in the Netherlands. This last category in particular has increased rapidly since the EC Second Co-ordination Directive (single license) came into effect in 1993⁵. This does not mean, however, that they are already carrying out activities, but it indicates that the effects of the Second Co-ordination Directive are becoming more significant.

The last category, to conclude, is the branches of banks (12) which have their head office outside the European Union.

3.3. Characteristics of the Dutch banking sector

Despite the large number of banks in the Netherlands the domestic market is dominated by the three largest banks, ABN Amro Bank, ING Bank and Rabobank. Together these banks, which have grown mostly as a result of mergers, have a market share of 70-80% depending on the kind of financial service. Apart from the fact that all these banks are relatively very large, they do have quite diverse features.

ABN Amro, the result of a merger between ABN and Amro in 1990 (both a result of earlier mergers in the 1960's), is the largest bank and almost twice as big as the second Dutch bank, the Rabobank. ABN Amro is a universal bank. It is active in all kinds of financial services, but especially in financing (large) companies (corporate finance), investment banking and securities trading. The bank has a widespread foreign network and a second home basis in the USA. About half of its profits are gained abroad.

The Rabobank (the result of a merger between the co-operative Boerenleenbank and Raiffeisenbank in 1972) is a co-operative bank, not listed, and the only commercial triple A-bank left in the world⁶. The Rabobank has its roots in the agricultural sector. Its aim is to finance its members (businesses) in the cheapest possible way. The bank is very strong in the domestic sector (agricultural sector, small and medium sized companies and savings and mortgages). In fact it is the bank with the largest domestic retail operation, but with a relatively small foreign network. In 1990 the bank took over insurance company Interpolis and in 1997 the investment company Robeco, in order to elaborate its "All finanz" strategy.

The third bank, ING, is also a combined bank-insurance company. In 1990 the NMB merged with the Postbank. The former NMB was a bank specialised in granting credits to small and medium-sized companies. The Postbank was the result of the merger of the

former national giro system and the Postal savings bank. In 1991, NMB-Postbank merged with insurance company Nationale-Nederlanden. Insurer and bank were almost of equal size (in contrast to the take-over of Interpolis, which was much smaller than the Rabobank). The Postbank is the largest Dutch bank in funds transfer. It has no bank branches of its own, but operates by direct mail and by using the post offices. It offers standard financial products to households and (mainly smaller) businesses. The former NMB, now ING Bank, is focused on corporate finance and private banking. The take-over of Barings Bank in 1995 fits in this strategy. The international network of ING is smaller than that of ABN Amro, but larger than Rabobank's.

The mergers should be seen in the light of the Single Market within the European Union. Dutch banks anticipated this internationalisation and unification process by strengthening their position on the Dutch domestic market. They also increased their capital base in order to be better equipped to compete effectively in an enlarged and open European market.

All three major banks offer investment services and a full range of banking services. Moreover, the financial conglomerates ING Group and Rabobank also offer all kinds of insurance services and so-called combined products. These products basically are savings products. However, because of their (life)insurance elements, they have certain tax advantages over regular savings products. Since contracts on combined products have to last at least 15 years in order to benefit from these tax facilities, they offer financial institutions an excellent possibility to hold savings for a long time. More recently, ABN Amro has founded a life-insurance company to be able to sell these products as well.

The phenomenon of mixed banking-insurance companies is not restricted to the top three of banks. For example, the former savings bank VSB (now a universal bank) merged with insurer AMEV and with the Belgian AG-Bank and Belgian bank and insurer ASLK. The new conglomerate is named Fortis. Moreover, most larger Dutch insurance companies have bought or started (small) banking subsidiaries, which offer them the opportunity to sell combined products.

A further important characteristic of the Dutch financial sector is that entry barriers are generally very low. Many parties offer mixed insurance savings products and high yielding savings accounts. In contrast with the three large banks, insurance companies are using direct mail or intermediaries. For that reason they have lower costs than banks and are able to offer higher yields on savings products. In the market for mortgages not only insurance companies and banks are competing with each other, but pension funds and building societies as well. So although the market is dominated by three large banks, competition in the Dutch financial industry is very strong. Many banks have developed a wide range of investment funds to serve clients who want to switch from traditional bank savings to capital markets investments. In this segment, competition is also very intense. The same goes for the servicing of large companies and activities on financial markets, an area in which foreign banks are active as well.

Despite the strong competition in the banking sector (reflected in the ongoing decrease of the interest margin), the sector as a whole is financially very sound. The conservative lending policy of Dutch banks has in fact led to high solvency ratios and to steadily growing profits. Contrary to the severe problems which many banks in other countries have experienced in the last decade, such problems have not occurred in the Netherlands. Dutch banks' policy and the profound supervision of the Dutch central bank have resulted in a sound Dutch banking sector and in top credit ratings for several individual banks. According to the new "Bank Financial Strength Rating" from Moody's, Dutch banks have obtained the highest average credit rating of the main industrialised countries.⁷

4. The Dutch Capital Market since 1986

4.1. Liberalised market

The Dutch economy is characterised by a relatively large external sector; exports and imports both amount to about 50% of GDP. This openness has been a feature of the Dutch economy for many centuries. This long lasting tradition is one of the most important reasons why international capital movements were liberalised in the Netherlands a long time ago. However, this does not go for the domestic capital market, which was relatively strictly regulated until 1986. As from January 1 1986 a number of regulations were lifted. For example, the minimum original maturity of bonds was reduced from five to two years and the obliged redemption in at least four annual terms was no longer required. As a result, the issue of bullet loans was allowed, which markedly improved the attraction of Dutch bonds for foreign investors. Previously, they had shown only little interest in the internationally very unusual 'sinking-fund' bonds⁸. At the same time, the issuance of floating rate notes, commercial paper and certificates of deposit was allowed. Moreover, Dutch subsidiaries of foreign banks were allowed to act as lead managers on the Dutch capital market. Also the obliged so-called issue calendar of the Dutch central bank was abolished. Formerly, the central bank had to be given ample notice of planned issues, which then decided whether such an issue could proceed or should be postponed. As from 1986, only issues of over NLG 50 million had to be reported to the central bank at least three days before the issue date. Furthermore, the Amsterdam Interprofessional Marketsystem (AIM) was introduced, through which banks and brokers can deal directly with institutional investors without charging fees.

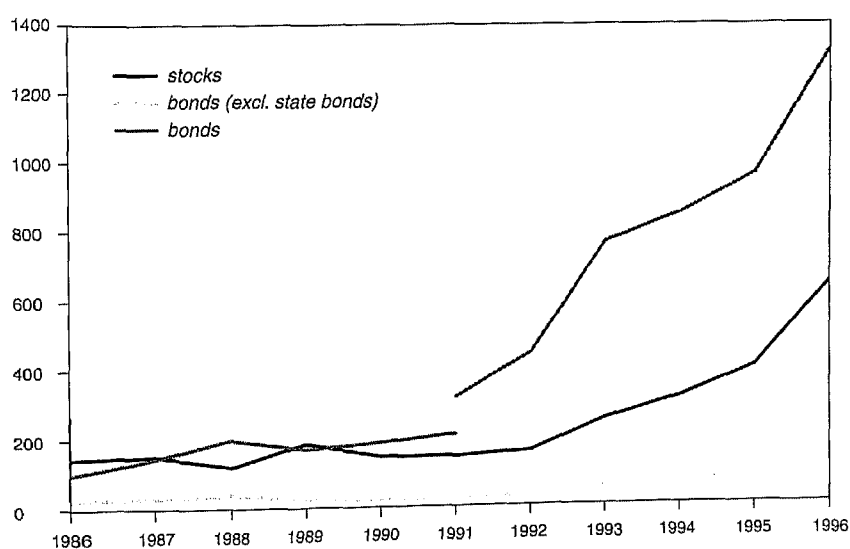
At the beginning of 1988, a second round of deregulation took place. Now the issue of deep-discount and zero-coupon bonds were allowed, as well as medium-term notes. Two years later, in 1990, the tax on Stock Exchange dealings was abolished and rules concerning the issue calendar eased: the central bank only needs to be informed that an issue will take place, if necessary on the issue day itself. Finally, foreign banks are allowed to act as lead managers, even if they do not have a representative office in the Netherlands.

Through these measures, the position of Amsterdam as a financial centre has been reinforced and the Dutch capital market has become more attractive to foreign investors. This can be illustrated by the share of foreign investors in ownership of public state loans. Before 1986, this share hardly ever exceeded 25%; by 1990, it had been doubled.

4.2. Public and private placement market

Graph 1 shows the annual turnover on the Amsterdam Stock Exchange, giving an indication of the extent of the Dutch public capital market. The sharp increase in the turnover of Dutch state bonds in recent years is quite remarkable. International investors regard the Dutch guilder as a very strong currency, in some periods even stronger than the German mark. Dutch bonds as a result have become more and more attractive to international investors. Regarding the graph it should be borne in mind that not all the turnover in Dutch bonds and stocks is traded on the Amsterdam Stock Exchange. A considerable part of Dutch securities is traded in London. Through a number of measures, the Amsterdam Stock Exchange has been trying to get trade back to the Netherlands. A few examples of these measures are: the cut in stock taxes, the lengthening of trading hours, the establishment of an open order book and the introduction of the interdealer broker, facilitating large deals outside the Stock Exchange. It appears that these efforts have been successful (Graph 1).

Graph 1 Turnover on the Amsterdam Stock Exchange



In contrast to the public market, on the private placement market ("*onderhandse kapitaalmarkt*") prices and other modalities are not determined publicly, but are negotiated between the receiver and the supplier of funds. There also is no prospectus. Private placement loans are 'tailor made', meaning that all modalities (maturity, paying date, redemption scheme, principal) can in principle be chosen at will and result directly from negotiations. Since a contract is made up between buyer and seller, selling a private loan is more complicated, because then a new contract has to be made up. Moreover, if the loan has very specific modalities (tailor made), it might not be easy to find somebody to sell the loan to.

The private placement capital market flourished in the eighties. But since the Dutch State is no longer active in this segment and medium-term notes have become an attractive alternative, the private placement market is losing ground.

4.3. Major parties

Institutional investors

Trade is one of the characteristics of the Dutch economy, the propensity to save is another one. The latter can be explained by the long lasting tradition of uncertain income from trade and mercantile. Nowadays, the Dutch propensity to save is clearly illustrated by the immense size of portfolios managed by pension funds.

The Dutch old-age provisioning system is composed of three levels. The general state pension system is the basis of the social security system. It guarantees a minimum pension for everyone older than 65. It is financed through premiums paid by workers and people receiving a state benefit (pay-as-you-go system).

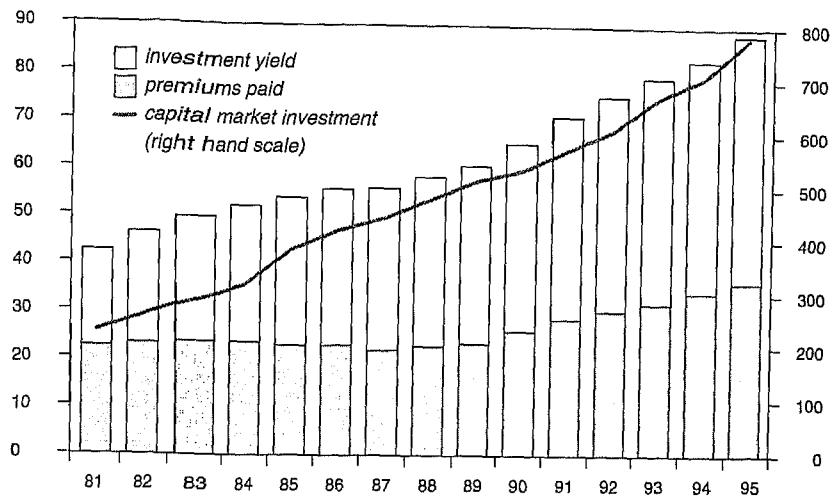
In addition to this, 90% of all workers have an obligatory pension, which supplements the state pension to a maximum of 70% or 80% of the last earned, or average earned, gross annual income. Every participant pays for their own pension. Premiums paid are income tax deductible, while benefits are taxed at the moment of payment.

In addition to the state pension and the obligatory supplementary pension, the self-employed and people who want a more extensive pension are free to pay a once-only premium or a series of premiums to build up a (larger) pension (also funded system). These premiums also are (under certain conditions) income tax deductible.

In order to match the long-term obligations resulting from obligatory and voluntary paid pension premiums, pension funds and life-insurance companies invest most of their portfolio in longer term assets. These assets account for almost 98% of their balance sheet total.

The volume of institutional investors' long term assets has shown a significant increase during the eighties and nineties. Since total pension outlays are not expected to exceed

Graph 2 Income and capital market investment of pension funds and life-insurance companies (in NLG billion)



premium income and asset return before 2010-2020, this figure will show a steady growth in the years to come. Most of these assets today will be invested on the Dutch capital market, which obviously creates a sound and stable supply of long term funds. However, in EMU a larger share of institutional savings may be expected to be invested in other European countries.

Table 3 shows the development of the capital market portfolio of life-insurance companies and pension funds (including the huge civil servants' pension fund ABP). In 1980 government private placement loans (29%) and other domestic loans and mortgages (49%) were by far the most important investment categories. In those years, bonds were bought and loans were granted and kept in portfolio until they were due. The secondary market remained poorly developed. In 1995 the share of private placement loans had diminished to 10.2% for government loans and 29% for other domestic loans and mortgages. Meanwhile tradable securities like government bonds and domestic stocks have become popular. This also applies to foreign securities. Nowadays, portfolios are managed much more actively than in the (early) eighties which has enhanced the preference for tradable securities. This shift in the portfolio has certainly increased the yield, but also the risk profile. But as new techniques for risk-limitation have become more and more available, it is to be expected that the preference of tradable securities will continue for the next years.

Table 3 **Composition of capital market investment of pension funds and insurance companies (1980-1996)**

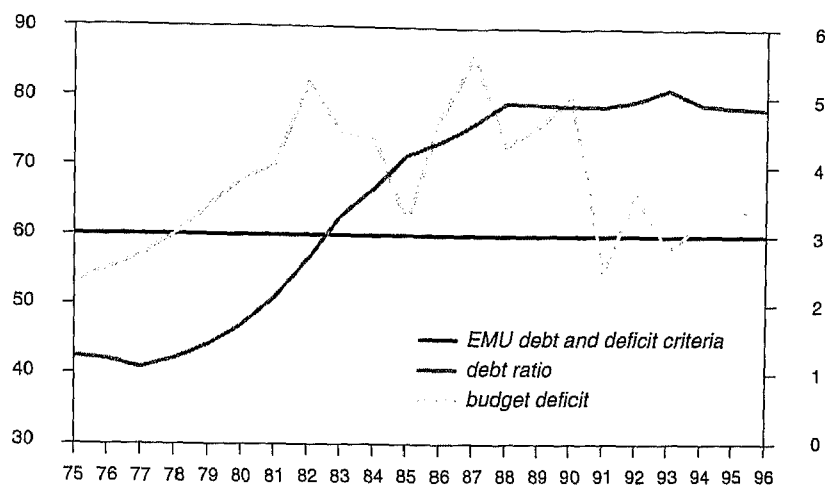
percentages of total capital market investment	1980	1985	1990	1996
government bonds	2.50	9.10	10.70	17.30
government private loans	29.40	24.40	20.40	4.30
other domestic bonds	2.00	2.30	3.50	5.10
other domestic private loans and mortgages	49.40	42.00	37.90	29.60
domestic stocks	2.50	5.20	7.70	16.60
real estate	11.40	9.80	9.30	7.00
foreign bonds and private loans	1.80	4.40	4.60	6.70
foreign stocks	1.00	2.90	6.00	13.40
total capital market investment	100.00	100.00	100.00	100.00
capital market investment (billion guilders)	204.40	381.80	530.60	875.80
capital market investment (percentage of GDP)	59.80	89.70	102.70	133.0
Source: Dutch Central Bank, Annual Report				

Government

The Dutch government annually borrows considerable amounts on the Dutch capital market. The Dutch public debt GDP ratio is considerably higher than the maximum agreed in the Maastricht Treaty. In the mid-seventies, public debt amounted to 40% of GDP. Ten years later this figure had increased to 70%, due to the rapidly rising state debt. The debt ratio of the municipalities, however, stabilised. The recession at the beginning of the eighties aggravated the financial problems of central government and caused the budget deficit to increase to over 9% of GDP. Although in the second half of the eighties, the central government succeeded in cutting expenses and reducing the budget deficit, its debt ratio continued to increase, albeit at a lower pace. Recently, the deficit has fallen close to 3% of GDP and the debt ratio is falling slightly. But it is necessary that the public debt ratio is decreased at a satisfactory pace in order to fulfil the criterion laid down in the Maastricht Treaty. The successful Dutch policy of low inflation rates (see below) on the one hand and the (necessary) spending cuts of the Dutch government on the other, have resulted in relatively low nominal growth rates and, thus, hamper the pace of the reduction of the debt ratios.

The funded pension may be regarded as an extenuating circumstance. In most other countries, pensions are mainly financed through taxes. The fact that in the Netherlands pension premiums are income tax deductible, means that the State is missing out on considerable amounts of tax revenue every year. However, in the future, when all these built-up pensions are paid out, the government will receive taxes. Assuming an average tax rate of 30%, the institutional investors' reserves of over NLG. 700 billion account for postponed tax income of over NLG. 200 billion. The civil servants' pension fund ABP

Graph 3 Dutch public debt and deficit ratio and EMU debt and deficit criteria (% of GDP)



alone accounts for NLG 55 billion future tax income. Taking this into account, the Dutch debt ratio is less precarious compared to other countries.

Almost the entire Dutch state debt is composed of funded debt, which mainly consists of public loans. In addition, the State contracted loans in the private placement market until recently. Dutch institutional investors, amongst which the ABP, were the main and often sole suppliers of the necessary capital.

The share of private placement loans in total state debt has been decreasing for some years now. This can mainly be explained by the institutional investors' growing preference for tradable debt over private placement loans.

Despite the huge state debt, international investors still are prepared to invest in Dutch government paper without demanding a surcharge. The large Dutch national savings surplus, illustrated by the permanent and relatively large surplus on the current account of the balance of payments, is an important factor that strengthens investors' confidence. Moreover, the state does not want to jeopardise investors' confidence and therefore refrains from types of financing which harm its status as a first-class debtor. In practice, the Dutch state does not issue loans in foreign currencies. It only issues loans with a fixed coupon (no index loans) and with a maturity of at least 5 years.⁹

Dutch Treasury Certificates (DTCs), which were introduced in 1993, form the exception to this rule. One of the results of the Maastricht Treaty was the prohibition of central bank financing of budget deficits. As DNB was no longer allowed to compensate for the State's

temporary cash deficits, DTCs filled the gap left by the disappearance of the finance arrangement with DNB. At the end of 1995, the final amount of DTCs outstanding was NLG 12.5 billion, a very small amount compared to the total state debt (NLG 400 billion).

Other parties

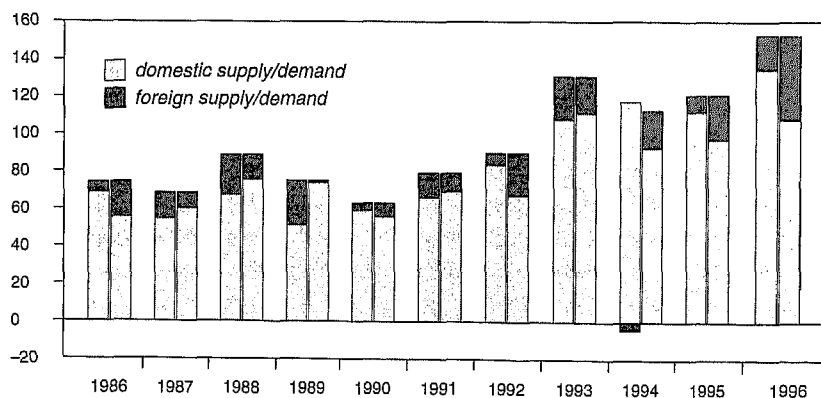
Other parties on the capital market are households, companies, banks and foreign parties. All these categories act on the demand side as well as on the supply side of the market. Almost the entire households' demand for finance is composed of mortgage loans, supplied mostly by banks, but also by insurance companies and pension funds. On the supply side, investments in bonds and stocks have become more and more popular (illustrated by the large number of investment funds), while the popularity of savings accounts with banks is gradually decreasing. Of course, the general prospects of the Stock Exchange and the expected yield versus the 'safe' savings interest rate play an important role.

Companies borrow mostly through bank loans in order to finance their investment projects. Only a minority of Dutch companies are large enough to take funds directly from investors by issuing bonds or stocks.

Banks on balance operate on the supply side of the capital market, granting loans to households (mainly mortgages) and companies. They also demand capital, mainly when savings deposits fall short of new loans. The decreasing popularity of savings accounts, partly due to higher returns on investments in other financial assets, has forced banks to increase capital market borrowing.

Finally, the graph below shows the supply and demand of foreign parties on the Dutch capital market. As can be seen in the graph, there are relatively large fluctuations from year to year. Sometimes foreign demand exceeds foreign supply (1986, 1990, 1992, 1995),

Graph 4 Domestic and foreign net supply and demand (in NLG billion)



sometimes it is the other way around. In the period 1986-1994, the foreign share in the total capital market supply averaged 18%, in total demand 16%. These are relatively large figures, illustrating once more the open character of the Dutch capital market.

5. Monetary Policy

5.1. Monetary policy goals

DNB's main task is to stabilise the internal and external value of the guilder. The internal value refers to the domestic price level. The scope of the external objective is to maintain a stable guilder exchange rate against ERM-currencies in general and against the German mark in particular.

For a long time the central bank tried to pursue both internally and externally aimed monetary policies simultaneously¹⁰. Internal monetary policy (*groot monetair beleid*) was directed at controlling the domestic money supply with the objective of stabilising prices and the domestic economic situation. This approach focused on the development of the liquidity ratio¹¹. For instance, a relatively high money supply growth rate would increase the risk of inflation. On the other hand, a money supply that was too tight, might constrain economic growth. DNB controlled the money growth process by controlling domestic credit growth. In doing so, it only influenced one of the three sectors responsible for money growth; the banking sector. The central bank had no real means available to it to influence money creation by the government or the liquidity supply from abroad.

The so called external monetary policy (*klein monetair beleid*) was aimed at influencing money market conditions and, to be more specific, short-term interest rates, with the main purpose of regulating the exchange rate.

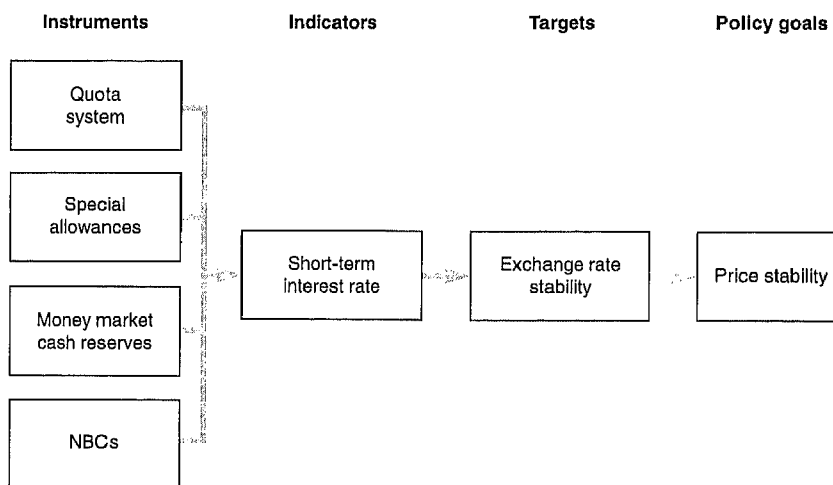
Since the collapse of the Bretton Woods System in 1971, external monetary policy has gradually obtained the highest priority. In the philosophy of DNB, price stability is essential to attain the other goals of economic policy, i.e. stable GDP growth, full employment etc. Therefore, the central bank has one single goal; price stability, defined as an annual inflation rate of less than 2%.

A typical Dutch economic characteristic is the emphasis on exchange rate stability. The Netherlands can be described as a small open economy, which is very dependent on trade with neighbouring countries. The basic thought underlying economic policy is that in the long run competitive power is determined by real factors like the relative prices of production factors. Currency depreciation to improve competitiveness will eventually lead to more inflation, higher interest rates and retaliation by other countries. Economic growth is not served by these factors in the long run.

In the eighties it became difficult to target both money growth and the exchange rate as these aims can place opposite demands on monetary policy. Because of increased capital mobility, the money stock became less controllable. The Netherlands, as a member of the ERM, has explicitly given priority to the objective of exchange rate stability. DNB particularly aims at exchange rate stability against the German mark. In Germany, the Netherlands principal trading partner, the central bank (the Bundesbank) is reputed for its excellent performance in the fight against inflation. This is linked to the political independence of the Bundesbank. Germany is rewarded for its achievement by – in a European context – very low interest rates. In order to profit optimally from this reputation, DNB decided in the eighties to link the guilder as closely as possible to the German mark. Until the early nineties, a certain internal monetary policy continued to exist, increasingly serving however external monetary policy.¹²

Internal and external (exchange rate) monetary policy each require a different set of monetary policy instruments.

Table 4 Internal monetary policy



5.1.1. Instruments of internal monetary policy

The three most important instruments regarding broad monetary policy were direct credit control, the monetary cash reserve system and the intervention portfolio of Dutch state loans (DSL).

Direct credit control was designed to keep money growth under control by directly restricting nominal credit growth. In 1986 and 1987 for instance, the Dutch banking sector kept credit growth below 11-12% annually at the request of DNB.¹³

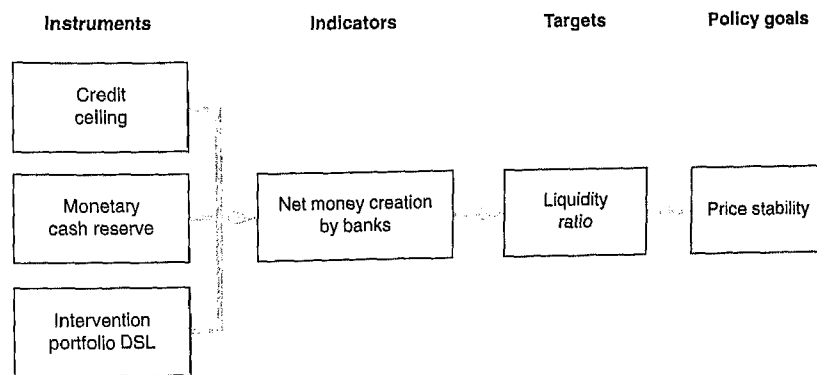
The monetary cash reserve, which was introduced in 1989, works in a more indirect way. DNB fixes the percentage whereby the sum of long and short term credits minus long-

term deposits (*netto geldscheppend bedrijf*) for each bank is allowed to grow annually. This is called the franchise. If a bank exceeds this percentage, it has to hold interest-free reserves at the central bank for the same amount by which it exceeds the franchise. In contrast to direct control, banks could grant credits and loans as much as they wanted, as long as they succeeded in attracting sufficient long-term funding. The monetary cash reserve has been inactive since 1990, but formally still exists.

These credit measures not only influenced money growth but money market interest rates as well and could, therefore, harm exchange rate policy. Both are no longer employed in view of the current goal of exchange rate stabilisation.

With its intervention portfolio of Dutch State Loans of NLG 3 billion, built up at the end of the eighties, DNB hoped to give signals about the direction of the long-term interest rates. By selling government bonds, the central bank tried to raise long term rates and by doing so, stimulating a substitution from money market investments to capital market investments¹⁴. Increasing international capital flows however made the instrument very ineffective. The portfolio was liquidated in 1993¹⁵.

Table 5 External monetary policy



5.1.2. Instruments of external monetary policy

DNB is the banker's bank, which means that all Dutch banks have an account with the central bank. The balance of these accounts is called the narrowly defined money market. The money market tightens, as the balance of the banks decreases. In case the total balance of the banks is negative, the money market shows a deficit¹⁶. The central bank then has to supply credit to the banking sector.

The development of the balances of the bank is linked with other entries on the balance sheet of DNB. An increase of bank note circulation, an increase of the State's account with DNB, or selling of foreign currencies by DNB to banks tighten the narrow money market. On the condensed balance sheet (*Weekstaat*) which is published by DNB every week, the money market balance may be calculated ex ante and ex post (respectively before and after intervention of DNB on the money market).

Table 6 Simplified balance sheet DNB

assets	liabilities
foreign currency reserves	bills in circulation
banks	banks
– special allowances	– money market cash reserve
– advances	– NBC's
other assets	state's balance
	other liabilities

The policy of DNB is to offer the banks the possibility to absorb the effects of the above mentioned autonomous factors and, at the same time, realise such a short-term interest rate the Bank thinks is necessary for exchange rate stability. To accomplish these goals, DNB makes use of several monetary instruments.

Standing Facilities

As from the second half of the seventies until approximately the second half of the 1980s the Dutch money market showed a rather large "natural" deficit. The Dutch central bank had to supply base money to the banks on a permanent basis.

The quota system (*contingentsregeling*) limits the banks' credit demand against the advance rate (*voorschotrente*) with the central bank. In this system every three months a new limit is set. The extent is relatively stable and amounts to approximately NLG 4 billion. There is an averaging possibility, which means that a bank may compensate surpluses and deficits on individual days. If an individual bank needs more credit, it can 'buy' part of the quota from another bank. This possibility enables the banks to manage daily fluctuations in their liquid assets. DNB is, therefore, not forced to intervene in the money market on a daily basis in order to accommodate large fluctuations on the money market and in the short term interest rates¹⁷. In general, the advance rate is the floor for the money market interest rates (see graph 10). From this point of view the Dutch quota system is comparable to the German discount facility. The advance rate is the only official tariff in the Dutch money market¹⁸.

It is important to notice that banks only have access to the central bank's credit facilities, if they are able to offer sufficient collateral. DNB accepts treasury paper, bills of exchange, bonds, private loans to the government, Certificates of Deposit, Commercial Paper and Medium Term Notes of both public and private issuers.

Reserve instruments

As from the second half of the 1980s until the beginning of the 1990s, the money market deficit diminished and turned into a "natural" surplus. This turn can be explained by the following three factors. First, DNB built up an open-market portfolio of Dutch state loans by taking part in state bond issues in an effort to influence capital market rate. The state used the revenues to redeem treasury paper. These operations eased the money market. Second, the Bank increased its foreign currency reserves with regard to the sharply rising international capital flows. Finally, the Ministry of Finance lowered its balance with the

central bank as a result of a better cash management. These developments urged the central bank to introduce a new instrument to create an artificial shortage in the money market. If the money market shows a surplus, interest rates tend to fall to zero. In order to keep a grip on the money market, DNB makes use of the money market cash reserve. The money market cash reserve agreement – in its current shape – has been effective since 1988, although it was slightly moderated in 1989, 1990 and 1993. The cash reserve is a classic form of required reserves over monetary liabilities. Under this provision, DNB may require credit institutions to hold a specific percentage of current liabilities and 25% of long term liabilities as a deposit at the central bank. With this instrument, DNB not only absorbs temporary money market surpluses, but even creates temporary shortages. Thereby, it ensures that the banks have to make use of DNB's credit facilities, which increases the effectiveness of interest-rate policy.

The remuneration on the cash reserve is equal to the average rate the banking sector has to pay on received advances from the central bank. For that part of the cash reserve that exceeds this demand, DNB pays the advance rate. Therefore, opportunity costs for banks are relatively low.

Two other modalities characterise the Dutch cash reserve system. Contrary to many other European countries, there is no facility for averaging. By averaging is meant the possibility to compensate surpluses and deficits on individual days, so that, on average, the required amount over the whole period is held at DNB. This facility, however, is already incorporated in the quota-system. Furthermore, the instrument is being used in a very active way, as DNB is able to change the reserve ratio at every announcement of a new reserve period (which is about every one or two weeks), depending on the estimated money market balance.

Open Market Operations

DNB creates an "artificial" shortage in the money market by establishing a money market cash reserve and by selling NBCs (see below) to the banks. This shortage, however, is only partly offset by the quota system. Banks obtain the remaining part of their required central bank balances through so-called 'special allowances' (*speciale beleningen*). These are loans from DNB with a fixed maturity (varying from two to seven days, though longer maturities are possible but very rare) and generally a fixed price. They are comparable with *repo's* in other countries. After banks have informed DNB how much they want to borrow, the central bank allots amounts to individual banks on the basis of their collective subscription and DNB's assessment of the total need according to the central bank's money market estimates. With this instrument DNB is able to 'fine tune' the money market.

The rate charged on special allowances lies about 10 to 50 basis points above the advance rate. It is the most relevant rate for the money market. The Dutch central bank's 'strong guilder' policy vis-à-vis the German mark has a certain asymmetry. Increases in order to defend the guilder in times of weakness are carried through faster than interest rate cuts when the guilder is improving. This policy is well-known in the market and participants take this into account in their own trading.

In the course of the nineties – particularly since 1992 – the money market surplus increased, mainly as a consequence of DNB interventions in the currency market due to ERM- obligations. As a result, the money market cash reserve, which originally was meant as a temporary instrument, obtained a permanent character while at the same time its average volume increased considerably. This made DNB decide to introduce Nederlandsche Bank Certificates (NBCs), an instrument more in accordance with market conditions. In March 1994, the Dutch central bank issued NBCs (comparable with the discontinued German 'Buliss') for the first time. This paper was introduced to absorb part of the structural money market surplus (of at least NLG 10 billion). NBCs have a maturity of six months and yield several basis points below the six-month AIBOR¹⁹.

An instrument which DNB uses now and then is the currency swap. When the central bank wants to ease the money market, it buys foreign currencies, almost always dollars, from banks and at the same time agrees to sell them back within a certain period – varying between one week to several months – at a fixed price. The banks acquire dollar deposits for the same period against the relevant Eurodollar rate. This rate plus the difference between the current and forward rate paid by DNB, is the interest rate charged by the central bank for the guilder funds temporarily made available to the banks. Compared with the special allowances instrument, the currency swap has two important disadvantages. Smaller banks pay higher rates (they have to pay more to attract dollar deposits) and the swap affects the money market only after two days (settlement period). The Dutch central bank sometimes uses currency swaps to tighten the money market, for example in times when, in retrospect, the money market cash reserve appeared to be too small. Another, hardly ever used, instrument of monetary policy is borrowing call-money.

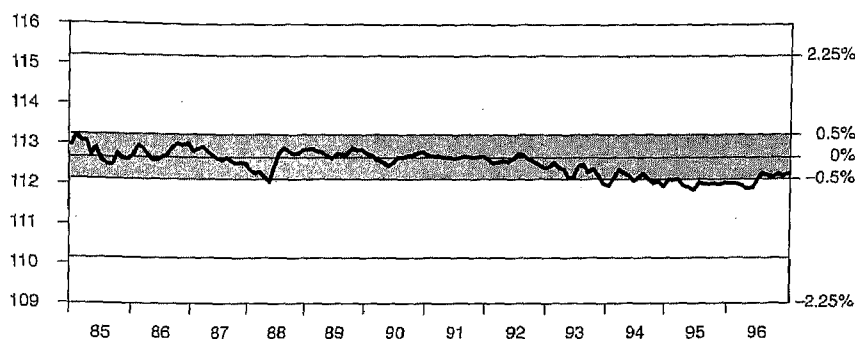
5.2. *The Results of More Than a Decade of Exchange Rate Targeting*

Since its participation in the ERM, the Dutch guilder has only been devaluated once against the German mark, in March 1983. At that time the Netherlands was going through the deepest recession since 1974 and was confronted by huge unemployment. The government felt that a revaluation of the guilder against the currencies of most of the Dutch trading partners would increase the unemployment problem. So, against the advice of the Dutch central bank, the guilder did not follow the German mark in its revaluation against most European currencies. However, financial markets punished the Netherlands for this deviating policy by imposing relatively high interest rates for several years.

During the past ten years the link of the guilder to the German mark, in combination with participation in the ERM, has proved successful. The guilder has become one of the strongest currencies in the ERM. Diverging economic developments and growing doubt about the feasibility of EMU put the ERM under severe pressure during 1992 and 1993, triggering several devaluations of most participating currencies against the German mark. The turmoil led to the widening of the fluctuation margins to 15% on August 1, 1993. Only the Dutch and German monetary authorities decided to stick to the former fluctuation margin of 2¹/₄% on a bilateral basis.

Graph 5 clearly indicates that the $2\frac{1}{4}\%$ fluctuation margin on both sides of the central rate is far from fully utilised. DNB keeps the guilder much closer to the German mark than officially required. As a matter of fact, the 0.5% band is hardly ever exceeded with the mark usually quoted below its ERM-parity against the guilder (note that a descending line in the graph indicates that the guilder gains strength against the German mark).

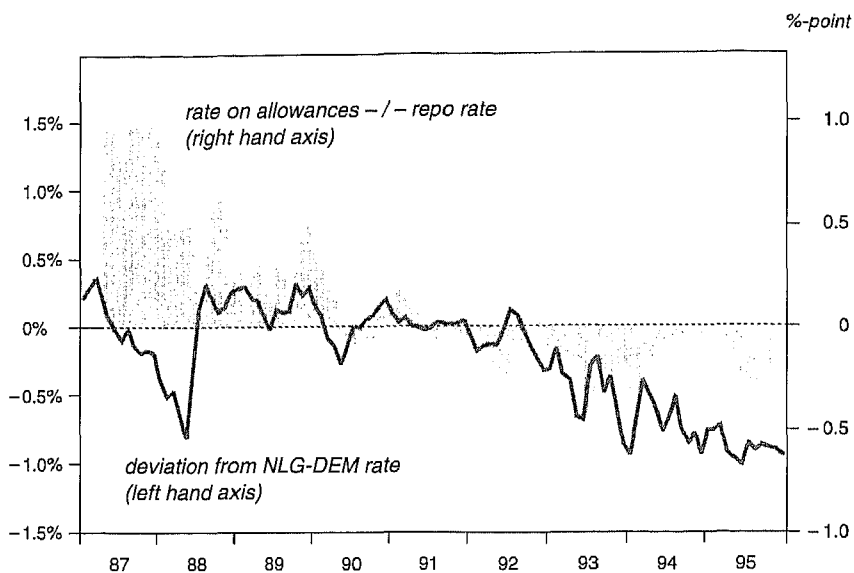
Graph 5 Deviation of German mark from central parity to guilder



In order to keep the guilder/ German mark exchange rate stable, interest rate developments in Germany determine those in the Netherlands. By means of short-term interest rate policies, DNB tries to exert influence on the differential with the German interest rate in order to prevent the guilder from losing ground against the German mark. Therefore, DNB as a matter of principle follows German interest rate increases or cuts, even if the monetary or economic situation in the Netherlands does not make such steps necessary. However, this does not mean that the Dutch central bank will only change its discount rate or special allowances rate when the Bundesbank does so. If the guilder/ German mark exchange rate so requires, unilateral steps are not excluded. As a result of this established policy, Dutch and German money market rates hardly differ. Over the last couple of years, Dutch money market rates have fallen several times below German levels.

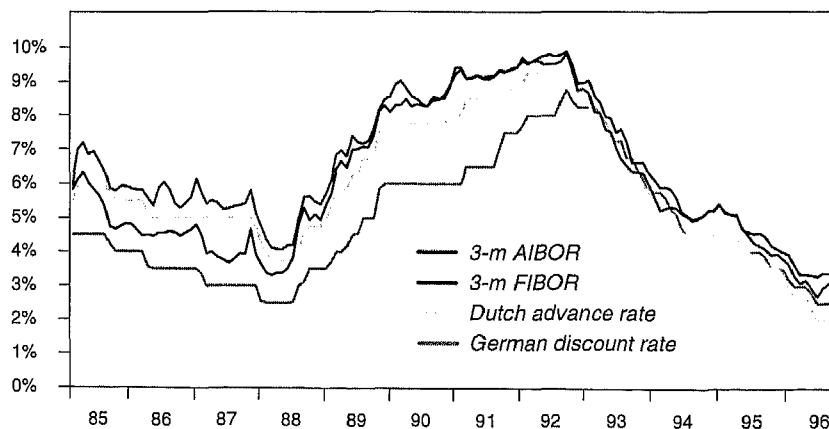
As can be seen from previous graphs, growing international confidence in the Dutch economy and the international anti-inflation reputation of the Dutch central bank have strengthened the guilder vis-à-vis the German mark. As a result the guilder has been regarded over the past years to be as least as strong as the German mark. The guilder is being supported by a number of healthy economic fundamentals. The current account surplus on the balance of payments has been very high for many years, public finances are sound, wage increases are very moderate and inflation is low. In fact, since German unification in 1990, the Netherlands' economic performance has been better than Germany's.

Graph 6 NLG-DEM exchange rate and special allowances vs. German repo-rate



Given the desired stable exchange rate against the German mark, this increasing strength offered DNB the possibility to gradually reduce the Dutch/German interest rate differential. Graph 6 illustrates the steady strengthening of the guilder against the German mark accompanied by the declining interest rate differential which even turned from positive to negative. Yet the exchange rate of the guilder further improved. The

Graph 7 Dutch and German official and money market rates

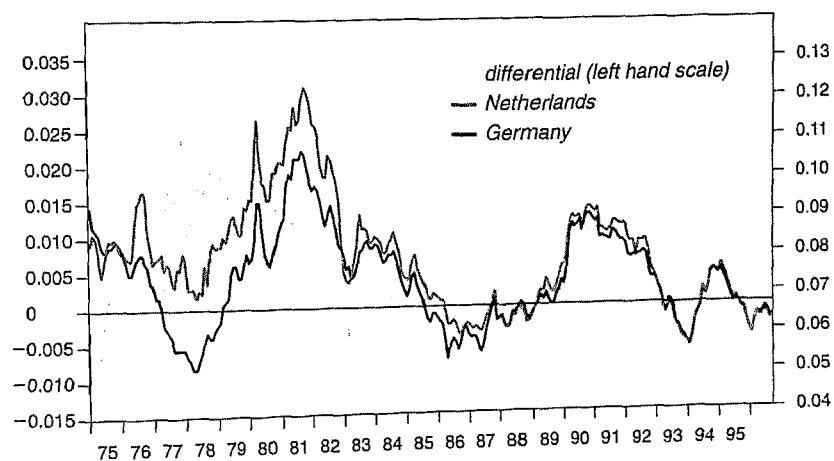


Dutch central bank could have prevented this by further interest rate cuts. However, DNB does not want to bring down Dutch money market rates too far below German rates. The Bank is concerned that a sudden change in sentiment in the currency markets with regard to the guilder might force it to increase rates again. Therefore, the Bank operates very carefully when it unilaterally lowers interest rates.

Besides steering short-term interest rates, DNB stabilises money market conditions by interventions in the foreign exchange markets. The exchange rate will then be directly affected. However, DNB only intervenes in cases of temporary disturbances and crisis situations to support the guilder or other currencies in or outside the ERM. The current volume of (short) international capital flows could undo the effect of an intervention, which is perceived by the markets as improper, within a couple of hours.

The main advantages of the strong guilder are low inflation and, therefore, relatively low long-term interest rates. As a result of the exchange rate policy conducted within the ERM and the fully liberalised capital transactions within the European Union, the spreads between the interest rates of ERM countries gradually diminished up to the beginning of 1992. The currency crises of 1992 and 1993 made interest rates in Europe diverge again, but Dutch and German long-term interest rates remained firmly established as the bottom line in the ERM.

Graph 8 German and Dutch long-term interest rates (DEM-NLG)



6. Conclusions and Prospects

The Dutch policy of linking the guilder to the German mark has been successful. Dutch inflation has been one of the lowest in Europe for many years in succession²⁰. Hence interest rates are also relatively low. This policy has been pursued consequently, despite the fact that there were periods in which the Dutch economy (in the short run) would have been better off with a different short term interest rate than the actual. The temporarily "wrong" interest rate was endured in the strong conviction that in the long run the dedicated policy of maintaining a stable exchange rate with the German mark, will result in a low inflation rate and sustainable real growth.

These positive results outweigh the negative aspects of the strong guilder, viz. the permanent pressure on the Dutch international competitive position and the resulting continuous wage moderation as well as the relatively moderate consumption and nominal GDP-growth, resulting in an only slowly falling debt/GDP ratio.

Moreover, since 1982 there has been a widespread consensus amongst Dutch policy makers that wage moderation and cutting government expenses over a long period are essential to cure the "ill" (high unemployment rate, high budget deficit) economy. For over fifteen years now the Dutch have been keeping consequently to this strategy.

International investors have a lot of confidence in the dedication of the Dutch to this policy, which made it possible for the Dutch government to finance its deficits against the lowest possible rates.

In two years the Netherlands will continue to prepare itself for the third stage of the EMU. Given the solid fundamentals and on the basis of the official budget forecast for 1997²¹, there is no reason to doubt the country's participation in EMU in 1999.

As said before, the Dutch banking sector has been preparing itself in order to face the increased competition that will arise in the third fase of EMU. Banks that currently dominate the domestic market will only be one among many in the European market. However, because of their firm position on the Dutch market, major changes in market share are not to be expected in the first years.

The capital market has been liberalised already. The major players on that market are used to dealing with foreign parties and are acting in an already highly competitive environment. It is expected that the integration of the Dutch capital market into a large European market will not present any insurmountable problems.

Major changes will have to be made in the area of monetary policy, which will be fully harmonized in order to avoid differences between national money market conditions. The most important changes will concern monetary strategy and the set of monetary policy instruments. Price stability will remain the predominant monetary goal in the EU, although the operational goal will probably be a money growth target, as has been the case in Germany for the last two decades. As the European Central Bank (ECB) is

expected to pursue a policy of monetary targeting with a medium-term orientation, it needs a set of monetary policy instruments that fits such a strategy²². The current set of instruments in use by DNB, however, is designed to be able to react very quickly to changes in sentiments on the currency markets. This is needed because the DM/NLG exchange rate functions as the intermediate target of monetary policy. Harmonization of monetary policy instruments therefore will mean a sweeping change from today's situation²³. For the Netherlands it will mean abolition of the current quota system, changes in the technicalities of the money market cash reserve and the introduction of new instruments like a deposit and Lombard facility. This transgression might create confusion and will incur costs for the Dutch banking sector. Therefore the prudent Dutch central bank has, in cooperation with the Dutch banks, developed a transitional plan in order to smoothen this transition. This plan contains three consecutive steps. The basic assumption will be cost neutrality for the banking sector. In Step 1, which will take place mid-1997, a Lombard facility will be introduced in the Netherlands. The averaging facility will move from the quota system into the money market cash reserve²⁴. Once EMU starts in January 1999 and Dutch monetary sovereignty is passed from DNB to the ECB, a success story on exchange rate targeting is ended. The lesson to be learned by countries that have to derogate in the early years of EMU, is that it is possible to import monetary stability and low interest rates from a neighbouring country. As long as internal economic policy fully supports the exchange rate target, monetary policy is not a matter of political debate and the central bank operates independent of politics, such a policy is fully credible for financial markets. Future participants in ERM-II can learn from the Dutch experience in this respect.

Notes

- * The authors like to thank Wim Boonstra and Eric Klaaijsen for their useful comments on a previous version of this chapter. Chapter closed on March 1 1997.
- 1 See also Eijffinger and De Haan (1996)
 - 2 Committee on Banking Regulations and Supervisory Practises, (1988)
 - 3 Staatscourant 125, July 5 1994 p. 6
 - 4 Dierick (1996)
 - 5 Second Council Directive 15/12/89, 89/646/EEC
 - 6 Source: Moody's and Standard & Poor's.
 - 7 Moody's Investor Service (1995)
 - 8 Bonds are redeemed in several annual or bi-annual parts. For example, a usual redemption scheme was the so-called 5+5 scheme, implying a redemption free period of five years, followed by five equally large annual redemptions. The average maturity of such a bond is 8 years.
 - 9 Although sometimes renewed subscription to already existing loans with a remaining maturity of less than 5 years is allowed.
 - 10 See also: Eijffinger (1986)
 - 11 Liquidity ratio $Q = M2/PY$, where M2 stands for a monetary aggregate, P for inflation and Y for GDP in real terms.
 - 12 Dierick & Van Lange (1986)
 - 13 Klant en Van Ewijk (1990), p.272-275
 - 14 De Nederlandsche Bank, Kwartaalbericht 1987/3
 - 15 De Nederlandsche Bank, Annual report 1993
 - 16 Van Breen en Molenkamp (1991), p.11
 - 17 Moreover, there is a possibility to exceed the quota (overschrijdingszone) by 20 to 50% of the quota. Banks may use this extra facility, but the central bank has the right to put an extra surcharge on the advance rate for this part of the credit.
 - 18 As from January 1 1994 De Nederlandsche Bank abolished its discount facility. At the same time the relevant tariff, the discount on bills of exchange (wisseldisconto) has been discontinued. The discount on promissory notes is no longer published either but as this tariff is widely used in the financial world as reference tariff, it is defined as the advance rate plus 0.5%.
Two reasons are predominant for the abolition. First, there was hardly any money market paper left to be discounted. Second, although the impact of the discount facility on money market conditions had been severely diminished, the media kept emphasising changes in these tariffs. This confusion together with some technical imperfections made DNB decide to abolish the discount facilities. This means that there is only one official rate left in the Netherlands: the advance rate (now also sometimes indicated as discount rate).
 - 19 Amsterdam Inter Bank Offered Rate
 - 20 See for example OECD (1996)
 - 21 National Budget Memorandum 1997
 - 22 See Eijffinger (1996) for an evaluation of future European Monetary Policy
 - 23 For an elaborate discussion of the subject of monetary policy harmonization see Van Gils (1995), Van Velden & Wolswijk (1996) and Boonstra (1996)
 - 25 Het Financieele Dagblad, 18/4/1996

Monetary policy in Belgium: the difficult road to orthodoxy

By Peter Praet and Jef Vuchelen*

1. Introduction

Belgian monetary policy operates in the context of a small open economy and in that of a highly bank-intermediated financial system with a very large government debt. The first accounts for policy makers giving priority to the objective of stabilizing the franc vis-à-vis the currencies of Belgium's main trading partners. The second explains why monetary policy has traditionally been closer to the continental model than to the more market-oriented Anglo-saxon model. The third characteristic is symptomatic of a country where public finances have often interfered with monetary policy.

A small open economy

The percentage of imports of total expenditures in Belgium is in the order of 40%, one of the highest in the OECD. Capital markets have always been among the most open of the European countries. More than 50% of total imports are bought from Germany, France and the Netherlands. The structure of the Belgian economy does not fundamentally differ from that of its main neighbours, implying that real asymmetrical shocks in this region which could justify real exchange rate adjustments, are unlikely to occur. Moreover, as money devaluation is very weak – considering the number of formal or informal indexation mechanisms¹ – a real exchange rate movement would be difficult to materialize without an incomes policy and other price controls. Thirdly, the variability of the nominal exchange rate rapidly clogs the whole price information system because not all economic agents have the same facilities to adjust their prices. Exchange rate variability is thus likely to produce redistributive effects not only between the traded and the non-traded sectors, as it is supposed to do, but is related to the relative importance of the “menu costs” that agents incur. It follows that monetary policy has always attached great importance to the stability of the franc vis-à-vis the currencies of Belgium's main trading partners. However, it should be noted that the Belgian franc has lost about 40%

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Since Belgium and Luxembourg constitute a monetary union this chapter refers to monetary policy in the Belgium Luxembourg Economic Union (BLEU). In practice Belgium has dominated the conduct of policy.



of its value vis-à-vis the D-Mark since 1950. This compares with 20% for the Dutch Guilder and 75% for the French franc and corresponds broadly to the cumulated inflation differential with Germany: the yearly average inflation in Belgium since 1950 is 4.0% compared with 2.9% for Germany. Notwithstanding, the inflation performance of Belgium has been, with Luxemburg, the second best of the European Union.

A highly bank intermediated country

A second major characteristic of the environment in which Belgian monetary policy operates is the important role of bank intermediation (see Table 1). At the end of 1996, 141 banks operated in Belgium. The total balance sheet amounted to BEF 27,061 billion or about 332 % of GDP. Total deposits by private customers amounted to BEF 12,874 billion or 158 % of GDP. The share of the five main institutions² in total assets is about 50 % (Belgium Banking Association (1996)). The financial structure partly reflects an economy with a large number of small and medium-sized enterprises in which banks have a

Table 1 Intermediation channels (1994)
(% of total)

	households	non-financial companies	government	total
assets				
banks	47.6	27.8	34.3	40.9
mutual funds	9.0	–	2.1	5.9
insurance and pension funds	9.1	1.9	–	6.5
direct acquisition of securities in BEF	23.6	35.0	27.3	27.4
direct acquisition of securities in foreign currencies	5.8	13.3	–	8.0
other (a)	4.9	22.0	36.3	11.3
total	100.0	100.0	100.0	100.0
liabilities				
banks	86.2	24.3	58.4	44.3
BEF securities acquired by final investors	–	63.9	32.3	44.6
other (b)	13.8	11.8	9.3	11.1
total	100.0	100.0	100.0	100.0
(a) Mainly assets acquired via foreign institutions, assets directly acquired in the rest of the world and assets acquired through inter-sectoral finance.				
(b) Mainly liabilities realized through foreign credit institutions, liabilities resulting from foreign financing and inter-sectoral liabilities.				
Source: National Bank of Belgium (1996).				

comparative advantage in the supply of loans. It also reflects an environment with high personal (i.e. non-institutional) savings, contrary to the situation in the Netherlands, for example, where an important proportion of households' savings is channeled through pension funds and insurance companies. In Belgium, savings are still collected by an extensive network of bank branches. The favourable tax treatment of interest income from savings deposits has also stimulated financial intermediation by banks. More curious is that a very high proportion of the Belgian public debt is bank-intermediated³. This can be explained by a number of factors, such as the crowding-out of private loans by the public sector. Facing a structurally weak demand for private borrowing and a large supply of deposits, banks have naturally been led to finance budget deficits. Limited price competition for retail deposits, together with a restricted access to the money market for the general public also contributed to the demand for government securities by banks: "playing the yield curve" proved profitable in such an environment.

The large government debt

Belgian public debt has always been high compared to that of other OECD countries. Even in the mid-seventies, the debt-income level declined only marginally below 40%. Three consequences of the applied monetary policy can be singled out. Firstly, the smooth (re-)financing of the government deficit has always been an important policy objective. The interaction between fiscal policy and monetary policy was particularly strong in the period from 1975 to 1985 when a sizable proportion of the debt was financed by the monetary authorities (data are given below). Secondly, the high level of the debt at a time when interest rates started to rise in the late seventies and the early eighties, had as a result that interest payments became a major source of fiscal imbalance. As a result, the central bank aimed for interest rates, especially money market rates, as low as the exchange rate could bear within the exchange rate mechanism of the European Monetary System. Since the effects of such policy were not always favourable for long-term interest rates for reasons of poor credibility, a growing proportion of the public debt was financed with short-term borrowings. The share of short-term debt in Belgian Francs in the total debt increased from 15 % in 1975 to 25 % in 1985. Thirdly, the authorities were suspicious about any institutional change which might have increased the risk of (re)financing the debt. As a result, the market for public debt was highly regulated until the late eighties.

In the mid-1980s, it became evident that adjustments of financial markets could no longer be postponed. Enhancing the credibility of monetary policy became the driving force of the reforms, together with the perception that the domestic financial markets had to be liberalized in view of the developments observed abroad and the European integration process. The feeling that enhanced credibility would favourably influence the service of the public debt undoubtedly played a role in the decision to undertake the reforms. As we explain later, these mainly consisted of liberalizing the money market and the government bond market, in strictly limiting the access of the Treasury to central bank financing and in pegging the Belgian franc to a very narrow fluctuation band around the Deutsche Mark.

In the following sections, we start with an overview of monetary policy before the reforms of the late eighties. Then we describe the present operating procedures of the central bank and assess their relative importance. In the last section we give an evaluation of Belgian monetary policy.

2. From the breakdown of Bretton Woods to the Maastricht Treaty⁴

After the second World War, the Belgian financial system evolved from an open-collusive to an open-competitive one. Openness is an obvious choice for a developed country whose wealth heavily depends on exports. Also with respect to capital flows, Belgium systematically opted for a "liberal" policy. Such a policy should be considered in its historical context, i.e., the current interpretation of openness is much wider than what it used to be in the fifties and sixties.

A complete liberalization of capital flows has important repercussions on the conduct of monetary policy and on the organisation of the financial system. Belgium is no exception to this.

The exchange rate policy

One particular characteristic of the exchange rate policy up to March 1990 was the existence of a two-tier foreign exchange market: transactions related to the current account balance of payments had to be settled on the regulated or official exchange market. Capital transactions had to be settled on the financial or free exchange market. The official exchange rate was kept within a fluctuation margin whose width depended on the exchange rate system Belgium adhered to. The financial exchange rate fluctuated freely. A dual exchange rate system is, probably, the type of capital control that conforms most with free market principles. Indeed, one of its important features was the predictability of policies since no discretionary intervention had to be feared: all capital transactions were authorized but the central bank would not intervene to stabilize the exchange rate. In practice, however, speculative attacks on the currency did occur twice and monetary policy had to respond. Furthermore, in the eighties, the system of a dual foreign exchange market was increasingly perceived as an expression of weakness, unable to deliver additional room for manoeuvre to monetary policy.

The system of dual-exchange market was abolished on March 5, 1990⁵, as part of the first stage of the European Monetary Union process. This created an environment of completely free capital flows. For the monetary authorities this did not cause any particular problem since the efficiency of the dual exchange market had become limited anyway because of the imperfect segmentation between current account and capital transactions.

A similar change of ideas concerned the additional degree of freedom that monetary policy could attain through the width of the intervention margins in the successive exchange rate systems (Bretton Woods, the "snake" arrangements during the seventies and, starting in March 1979, the Exchange Rate Mechanism (ERM) of the European Monetary System).

Concerning the central exchange rate, the authorities typically felt that a systematic revaluation of the franc in line with the D-Mark would be too costly in terms of output and unemployment. However, as the authorities' belief in the existence of a trade-off between low inflation and unemployment was built into the formation of price expectations, a positive inflation differential with Germany tended to persist without delivering an additional growth performance. After a while, these differentials had to be accommodated by a devaluation of the currency⁶. Notwithstanding, the Belgian exchange rate policy was conservative compared to most other countries and the Belgian franc was considered a strong currency (as a matter of fact, the effective nominal exchange rate appreciated by nearly 25 percent in the seventies). The exchange rate policy used to be directed more towards stabilization against the currencies of Belgium's main trading partners rather than on a broader basis.

After the first oil shock, the same policy was pursued in spite of a sharp deterioration in the competitive position caused by the existing wage indexation system. Huge current account deficits emerged at the end of the seventies leading to speculative attacks on the currency⁷. These were countered by high interest rates and by interventions on the foreign exchange market as it was expected that the turbulence would be temporary. Actions to defend the franc were thought to have only a limited effect on the real economy. The main argument of the National Bank against a modification of the parity was that a devaluation would, through the existing indexation scheme, be offset by price increases so that the competitive gain would have been extremely small (see National Bank of Belgium, 1978).

Up to 1978, interventions in the foreign exchange market were compensated for by changes in the holdings of foreign assets by financial institutions so that the impact on base money creation was small. From 1978 onward, this was no longer the case as official interventions became sizable. The effects of the decline in international reserves on the supply of base money were then neutralised by increases in foreign borrowing by the government. While in 1978 the government debt in foreign currencies was extremely small (3 billion franc), at the end of 1984 it amounted to BEF 1,018.3 billion (23 % of GDP) or nearly one quarter of the total public debt. Over this period, one third of the increase in public debt was financed through borrowings on the international capital markets. In February 1982, the authorities finally decided to devalue the franc and to impose income and price controls. The policy proved successful as witnessed by the rapid improvement of the current account of the balance of payments in the consecutive years. This allowed the central bank to replenish its stock of international reserves and the government to end its borrowing in foreign currencies. The success of the devaluation essentially resulted from the absence of a passing-on of higher import prices into nominal wages.

The incomes policy implemented by the government must be credited for this. The pro share in National Income, which was on a declining trend since the end of the late sixties had recovered its position by the end of the eighties.

With the rapid increase in the public debt with a shorter maturity, more attention was paid to the benefits of a stricter exchange rate peg. It was increasingly thought that a more credible exchange rate policy would reduce the service of the debt via lower interest rates: in 1985 interest payments on public debt had increased to 9.3 % of GDP, three times higher than in 1980 and equal to 22.8 % of total government expenditures or 31.1 % of tax revenues. Reducing market interest rates became an important policy goal. A strict peg of the franc to the D-Mark was decided in May 1990 following a package of measures aimed at increasing the credibility of monetary policy. The press communiqué of May 22, 1990 announced that following a proposal of the central bank, the government had decided that the exchange rate policy would be geared towards the pegging of the parity of the BEF to the strong currencies of the EMS, "presently the DM not only in case of realignment but also in the daily movements of the currency. The authorities did not, however, declare an explicit narrow fluctuation band. On different occasions, the new policy was tested by the markets. A softening of the BEF vis-à-vis the D-Mark of about 0.25 % triggered interventions by the central bank. These were intensified when the depreciation reached 0.50 %. This reaction function was confirmed by various comments by central bank officials.

Reducing inflationary expectations by "borrowing" the Bundesbank's anti-inflation reputation was considered an important means of reducing capital market rates. This implied the acceptance of money market interest rates as the main weapon to counter potential speculative attacks. More fundamentally, the strong currency policy also implied the necessity for the government to follow more orthodox fiscal policies and to intervene, if necessary, in the wage process. While the system of wage indexation was maintained, a law on "the safeguard of competitiveness" was passed in October 1989, establishing conditions under which the government may take appropriate measures, including in the process of wage establishing, in case of a deterioration of competitiveness.

Monetary policy and the financial system

Unlike the foreign exchange market which could function relatively freely for capital transactions, large segments of the domestic capital market were heavily regulated up to the late eighties.

Before the explicit choice of the BEF/DM-rate as the main target of monetary policy, the authorities had a rather eclectic view on the role of monetary policy in the economy. Quantitative restrictions on the supply of credit were an important policy instrument. The interest rate as the price of credit, was not considered to be relevant for the private sector, except for mortgages. Typically during economic expansion, the central bank

would raise the discount rate⁸ to reduce the availability of base money and impose ceilings on the growth of credit granted to the private sector. The credit supply of financial institutions was further controlled by a ceiling on rediscount operations and by the imposition of monetary reserves. To facilitate the financing of the public sector, and for prudential reasons, financial institutions were required to maintain a minimum proportion of government securities in their asset allocation. In periods of lower growth or recession, most quantitative controls were waived.

Interest rates on government securities, as well as on private loans and deposits, were pegged to the discount rate. In the fifties and sixties, this link was favoured by the monetary authorities because it ruled out price competition between financial institutions. Such competition was considered harmful for the stability of the sector. Gradually in the seventies, the direct link between the discount rate and the deposits and loans rates was abolished. The financial sector progressively evolved to a system in which the initiative for changes in deposit and lending rates for specific segments of the market was taken by the leading institution.

The market for public debt was heavily controlled by the authorities. For long-term government debt, the system was based on a consortium of banking underwriters who would negotiate the amount and price conditions of a bond issue with the Minister of Finance. The consortium would, in return for a fee, bear the placement risk. There was virtually no supply of medium-term public debt instruments as these maturities were reserved for bonds issued by the financial institutions. This explains in part why Belgium's public debt used to be highly bank-intermediated and little traded: banks collected abundant savings from households with a high preference for liquidity (part of which was in regulated savings deposits with favourable tax treatment) and recycled them in government bonds with a longer maturity⁹.

For short-term government securities, access was restricted to Belgian and Luxemburg financial institutions. As a large part of the rising public debt was financed through the issue of Treasury certificates, the liquidity management of the financial institutions worked essentially through the matching of the maturity of the Treasury bills' portfolio to their (expected) liquidity needs. This was possible because the Treasury issued certificates tailored to the specific needs of the financial institutions. The certificates were available to the banks on demand ("on tap") without any quantitative limit. As a result, the Treasury certificates rates became the main interest rate instrument until the reform of 1991: the rates were directly fixed by the central bank, in consultation with the Minister of Finance (see Quintyn and Vuchelen, 1992).

On the market for government paper there was thus no clear division of responsibility between monetary policy, budgetary policy and debt management. The information content of bond prices was weak since the consortium of underwriters would smoothen market signals - at a significant cost to the Treasury in terms of fees - and because the turnover of the debt was small. Similarly, the central bank had only limited information on money market conditions contrary to more market-oriented systems.

In the early eighties, commercial banks' recourse to rediscounting dropped significantly as the central bank maintained the discount rate systematically above market interest rates. At the same time, Belgium experienced large deficits on the current account of the balance of payments. Both "leakages" of high-powered money did not result in liquidity problems since the Treasury borrowed intensively on foreign financial markets. After the devaluation of February 1982, the rapid decline of the current account deficit required an adjustment in the operating procedures of the central bank. On May 8 1985, the National Bank announced that the discount rate would be used in a more flexible way in reference to the rate on the 3-month Treasury certificate¹⁰.

It should be noted that the policy of the early eighties to fix the discount rate above the market interest rates did not result in a credit crunch since in the case of liquidity needs, financial institutions would simply not re-invest maturing Treasury certificates. The Treasury would then be forced to borrow from the central bank. Structurally, in the late seventies and early eighties a large share of the budget deficit was financed through base money creation¹¹. This occurred directly through advances by the National Bank, as well as indirectly through advances to the "Government bond stabilization Fund" (Fonds de Rentes – Rentenfonds) and through borrowings in foreign currencies. The so-called indirect financing by the central bank was necessary for institutional reasons since direct access was restricted. The ceiling on the indirect channel was flexible, i.e., adjusted to the needs of the Treasury. As the "Fonds des Rentes" could refinance itself at the central bank, this was pure monetary finance. Table 2 illustrates the importance of monetary financing of the budgetary deficits.

It can be observed from Table 2 that base money creation for financing the budget deficit rose with the level of the deficit. Initially, this was offset by the large current account deficit but, after the devaluation of 1982, the authorities were forced to neutralise the inflow of capital through a reduction in rediscounting by banks. Given that monetary financing by the central bank ended in 1990, the data since 1991 refer to changes in the foreign currency debt. These also reflect tensions on the foreign exchange market such as in 1993.

Direct quantitative instruments, although very important in the 1970s, were completely abandoned in the 1980s: their drawbacks (reduction of competition and tying up current market positions) were considered too important. Furthermore, the ongoing process of internationalization, liberalization of the financial markets and European integration required an adjustment of the financial system to the more market-oriented international system. Money market interest rates gained in importance as indicators of monetary policy. However, the degree of freedom of the authorities was sharply reduced by the increasingly binding target of stabilizing the nominal exchange rate vis-à-vis the German mark.

Summarizing, in the late seventies and early eighties, Belgium's monetary policy suffered from an inappropriate budgetary policy. The all important budget deficits were growingly financed by base money creation. Initially, this did not create monetary

Table 2 The monetary financing of budgetary deficits, 1975-1995

	budget deficit (a) (percentage of GDP)	monetary financing of the deficit (percentage of total) (b)
1975	4.8	0.8
1976	5.2	8.9
1977	6.0	7.5
1978	6.1	13.3
1979	6.6	37.2
1980	8.6	40.7
1981	12.7	76.9
1982	15.5	41.4
1983	13.3	38.6
1984	11.4	34.5
1985	12.0	-1.5
1986	11.3	-8.2
1987	8.3	0.0
1988	7.8	-3.4
1989	6.6	9.4
1990	6.1	-15.7
1991	5.4	-0.1
1992	5.4	-25.9
1993	5.2	158.2
1994	4.1	-51.7
1995	3.7	-90.5
1996	3.0	-144.7

(a) Budget deficit defined as change in government debt, excluding exchange rate variations.
(b) Sum of change in direct and indirect advances of National Bank to the Treasury plus change in borrowing in foreign currencies.
Source: Calculations based on data from the Ministry of Finance.

problems since these flows were offset by the large deficits on the current account balance of payments. The monetary transmission mechanism was characteristic of a financial system dominated by banks. The target of the central bank was to control their scope for credit expansion. Quantitative instruments (loan ceilings and discount quotas) and formal and informal controls of interest rates, supplemented the discount rate. This implied that, at certain times, credit rationing was an important feature of the transmission mechanism.

Experiences with the quantitative instruments in the 1970s illustrated their weaknesses. For example, the direct link with banks' profitability made it difficult, in certain situations, to take strong restrictive action. As international financial markets were increasingly liberalized in the eighties, Belgian monetary policy abandoned the quantitative instruments. Interest rates, short- as well as long-term, became more reliable indicators of the stance of monetary policy and of the financial market's perception of this policy. One corollary was the greater impact of budgetary policy on bond rates. The intermediate target of monetary policy shifted more explicitly to the exchange rate, although a smooth financing of the budget deficit remained an important policy concern. The movement toward an explicit hard currency exchange rate policy was stimulated by the expected benefits of lower interest rates. This implied an adherence to the German monetary policy. The ultimate policy goal, although not very widely and explicitly announced by the monetary authorities, remained therefore price stability. All in all, monetary policy tended to become less eclectic in the 1970s and 1980s.

For the sake of completeness, it must be mentioned that the National Bank of Belgium never announced quantitative monetary targets. Explicitly and implicitly, the National Bank was opposed to such targets¹². The main reasons being that monetary aggregate targets implied a too narrowly focused policy, neglecting other aspects of the financial world (interest rates, available credit lines, capital movements, etc.).

3. The new policy frame

3.1. *General features of the reform of the financial markets*

Although the basic features of the Belgian financial markets discussed in the introduction are still prevalent, major reforms have been undertaken in the late eighties¹³. These reforms have profoundly changed the context in which monetary policy operates. The reforms consisted mainly of liberalizing the money market and the government bond market, in prohibiting the access of the Treasury to central bank financing and in reinforcing the exchange rate as the main target of monetary policy. Other aspects such as the dismantling of quantitative restrictions have been addressed above. Enhancing the credibility of monetary policy has been the driving force of the reforms, together with the perception that the domestic financial markets had to be liberalized and modernized in view of the developments observed abroad.

The reforms were undertaken in a favourable economic and financial environment which contributed to the perception that the government could safely trade-off lower cost of finance (via more competition for debt instruments) against more market discipline. For example, prior to the reform, the yield on Treasury certificates exceeded that on the Bibor (Brussels Inter Bank Offered Rate), quite an abnormal situation. It was also felt that increasing the credibility of monetary policy would reduce the interest rate spread with Germany and the Netherlands. As a consequence, public finances would

loose the comfort of a soft financing constraint. These developments were re-enforced and accelerated by the process of European monetary integration. The law of 2nd January 1991, concerning the market for public debt securities and the instruments of monetary policy, set the new framework for capital markets. The reform aimed to create an efficient market for government securities accessible to the widest possible range of investors and to change the issue of Treasury certificates, thereby modifying the operational techniques of the central bank toward more market-oriented ones. Under the new technique of issuing Treasury certificates, the central bank is no longer in a position to fix the leading money market rates (typically, the 3-month Treasury bill rate) at its own discretion. The previous system of issuing certificates on tap was replaced by a system of regular competitive auctions accessible to residents as well as to non-resident investors. At the completion of each round of auctions, the Treasury fixes the highest interest rate at which the certificates are awarded. Tenders submitted at lower rates are first allocated ("American-style" tender). It is remarkable that the central bank does not constrain the Treasury in its supply of short-term debt. This feature directly results from the large stock of short-term public debt: in 1990, Treasury bills in Belgian francs represented more than a quarter of the total debt implying an average weekly refinancing need of the Treasury of nearly BEF 40 billion (nearly 0.50% of GDP). Obviously, this was taken into account when the reforms were drafted¹⁴.

Particular attention was paid to the organisation of a secondary market for short- and long-term debt, as the risks (and thus the costs) related to the new issuing technique would be reduced if markets were liquid. A system of primary dealers (presently 15) acting as market makers was put in place. Primary dealers must be established in Belgium or Luxemburg and are selected by the Minister of Finance. Their main obligations relate to the Treasury certificates and government bonds¹⁵ auctions, to post bid and ask prices on Reuters' screen and to promote government securities as investment assets. In return, the primary dealers enjoy specific advantages such as an option to submit supplementary non-competitive tenders after each periodical allocation of government securities. They also benefit from the facility of clearing their daily closing balances with the central bank at the reference market rate up to a certain limit (see below).

3.2. Monetary policy today

The policy target: the exchange rate

As already stressed, the nominal exchange rate target was progressively reinforced in the eighties, from the rather vague objective of keeping the exchange rate of the franc steady vis-à-vis the currencies of Belgium's main trading partners, to the strict pegging of the franc to the German mark from June 1990 on. The intention of the authorities was to further reduce possible ambiguities concerning interest rate movements as a potential instrument of debt management. The pegging of the franc combined with the sharp separation between monetary policy and debt management implied by the reform of the market for public debt, were of crucial importance for credibility building. The widening of the fluctuation margins within the Exchange Rate Mechanism from 2.25% to 15% on

the 2nd of August 1993, did not change the strategy of keeping the franc within a narrow band, generally limited to $\pm 0.50\%$, against the D-Mark (see section 4).

The strict pegging of the nominal exchange rate implies that under normal circumstances the Belgian short-term interest rates must mirror the German rates. As a result, all turmoil on the money and foreign exchange markets must be neutralized through appropriate interventions, so that an equilibrium is attained in each market. The main indicator of monetary policy is the interest rate on Treasury certificates and money market rates. Assessments on monetary policy are typically made on the basis of interest rate spreads with Germany.

Base money and its counterpart

Contrary to many other countries, Belgium does not use required reserves on bank deposits to induce a structural demand for base money, although the instrument is legally available to the central bank. Currency in circulation is considered sufficient for the conduct of monetary policy. The role of required reserves as a liquidity buffer in case of transitory shocks in money demand is taken over by a special liquidity facility at the central bank for the financial intermediaries and by frequent intra-day interventions by the Bank on the open market intended to dampen excessive interest rate volatility (see section 4.1.2.1 *infra*). Base money is thus essentially represented by currency in circulation. It is about 5% of GDP.

The counterpart of base money is composed of official reserves (about 60% of total assets of the National Bank), claims on financial intermediaries and Treasury certificates bought in the market. Direct advances to the government, which had already been limited under the reform of 29th January 1991, were abolished on the 1st of July 1993 under the law of 22nd March 1993. These limitations do not apply to public securities acquired by the Bank through interventions on the money market since they do not involve a direct credit to the government but create liquidity in favour of financial intermediaries. It is also worth mentioning that in order to avoid any interference in foreign borrowings by the Treasury with monetary policy (this had too often been the case before), a special procedure was agreed between the Minister of Finance and the National Bank on 5th February 1991. Furthermore, the Bank may call for consultations with the Minister of Finance if it considers that changes in foreign borrowings are likely to jeopardize the effectiveness of monetary policy¹⁶.

As a result of the law of 22nd March 1993, the Belgian Central Bank became "independent". Obviously, this term covers widely different situations (see Eijffinger and Schaling (1993) and Eijffinger and De Haan (1996)), but Belgium's Central Bank can be defined as intermediate "independent", since some political intervention still occurs (such as the nomination of the directors and the choice of policy strategy). Instruments can, however, be used in complete freedom.

The Central bank's intervention on the money market

As elsewhere, the central bank influences the marginal financing cost of financial intermediaries by fixing the lending rates on the supply of liquidity. Four categories of

credits and advances to financial intermediaries are available: the mobilisation of trade bills, credits granted by tenders, credits granted through direct interventions in the money market and daily closing advances. Deposit facilities at minimum rates are offered by the central bank to absorb financial intermediaries' excess liquidity and constitute a floor to the money market rates. Roughly, one can distinguish the standing facilities from the discretionary open-market operations. The mobilization of trade bills and daily closed advances are offered at posted rates and activated on the initiative of banks. The other two instruments are part of open-market operations where regular ("housekeeping") operations in the form of weekly tenders can be distinguished from fine-tuning operations.

The possibility to mobilise trade bills was introduced on 17th June 1991. This borrowing facility is accessible to financial intermediaries at a privileged rate, the "discount rate". Since the volumes available are very small, changes in the discount rate have essentially a signalling function, for example, when the Bank wants to show that it associates itself with moves in similar rates in other countries.

The system of periodical allocations of central bank credit by tender was introduced in March 1989. Tenders are typically made in terms of volume for a one-week maturity, at a pre-announced interest rate. The interest rate for tenders represents a more precise signal, compared to the discount rate, with respect to the orientation of short-term interest rates as desired by the central bank. Combined with the facility for the mobilization of trade bills, the periodical allocation of credits by tender enables the Bank to supply base money in a more structural manner. These credits are secured by guarantees such as government securities or by commercial bills.

Direct daily (fine-tuning) interventions in the money market are conducted between the periodical allocations of credits. In order to fix the volume of its interventions, the Bank has to judge whether shifts in money demand are of a temporary nature, in which case they should be neutralised, or have a more fundamental character, in which case the interest rate has to be allowed to adjust. The daily intervention rate is referred to as the "central rate". If the Bank aims for higher interest rates, it will limit its direct interventions in the market.

Additional supplies of liquidity are available, but at a penalty rate. These are the daily closing advances from the Bank. Similarly, end-of-day surpluses on the money market will be deposited at the Bank at a below-market interest rate. This mechanism of daily closing advances and deposits reinforces the effectiveness of the direct interventions in the money market.

The penalty rates for the residual deficits or the daily closing surpluses are graduated. For the residual deficits, the system is as follows. First, the "primary dealers" enjoy, for a rather limited amount (up to BEF 350 million with a total of 5.3 billion franc), a borrowing line at the central rate, without a penalty. Second, all resident credit institutions of the BLEU (Belgian-Luxemburg Economic Union) have individual credit

lines, the ordinary current account advances, totalling BEF 220 billion, granted at a rate above the market rate. Third, institutions exceeding their ceiling can still obtain advances but at a considerably higher penalty rate ("advances above the ceiling"). Daily closing surpluses are remunerated at rates below the central rate. For deposits exceeding 5% of the credit lines, the so-called "overstepping tranche", (remuneration rate) will be significantly lower.

The hierarchy of the various interest rates is illustrated in Table 3 for the end of December 1996. The central rate evolves in a corridor with the standing facilities and deposit facilities at penalty rates, being the floor and the ceiling, respectively.

Table 3 Rates of the National Bank of Belgium, the Rediscounting and Guarantee Institute (R.G.I.) and the money market
(in %, end of December 1996)

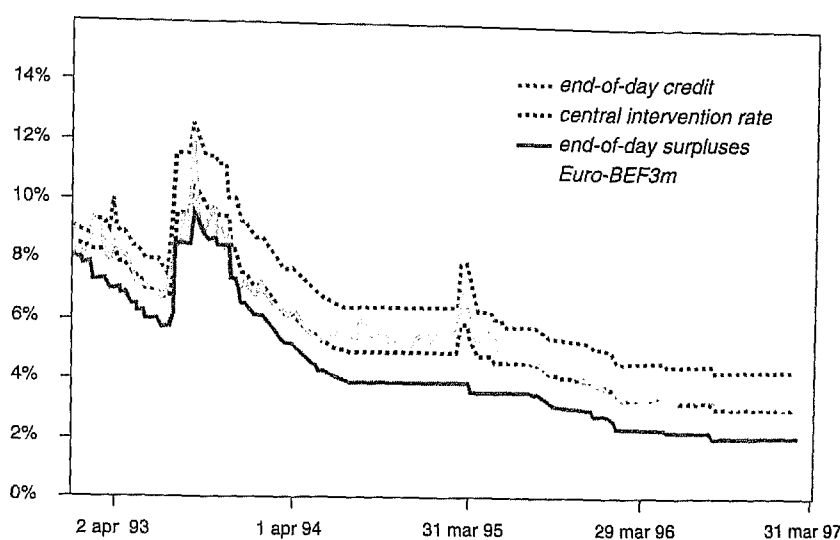
deposits with the R.G.I., overstepping tranche	1.00
deposits with the R.G.I., ordinary tranche	2.00
discounting	2.50
allocation by tender	3.00
current account advances	4.25
advances above the ceiling	6.00
one-month interbank rate	3.09
Source : National Bank of Belgium, monthly review	

One advantage of this structure of official interest rates is that it permits the Bank to convey gradual signals on the orientation of monetary policy. It should be noted that the width of the interest rate corridor is quite large (1.00 % as floor and 6 % as ceiling, at the end of December 1996). In practice, the more operational corridor is considered to be determined by the cheapest source of funds for banks (the discount rate) and the ordinary lending rate (current account advances). Their recent development is shown in Chart 1.

The operational conduct of the central bank

For its interventions on the money market, the National Bank of Belgium uses the classical range of techniques: purchases and sales of securities, spot as well as forward, repurchase agreements, lending and borrowing operations on the interbank market and foreign currency swaps. As elsewhere, the preference has shifted to repurchase agreements which present the advantage of having no direct influence on the yields of the underlying securities. Clearly, if the Bank wants to influence the structure of interest rates more directly, outright open-market operations will be preferred. For example, in 1994 the Bank bought 3-month Treasury certificates with remaining long maturities and

Chart 1 Recent developments of short term rates



sold certificates with shorter maturities, thus exerting a direct influence on the yield curve. Obviously, such action on the longer-end of the money market can only be undertaken under special circumstances. It should also be noted that the Bank is allowed to operate on the long end of the capital market¹⁷. This happened for the first time in early December 1995, and was triggered by a sudden increase of the BEF/DEM bond spread resulting from end-year sales of Belgian bonds by financial institutions.¹⁸ However, the amount of intervention was small.

Foreign currency swaps would have effects similar to that of repos on the money market in that they would not influence the exchange rate. Swaps are particularly suitable when the Bank aims to neutralise the impact of international capital flows on domestic monetary conditions. However, in periods of severe exchange rate turbulence in the Exchange Rate Mechanism, the limits of currency swaps may quickly be reached. In the 1992 crisis, the official settlements balance of payments of the BLEU was so much in surplus (it increased from BEF 308.7 to BEF 463.5 billion from December 1991 to December 1992) that official interventions on the foreign exchange market would have enabled the commercial banks to repay all their debts to the central bank (at the end of 1991 these liabilities represented BEF 127 billion). Financial intermediaries would thus have been put "outside" the sphere of the central bank. To avoid such an outcome, foreign exchange interventions were partly neutralised through the repayment by the Treasury of part of its foreign currency debt.

The general gradual development of the operating procedure was marked by an increasing use of market-oriented interventions (see Table 4). Open-market operations

Table 4 Transactions of the National Bank of Belgium on the money market
(averages of daily outstanding amounts; billions of francs)

	1991	1992	1993	1994	1995	1996
Regulation of the money market						
Claims resulting from direct interventions on the money market of which:	66	52	94	118	118	129
<i>Public-debt securities purchased on the secondary market</i>	18	11	21	27		23
<i>Very-short-term repurchase agreements</i>	46	42	72	90	95	105
<i>Interbank deposits</i>	2	0	1	1	1	1
Credits allocated by tender	51	39	16	25	14	11
Commercial bills mobilised	9	10	4	4	3	3
Total	127	104	125	148	135	144
Coverage of the net end-of-day deficit of the financial intermediaries	1	3	11	1	3	-1
Source: National Bank of Belgium; monthly review.						

(including liquidity supplied in the form of weekly tenders) represent the bulk of the Bank's interventions. This is not surprising: with the strict exchange rate target, the central bank must closely watch the development of interest rates in Germany and act rapidly to wipe out interest rate differentials of an "accidental" nature or those that are simply the consequence of institutional differences between the two countries. For example, in the absence of a system of required reserves similar to the German one, the National Bank of Belgium must frequently operate at the very short-end of the market (up to a few days) to smoothen the fluctuations in interest rates. The Bank may also need to adapt its weekly tender technique in order to adjust the Belgian money market rates to seasonal movements of specific German rates, for example by issuing calls for tenders at multiple rates or for longer periods than the traditional seven days (for example, in December 1991 and in September 1994). Of course, the Bank may also adapt its current practice of market intervention in order to have a better insight into markets' expectations and not purely for more or less technical reasons. For example, in September 1991, in a context of rising interest rates, the Bank issued calls for tenders for more than seven days.

While the reform of the money market has not fundamentally changed the total volume of liquidity supplied by the central bank to the domestic sector, it is now almost completely granted to the financial intermediaries. In the previous regime, all the fluctuations in market liquidity were passed on to the Treasury, which in turn had to resort to its credit facilities with the Bank.

Most market operations are carried out through banks. This reflects the institutional frame of the Belgian financial markets. Limits are set as to its interbank deposits. In order to prepare for stage III of the EMU, only marginal adjustments in Belgian policy instruments will be needed. Indeed, as far as we currently know, the European Central Bank will implement its monetary policy in a way comparable to that of Germany and Belgium. The main issues are the deposit and loan facilities at the central bank. This interest rate-corridor approach should also apply at the European level. Similarly, repos for the control of very short-term interest rates (up to one month) and regular market operations (open-market operations and tenders) for the control of interest rates up to three months are already used by the Belgian National Bank. Belgian monetary policy may, however, have to be adjusted if a system of reserve requirements is introduced.

The above-mentioned operating procedures and policy instruments imply that the transmission mechanism relies much more on interest rates compared to the 1980s: monetary policy aims at influencing (short-term) market interest rates. These must guide financial institutions in their portfolio behaviour leading to adjustments in loan and deposit rates. As a result of the liberalization of the financial markets, the non-banking sector is now also more sensitive to short-term interest rates; this increases the effectiveness of the central bank's interest rate policy. Related to the interest rate procedure, is the credibility issue. As stressed before, one important intermediate goal of the monetary authorities was an increase in policy credibility. Enhanced credibility also implies a more efficient monetary policy, as increases in central bank interest rates will no longer be perceived as a sign of potential exchange rate problems for the franc and therefore seen as speculation opportunity, but as a sign that speculation will be unprofitable. Money market interest rates are therefore now a better indicator of monetary policy, compared to the 1970s and 1980s.

Since the strong currency policy was pursued with more vigor than in the late 1980s, the ultimate policy goal of price stability had become much more convincing.

4. An evaluation of Belgium's monetary policy, 1990-1995

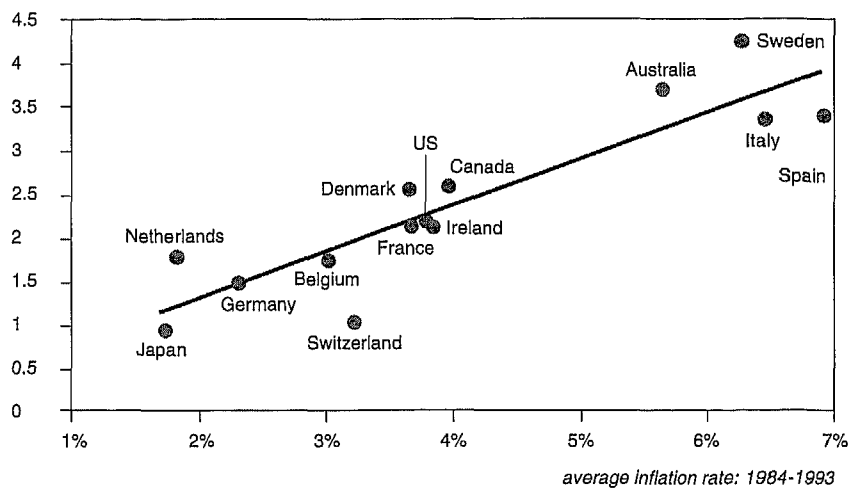
Evaluating the contribution of monetary policy to the achievement of macro-economic objectives is complex since the link between the instruments and the policy goals is indirect and not even fully understood. Considering the goal of price stability, Belgium has consistently ranked among the best performers of the European Union (15 countries). For the last decade (period 1986-1996), the inflation rate was 2.3 % compared with 3.9 % for the EU, 2.3 % for Germany, 2.6 % for France and 1.8 % for the Netherlands.

More directly related to monetary policy are interest rates. The money market differential with Germany essentially disappeared in the 1990s¹⁹. Concerning the bond market, its behaviour depicts good credentials in terms of inflation credibility: the interest rate spread with Germany for the 10-year government bond has averaged 73

basis points from mid-1990 to end-1996 (monthly average data), fluctuating between 13 and 9 basis points. In the 1994 international bear market, the Belgian bond market was among the most stable (see Chart 2).

Chart 2 Long-term interest rates and inflation

*increase in long-term interest rates
between Jan and Dec 1994*



As further evidence of the credibility of monetary policy, one can compute for the Belgian franc the credibility bands against the D-Mark as developed by Svensson (1991).²⁰ The bands are based on the uncovered interest parity condition assuming that the interest rate spread with Germany reflects the exchange rate risk perceived by investors²¹. If the exchange rate target is credible, the BEF interest rate should lie within band whose upper (lower) limit is equal to the D-Mark interest rate plus (minus) the maximum percentage depreciation (appreciation) of the BEF against the D-Mark permitted by the target. Thus, the lower floor for the Belgian three-month interest rate satisfies:

$$(1 + r^L_t) = (1 + i_t)(EL/E_t)^4 \quad [1]$$

Where r^L_t is the lower interest rate limit for the Belgian three-month Treasury bill rate, the German three-month money market rate, E_t the current exchange rate and EL the lower limit of the target zone, set at 0.5 percent below the parity (see above). Similarly, an upper interest rate limit can be constructed using the upper limit of the exchange rate band.

Chart 3 shows that the BEF interest rate remained well within the credibility band, except for the EMS crisis of the summer 1993.

Chart 3 Credibility bands to the DEM

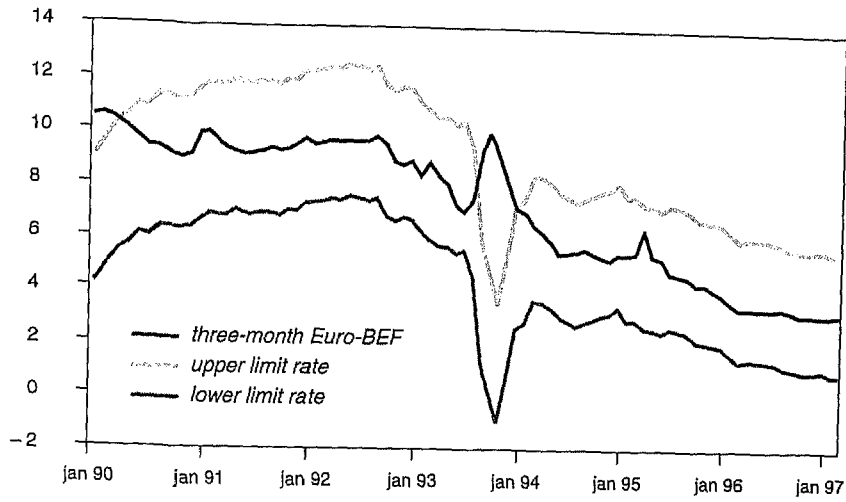
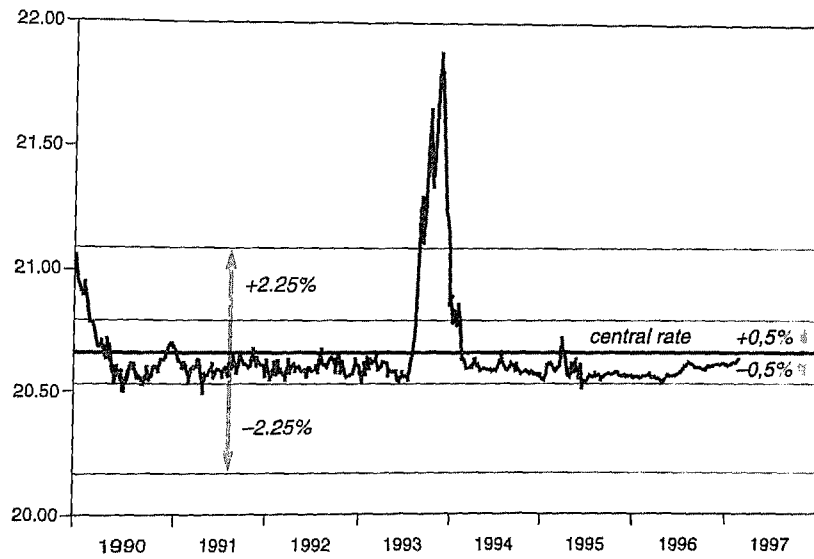


Chart 4 BEF/DEM exchange rate in the 1990s



Building credibility requires that the central bank signals its willingness to resist speculative pressures by using the interest rate weapon. With the exception of 1993, such pressures have been limited, as shown on Chart 4. During the EMS turbulences of the summer of 1993, the Bank's central rate was increased from 6.7% in early July to 10.5% in early September. At that stage, however, the central bank started to reduce the central rate while the currency had not yet stabilized. At the climax of the crisis (October 15, 1993) the BEF had depreciated by 6.5 % vis-à-vis the D-Mark (see Charts 5 and 6). The crisis ended with the adoption by the government, on November 17, 1993, of a "Global Plan" for employment, competitiveness and social security. This experience illustrates the limits of monetary policy in countering speculative attacks on the currency. While interest rate increases reduce the profitability of speculation, they also risk exacerbating pressures on the currency, as higher interest rates weaken the fiscal position in the short-term. This also explains the efforts of the Treasury to increase the duration of the public debt : markets are less likely to question the willingness of the central bank to react to speculative pressures if the budget balance is not too sensitive to the short-term interest rate²².

5. Conclusion

Fundamental changes in the Belgian financial environment have occurred in recent years, leading to a break with the past in the way monetary policy operates. The basic features of current monetary policy are the strict pegging of the exchange rate with the DM, independence of the central bank from the Treasury and the setting of operating procedures which conform with Belgium's neighbouring countries. These changes have been implemented smoothly, without perturbing the basic functions of the money and capital markets.

Monetary policy as implemented since the reforms of the late 1980s can be assessed as being quite satisfactory. Inflation is amongst the lowest of the European Union and credibility, as evident from market interest rates, is high. Black spots on the picture are minor as, with the exception of 1993, speculative pressures are rare and can be countered without important increases in interest rates. However, during the EMS-crisis and in the context of difficult budget negotiations in the second half of 1993 the central bank had to accept a temporary depreciation of the currency, notwithstanding heavy intervention on the foreign exchange market.

In the end, the credibility of monetary policy depends on the extent to which all agents, government and private, incorporate the announced goals of monetary policy in their behaviour. This is not completely the case today as witnessed by the fact that in the period 1994-96 the Government had to put a freeze on real wages to restore the competitive position of Belgium vis-à-vis its neighbouring countries. That Belgium has to recourse to incomes policy reflects an imperfect adjustment of the labour market to the exchange rate target. Together with the reduction of fiscal imbalances, the improvement of the labour market will therefore be crucial for Belgium's successful participation in the EMU.

Chart 5 BEF/DEM exchange rate and interest rate differential between Belgium and Germany in the 1990s

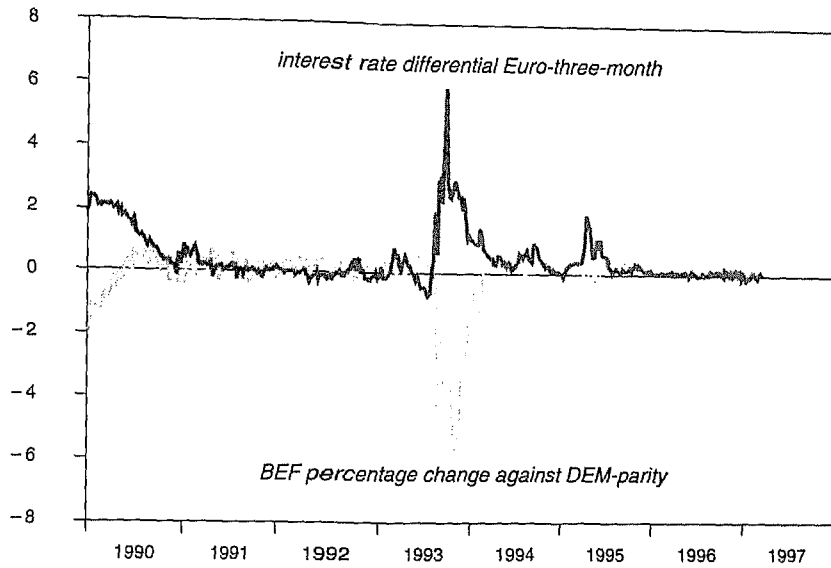
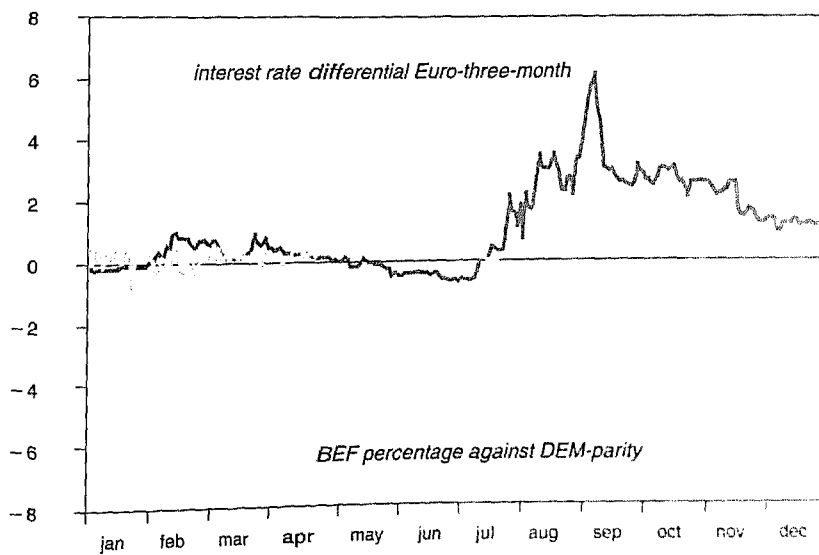


Chart 6 BEF/DEM exchange rate and interest rate differential between Belgium and Germany
The 1993 crisis



Notes

- 1 Wages are still indexed to consumer prices. Since the 1980's, the government has in several occasions intervened in this mechanism to restore the competitive position of Belgium.
- 2 These are Generale Bank, Gemeentekrediet, Bank Brussel Lambert, Kredietbank and ASLK-Bank.
- 3 Total loans to the Belgian public sector amounted to about 20 % of the total balance sheet of the banks in 1996. From the point of view of the public sector, about one half of the debt was held by the banking sector.
- 4 For a survey of the Belgian financial system to the mid-seventies, see Ministry of Foreign Affairs (1975).
- 5 Note that at the same time the withholding tax on interest income was reduced from 25% to 10%. Later on, the rate was raised to 15% in several stages.
- 6 This was obvious in 1973 when the D-Mark was revalued twice by 8.66 percent. The consensus on the financial markets was that the Belgian franc was strong enough to absorb a similar revaluation but the authorities refused for competitive reasons and because they thought that the downward effect of a revaluation on prices would be small (see Janssens V., 1976, chapterXII).
- 7 Since capital transactions were settled on the free exchange market, speculation on the official market essentially occurred through "leads-and-lags" i.e. in case of an expected devaluation of the Belgian franc, by speeding up payments for imports and postponing receipts in foreign currency. Interest rates affect the financing costs of these operations (see, for example, Salvatore D. (1995), chapter 13).
- 8 Traditionally, banks do not borrow directly from the National Bank of Belgium but sell commercial paper to the Rediscount and Guarantee Institute (Herdiscontering en Waarborg Instituut – Institut de Réescompte et de Garantie). This institute optimizes the available liquidity since it will finance its operations by borrowing on the money market. Only when no further borrowing is available, will the R.G.I. rediscount paper at the National Bank of Belgium.
- 9 Due to the stable interest rates on savings deposits, the mismatching risk for financial institutions was small.
- 10 The flexible use of the discount rate avoided any possible destabilizing announcement effects related to changes in this instrument. See Vuchelen and Mariën (1988) for empirical evidence in the foreign exchange market.
- 11 The Belgian experience illustrates the "unpleasant monetarist arithmetic" advanced by Sargent and Wallace (1991): a permanently higher deficit must eventually be accommodated by increases in money creation.
- 12 See various annual reports of the period 1975-1980. An explicit account of the position of the National Bank of Belgium can be found in Baudewijns (1979).
- 13 Since the early eighties, concern about the future of the Belgian money and capital markets has grown. An expression of this was the prize award organized by the R.G.I. See Acx et al. (1986) for the "winning" text.
- 14 Note that the new financing procedures for the Treasury do not allow a perfect match between the liquidity needs and the funds collected at the auction. Surpluses and deficits are settled on the money market.
- 15 The Treasury had already introduced "linear bonds" (OLO's) in 1989. These are medium- and long- term bullet loans issued by a monthly price auction system. Linear bonds are dematerialized and payment of interest is not subject to withholding tax.
- 16 Since 1990, foreign borrowings by the Treasury mirrors the position of the Belgian franc on the exchange market : the government debt in foreign currency was stable until the crisis of foreign August 1993, after which it had increased by nearly one half by the end of the year. Later on this debt was gradually reduced so that its level at the end of 1995 compared to that of 1992. See also table 2.

- 17 Of course, the leverage of monetary policy is limited so that such interventions are only used very infrequently. They should be viewed as technical, i.e. compensating very short-run market inefficiencies.
- 18 This reveals the limits of the liquidity of the secondary market.
- 19 Knot and De Haan (1995) report causality-tests indicating that the one-month interest rate differential with Germany is for a great deal explained by the government deficit and the current account position.
- 20 Similar applications of this framework on Belgium can be found in Koen (1991), Halikakis (1994), Knot and De Haan (1995), Dijkstra, De Haan and Knot (1996), and Droesbeke (1996). Our research differs from others in the sense that we use daily and not monthly data. Furthermore, one should take into account that an evaluation of the "hard currency" policy is only possible when enough time has elapsed. Otherwise, the results suffer from the Lucas critique (Lucas (1976)). Obviously this is not the case for Koen (1991). A similar argument holds for Knot and De Haan (1995): their data-set ends in 1991. The results obtained by Dijkstra, De Haan and Knot (1996) are more useful, although tentative: their data-set ends in June 1993.
- 21 This is an acceptable assumption for short-term interest rates. A similar test for long-term interest rates has been performed by Halikakis (1994) trying to decompose the interest rate differential into an expected exchange rate change and a credit risk component. The general conclusion is that credit risk rather than the exchange rate risk explains why the bond yield remained above the corridor in the period 1990 to 1992.
- 22 There is a limit to the increase in the maturity since then investors could perceive a higher monetization risk of the debt.

Literature

Introduction

- Bank for International Settlements, *Financial Structure and the Monetary Policy Transmission Mechanism*, Basle, March 1995.
- Beaufort Wijnholds, J.A.H. de, S.C.W. Eijffinger and L.H. Hoogduin (eds.) (1994), *A Framework for Monetary Stability*, Kluwer Academic Publishers, Dordrecht/Boston/London.
- Boonstra, W.W. & I.D. Mulders (1996), *EMU and the banking system*, Utrecht, April 1996.
- Crockett, A.D. (1994), *Rules versus Discretion in Monetary Policy*, in: J.A.H. de Beaufort Wijnholds, S.C.W. Eijffinger and L.H. Hoogduin (1994), pp.165-184.
- Cross, S.Y. et al., *Recent Innovations in International Banking*, Bank for International Settlements, Basle, April 1986.
- Deutsche Bundesbank (1989), *Die Deutsche Bundesbank: Geldpolitische Aufgaben und Instrumente*, Sonderdrucke Nr.7, Frankfurt-am-Main, February 1989, pp.113-138.
- Deutsche Bundesbank, Annual Report 1995, Frankfurt-am-Main, April 1996.
- Economist, *Giving the Economy a Fix*, April 10, 1993, p.74.
- Eijffinger, S.C.W. (1986), *Over de beheersbaarheid van de geldhoeveelheid* [On the controllability of the money supply], Amsterdam (in Dutch).
- Eijffinger, S.C.W. (1993), *Convergence of Monetary Policies in Europe: Concepts, Targets and Instruments*, in: K. Gretschmann (ed.), *Economic and Monetary Union: Implications for National Policy-Makers*, Martinus Nijhoff Publishers, Dordrecht/Boston/London, 1993, pp.125-149.
- Eijffinger, S.C.W. & M.van Keulen (1995), *Central Bank Independence in Another Eleven Countries*, Banca Nazionale del Lavoro Quarterly Review, No.192, March 1995, pp.39-83.
- Eijffinger, S.C.W. & J. de Haan (1996), *The Political Economy of Central Bank Independence*, Princeton Special Papers in International Economics, Princeton University, Princeton, 1996.
- European Monetary Institute (1995), *Report to the council of the European Monetary Institute on the TARGET system*, Frankfurt-am-Main, May 1995.
- European Monetary Institute (1996), *Annual Report 1995*, Frankfurt-am-Main, April 1996.
- European Monetary Institute (1997), *The Single monetary policy in stage three. Specification of the operational framework*, Frankfurt-am-Main, January 1997.
- Federal Reserve Bank of Kansas City (1993), *Chancing Capital Markets: Implications for Monetary Policy*, A Symposium Sponsored by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 19-21, 1993.
- Freedman, C. (1994), *Formal Targets for Inflation Reduction: The Canadian Experience*, in: J.A.H. de Beaufort Wijnholds, S.C.W. Eijffinger and L.H. Hoogduin (1994), pp. 17-29.
- Folkerts-Landau, D. & T. Ito et al. (1996), *International Capital Markets. Developments, prospects and key policy issues*, IMF World Economic and Financial Surveys, September 1996.

- Gils, M.M.E. van (1995), *Monetair beleid in de EMU* (Monetary Policy in EMU), Economisch Statistische Berichten, December 22, 1995 (in Dutch).
- Goldstein, M., D. Mathieson and T. Lane (1991), Determinants and Systemic Consequences of International Capital Flows, in: International Monetary Fund, *Determinants and Systemic Consequences of International Capital Flows*, Occasional Paper, No.77, Washington D.C., March 1991, pp.1-45.
- Goodhart, C.A.E. (1984), *Monetary Theory and Practice, The UK Experience*, MacMillan Press, London.
- Hartmann, P. (1996), *The future of the euro as an international currency*, CEPS paper.
- Issing, O. (1994), *Monetary Policy Strategy in the EMU*, in: J.A.H. de Beaufort Wijnholds, S.C.W. Eijffinger and L.H. Hoogduin (1994), pp.135-148
- Lemmen, J.J.G. (1996), *Financial Integration in the European Union: Measurement and Determination*, Ph.D. Thesis, CentER for Economic Research, Tilburg University, Tilburg.
- Lemmen, J.J.G. & S.C.W. Eijffinger (1996), *The Fundamental Determinants of Financial Integration in the European Union*, *Weltwirtschaftliches Archiv* (Review of World Economics), 132(2), 1996.
- Moutot, P. (1996), *The Operating Framework for European Monetary Union*, Lecture delivered at the London Hilton on Park Lane, London, 18 March 1996
- Walsh, C.E. (1995), *Optimal Contracts for Central Bankers*, *American Economic Review*, 85, pp.150-167.

United States

- Akhtar, M.A., *Financial Innovations and their Implications for Monetary Policy; An International Perspective*, BIS Economic Papers no. 9, Bank of International Settlements, December 1983, Basle.
- Akhtar, M.A. and H. Howe, *The Political and Institutional Independence of U.S. Monetary Policy*, *Quarterly Review*, Banca Nazionale del Lavoro, no. 178, September 1991, pp. 343-389.
- Akhtar, M.A., *Monetary Policy and Central Bank Independence*, *Quarterly Review*, Banca Nazionale del Lavoro, no. 195, December 1995, pp. 423-439.
- Amel, Dean F., *Trends in the Structure of Federally Insured Depository Institutions, 1984-94*, *Federal Reserve Bulletin*, January 1996, pp. 1-15.
- Anderson, Richard G. and Kenneth A. Kavajecz, *A Historical Perspective on the Federal Reserve's Monetary Aggregates: Definition, Construction and Targeting*, Review, Federal Reserve Bank of St. Louis, March/ April 1994.
- Belongia, Michael T., *Monetary Policy on the 75th Anniversary of the Federal Reserve System*, Proceedings of the Fourteenth Annual Economic Policy Conference of the Federal Reserve Bank of St. Louis, 1991.
- Belongia, Michael T., and Dallas S. Batten, *Selecting an Intermediate Target Variable for Monetary Policy when the Goal is Price Stability*, Federal Reserve Bank of St. Louis, Working Paper 92-008A, October 1992.

- Biemans, C.A.M. en W.W. Boonstra, *Financiële positie van gezinnen in de grote OESO-landen* (Household balance sheets in large OECD-countries), Bank- en Effectenbedrijf, NIBE, November 1993, pp. 32-37.
- Boyd, John H. and Mark Gertler, *The Role of Large Banks in the Recent U.S. Banking Crisis*, Quarterly Review, Federal Reserve Bank of Minneapolis, Winter 1994.
- Broadbuddus Alfred, *Financial Innovation in the United States - background, current status and prospects*, Economic Review, Federal Reserve Bank of Richmond, Jan / Feb. 1985, Vol. 71/1, pp. 2-21.
- Broadbuddus, Alfred, and Marvin Goodfriend, *Foreign Exchange Operations and the Federal Reserve*, Economic Quarterly, Federal Reserve Bank of Richmond, Volume 82/1, Winter 1996, pp. 1-19.
- Burg, van der H., *Financiële markten en monetair beleid in de Verenigde Staten* (Financial markets and monetary policy in the United States), in: Eijffinger & Gerards (1990), pp. 23-41.
- Clouse, James A., *Recent Developments in Discount Window Policy*, Federal Reserve Bulletin, November 1994, pp. 965-977.
- Cook, Timothy Q. and Robert K. LaRoche, *Instruments of the Money Market*, Federal Reserve Bank of Richmond, 1993.
- Congressional Budget Office, *The Economic Effect of the Savings & Loan Crisis*, January 1992.
- Cooper, S. Kerry, and Donald R. Fraser, *The Financial Marketplace*, Addison-Wesley Company, 1986.
- Debelle, Guy and Stanley Fischer, *How Independent should a Central Bank be?, Goals, Guidelines, and Constraints Facing Monetary Policymakers*, Proceedings of a Conference, June 1994, Federal Reserve Bank of Boston.
- DiClemente, Robert V., and Deborah Burnham, *Policy Rules Shed New Light on Fed Stance*, Monetary Policy Update, Salomon Brothers Inc., June 26, 1995.
- Edwards, Franklin R., and Frederic S. Mishkin, *The Decline of Traditional Banking: Implications for Financial Stability and Regulatory Policy*, Federal Reserve Bank of New York, July 1995, pp. 27-45.
- Eijffinger, S.C.W., *Over de beheersbaarheid van de geldhoeveelheid* (On the controllability of the money supply), Free University Press, Amsterdam, 1986.
- Eijffinger, S.C.W., *Hoe onafhankelijk is de Fed?* (How independent is the Federal Reserve?), Bank- en Effectenbedrijf, NIBE, September 1992.
- Eijffinger, S.C.W. and J.L. Gerards, *Financiële markten en monetair beleid* (Financial markets and monetary policy), NIBE, 1990.
- Eijffinger, S.C.W. and E. Schaling, *Central Bank Independence in Twelve Industrial Countries*, Quarterly Review, Banca Nazionale del Lavoro, no. 184, March 1993, pp. 49-89.
- Eijffinger, S.C.W. and J. de Haan, *The Political Economy of Central-Bank Independence*, Princeton Special Papers, International Economics, No.19, May 1996.
- English, William B. and Brian K. Reid, *Profits and Balance Sheet Developments at U.S. Commercial Banks in 1994*, Federal Reserve Bulletin, June 1995, pp. 545-569.
- Euromoney, Strongest Banks in the World*, June 1996.
- The Federal Reserve System, *Purposes & Functions*, Board of Governors of the Federal Reserve System, Washington D.C., 1994.

- The Federal Reserve, *Discount Window*, Publication of the Federal Reserve System, 1990.
- Feinman, Joshua N., *Reserve Requirements: History, Current Practice and Potential Reform*, Federal Reserve Bulletin, June 1993, pp. 569-589.
- Fisher, Peter R., *Monetary Policy and Open Market Operations during 1994*, Federal Reserve Bulletin, June 1995, pp. 570-584.
- Frankel, Allan B. and John D. Montgomery, *Financial Structure: An International Perspective*, Brookings Papers on Economic Activity, 1:1991, pp. 257-310.
- Friedman Benjamin M., *Intermediate Targets versus Information Variables as Operating Guides for Monetary Policy*, Onno de Beaufort Wijnolds, Sylvester Eijffinger and Lex Hoogduin (eds.), *A Framework for Monetary Policy*, Financial and Monetary Policy Studies, Kluwer, October 1993.
- Friedman, Benjamin M., *The Role of Judgment and Discretion*, in: *Changing Capital Markets: Implications for Monetary Policy*, Federal Reserve Bank of Kansas City, 1993.
- Garber, Peter M., and Steven R. Weisbrod, *The Economics of Banking. Liquidity, and Money*, D.C. Heath and Company, 1992.
- Gilbert, Alton R., *A Case Study in Monetary Control: 1980-82*, Review, Federal Reserve Bank of St. Louis, September/October 1994, pp. 35-58.
- Goldstein, Morris, and David Folkerts-Landau, *International Capital Markets*, IMF Staff Study, World Economic and Financial Surveys, September 1994.
- Goodfriend M. and Robert G. King, *Financial Deregulation, Monetary Policy and Central Banking*, Federal Reserve Bank of Richmond, Economic Review, May/June 1988, pp. 3-22.
- Greider, William, *Secrets of the Temple, How the Federal Reserve runs the country*, Simon and Schuster, 1987.
- Grossman, Richard S., *Deposit Insurance, Regulation, and Moral Hazard in the Thrift Industry: Evidence from the 1930s*, The American Economic Review, Vol.82, No.4, September 1992, pp. 800-821.
- Haan, J. de and J.E. Sturm, *The Case for Central Bank Independence*, Quarterly Review, Banca Nazionale del Lavoro, no. 178, September 1992, pp. 305-327.
- Hale, David, *The Economic Consequences of America's Mutual Fund Boom*, The International Economy, March/April 1994.
- Higgins, Byron, *Policy Implications of Recent M2 behaviour*, Federal Reserve Bank of Kansas City, Economic Review, Third Quarter 1992, pp. 21-36.
- Hoenig, Thomas M., *Changing Capital Markets; Implications for Monetary Policy*, Proceeding of A Symposium Sponsored by the Federal Reserve Bank of Kansas City, August 1993.
- Judd, John P., and Brian Motley, *Using a Nominal GDP Rule to Guide Discretionary Monetary Policy*, Economic Review, Federal Reserve Bank of San Francisco, No.3, 1993, pp. 2-12.
- Kahn, George A., *Progress Toward Price Stability: A Report Card for 1994*, Economic Review, Federal Reserve Bank of Kansas City, First Quarter 1995, pp. 5-18.
- Kasman, Bruce, *A Comparison of Monetary Policy Operating Procedures in Six Industrial Countries*, Federal Reserve Bulletin of New York, Quarterly Review, Summer 1992, pp. 5-24.

- Kaufman, Henri, *Structural Changes in the Financial Markets: Economic and Policy Significance*, Federal Reserve Bank of Kansas City, Economic Review, Second Quarter 1994, pp. 5-15
- Mack, Phillip R., *Recent Trends in the Mutual Fund Industry*, Federal Reserve Bulletin, November 1993, pp. 1001-1012.
- McDonough, William J., *An Independent Central Bank in a Democratic Country: The Federal Reserve Experience*, Federal Reserve Bank of New York Quarterly Review / Spring 1994.
- McNees, Stephen K., *The Discount Rate: The Other Tool of Monetary Policy*, New England Economic Review, July / August 1993, pp. 3-22.
- Meulendyke, Ann-Marie, *U.S. Monetary policy and Financial Markets*, Federal Reserve Bank of New York, December 1989 (231 p.)
- Mishkin, Frederic S., *The Economics of Money, Banking, and Financial Markets*, Columbia University, 1992.
- Nelson, William R., and Brian K. Reid, *Profits and Balance Sheet Developments at U.S. Commercial Banks in 1995*, Federal Reserve Bulletin in 1995, June 1996, pp. 483-503.
- Pakko, Michael R., *The FOMC in 1993 and 1994: Monetary Policy in Transaction*, Review, Federal Reserve Bank of St. Louis, March / April 1995, pp. 3-25.
- Poole, William, *Monetary Aggregates Targeting in a Low-Inflation Economy*, in *Goals, Guidelines, and Constraints Facing Monetary Policymakers*, Proceedings of a Conference in June 1994, Federal Reserve Bank of Boston.
- Randall, Richard E., *Safeguarding the Banking System in an Environment of Financial Cycles*, Proceedings of a Symposium Held in November 1993, Conference Series No. 37, Federal Reserve Bank of Boston.
- Ritter, Joseph A., *The FOMC in 1992: A Monetary Conundrum*, Review, Federal Reserve Bank of St. Louis, May / June 1993, pp. 31-49.
- Romer, Christina D. and David H. Romer, *New Evidence on the Monetary Transmission Mechanism*, Brookings Papers on Economic Activity, 1:1990, pp. 149-213.
- Roth, Howard L., *Federal Reserve Open Market Techniques*, Economic Review, Kansas City, March 1986, pp. 3-15.
- Savage, Donald T., *Interstate Banking: A Status Report*, Federal Reserve Bulletin, December 1993, pp. 1075-1089.
- Sellon, Gordon H., *Changes in Financial Intermediation: the Role of Pension and Mutual Funds*, Economic Review, Third Quarter 1992, Federal Reserve Bank of Kansas City, pp. 53-70.
- Sellon, Gordon H., *Changing Capital Markets: Implications for Monetary Policy*, A Summary of the Bank's 1993 Symposium, Economic Review, Fourth Quarter 1993, Federal Reserve Bank of Kansas City, pp. 13-21.
- Spong, Kenneth, *Banking Regulation: Its Purposes, Implementation, and Effects*, Federal Reserve Bank of Kansas City, 1994.
- Terrell, Henry S., *U.S. Branches and Agencies of Foreign Banks: A New Look*, Federal Reserve Bulletin, October 1993, pp. 913-925.
- Thornton, Daniel L., *Financial Innovation, Deregulation and the "Credit View" of Monetary Policy*, Review, Federal Reserve Bank of St. Louis, January / February 1994, pp. 31-49.

- Thornton, Daniel L., and David C. Wheelock, *Channels of Monetary Policy*, Review, Proceedings of the Nineteenth Annual Economic Policy Conference, Review, Federal Reserve Bank of St. Louis, May/June 1995, pp. 31-49.
- Weiner, Stuart E., *The Changing Role of Reserve Requirements in Monetary Policy*, Economic Review, Federal Reserve Bank of Kansas City, Fourth Quarter 1992.
- Weninger, John, and John Partlan, *Small Time Deposits and the Recent Weakness in M2*, Quarterly Review, Federal Reserve Bank of New York, Spring 1992, pp. 21-35.
- Witschi, Daniel, *The Mechanics of Fed Policy*, Swiss Bank Corporation, Prospects, 5/1994.

Japan

- Bank of Japan, *Annual Review*, Various issues, Tokyo: Bank of Japan.
- Bank of Japan, *Economic Statistics Monthly*, Various issues, Tokyo: Bank of Japan.
- Bank of Japan, *Quarterly Bulletin*, Various issues, Tokyo: Bank of Japan.
- Bank of Japan (1992), "Recent Developments in Monetary Aggregates," Special Paper No.221, Tokyo: The Bank of Japan.
- Batten, D., Blackwell, M., Kim, I., Nocera, S., and Ozeki, Y. (1989), "The Instruments and Operating Procedures for Conducting Monetary Policy in the Group of Five Countries," Working Paper 89/57, IMF.
- De Brouwer, G. (1992), "An Analysis of Recent Developments in the Japanese Money Market," Pacific Economic Paper no.211, Australia-Japan Research Centre, Australian National University.
- Burstein, D. (1988), *Yen! Japan's New Financial Empire and Its Threat to America*, New York: Simon and Schuster.
- Capital Markets Research Institute (Japan), *Review*, various issues, Tokyo: Capital Markets Research Institute.
- Cargill, T.F. and Royama, S. (1988), *The Transition of Finance in Japan and the United States: A Comparative Perspective*, Stanford: Hoover Institution Press.
- Dattel, E. (1994), *The Sun that Never Rose: The Inside Story of Japan's Failed Attempt at Global Financial Dominance*, Chicago: Probus Publishing Co.
- Düser, J.T. (1990), *International Strategies of Japanese Banks: The European Perspective*, Houndmills, Basingstoke: MacMillan Press Ltd.
- EHS Law Bulletin Series (1991), "Japanese Laws Relating to Banks," EHS Law Bulletin Series, EHS Volume VI, Tokyo: Eibun-Horeisha, Inc.
- Eijffinger, S.C.W. (1986), *Over de Beheersbaarheid van de Geldhoeveelheid*, Amsterdam: VU Uitgeverij (in Dutch; On the Controllability of the Money Supply).
- Eijffinger, S., and Van Rixtel, A. (1992), "The Japanese Financial System and Monetary Policy: A Descriptive Review," *Japan and the World Economy*, 4, 291-309.
- Federation of Bankers Associations of Japan (1988), *Report on Specialized Financial Institution System in Japan*, Tokyo: Federation of Bankers Associations of Japan.
- Federation of Bankers Associations of Japan (1990a), *On A New Japanese Financial System*, Tokyo: Federation of Bankers Associations of Japan.
- Federation of Bankers Associations of Japan (1990b), *Japanese Banks '90*, Tokyo: Federation of Bankers Associations of Japan.

- Federation of Bankers Associations of Japan (1994), *The Banking System in Japan*, Tokyo: Federation of Bankers Associations of Japan.
- Federation of Bankers Associations of Japan (1995), *Japanese Banks '95*, Tokyo: Federation of Bankers Associations of Japan.
- Feldman, R.A. (1986), *Japanese Financial Markets: Deficits, Dilemmas, and Deregulation*, Cambridge, MA: The MIT Press.
- Financial Times, Various issues.
- Foundation for Advanced Information and Research (1991), *FAIR Fact Series II: Japan's Financial Markets*, Tokyo: Foundation for Advanced Information and Research.
- Frankel, J. (1984), "The Yen/Dollar Agreement: Liberalizing Japanese Capital Markets," Policy Analyses in International Economics, Institute for International Economics, 9, Washington, DC: Institute for International Economics.
- Frankel, A.B., and Morgan, P.B. (1992), "Deregulation and Competition in Japanese Banking," *Federal Reserve Bulletin*, August, 579-593.
- Friesen, C.M. (1986), *International Bank Supervision*, London: Euromoney Publications.
- Fukui, T. (1986), "The Recent Development of the Short-term Money Market in Japan and Changes in the Techniques and Procedures of Monetary Control used by the Bank of Japan," in *Changes in Money-Market Instruments and Procedures: Objectives and Implications*, ed. Bank for International Settlements, Basle: BIS, 94-126.
- Goodhart, C.A.E. (1995), "The Objectives for, and Conduct of, Monetary Policy in the 1990s," in *The Central Bank and the Financial System*, ed. C.A.E. Goodhart, Houndmills, Basingstoke: MacMillan Press Ltd, 216-235.
- Hall, M.J.B. (1993), *Banking Regulation and Supervision: A Comparative Study of the UK, USA and Japan*, Aldershot: Edward Elgar.
- Hamada, K. (1995), "Bubbles, Bursts and Bailouts: A Comparison of Three Episodes of Financial Crises in Japan," in *The Structure of the Japanese Economy: Changes on the Domestic and International Fronts*, ed. M. Okabe, Houndmills, Basingstoke: MacMillan Press Ltd, 263-286.
- Hamada, K., and Hayashi, F. (1985), "Monetary Policy in Postwar Japan," in *Monetary Policy in Our Times*, eds. A. Ando, H. Eguchi, R. Farmer, and Y. Suzuki, Cambridge, Ma.: The MIT Press, 83-121.
- Hollerman, L. (1988), *Japan Disincorporated: The Economic Liberalization Process*, Stanford: Hoover Institution Press, Stanford.
- Hoshi, T., Scharfstein, D., and Singleton, K.J. (1991), "Japanese Corporate Investment and Bank of Japan Guidance of Commercial Bank Lending," paper presented at NBER Conference on Japanese Monetary Policy, April, Tokyo.
- Hsu, R.C. (1994), *The MIT Encyclopedia of the Japanese Economy*, Cambridge, MA: MIT Press.
- Hutchison, M.M. (1986), "Monetary Control, Interest Rates and Exchange Rates: The Case of Japan, 1973-1986," Working Paper 145, University of California at Santa Cruz.
- International Monetary Fund (1993), "International Capital Markets: Developments and Prospects", World Economic and Financial Surveys, Washington, DC: International Monetary Fund.
- Ito, T. (1992), "Losing Face?", *The International Economy*, May/June, 46-49.

- Japan Economic Journal, Various issues.
- Kanda, H. (1990), "Legal Aspects of Securitization in Japan," paper presented at SOAS Conference on Japanese Financial System, March, London.
- Kinyu Shoken Research* (1992), *Kinyu Shihon Shijo ni Kan suru Ookurasho Kankei Shiryo Shu 1992 Nenban* [Financial and Securities Research, 1992 Overview of Capital Markets based on the Ministry of Finance Data Collection], Tokyo: *Kinyu Shoken Research*.
- Kinyu Zaisei Jijo Kenkyu Kai, Ginko Kyoku Kinyu Nenpo*, various issues [Monetary and Financial Research Association, Banking Bureau, Ministry of Finance: Annual Review], Tokyo: Monetary and Financial Research Association.
- Kinyu Zaisei Jijo Kenkyu Kai* (1992), *Ginko Kyoku Kinyu Nenpo Bessatsu, Ginko Kyoku Genko Tsutatsu 1993 Nenban* [Monetary and Financial Research Association, Banking Bureau, Ministry of Finance, Supplement Annual Review 1993 edition, Current *Tsutatsu* Banking Bureau Ministry of Finance], Tokyo: Monetary and Financial Research Association.
- Kuroda, A. (1989), "Financial Globalization and Monetary Policy in Japan: An Overview," paper presented at the Chulalongkorn University Conference on International Dimensions of Japanese Financial Development: Implications on ASEAN and Thailand, March, Bangkok.
- Mabuchi, M. (1993), "Financing Japanese Industry: The Interplay between the Financial and Industrial Bureaucracies," Working Paper 93-35, Economic Development Institute, The World Bank.
- Matsushita, Y. (1997a), "Recent Monetary and Economic Conditions in Japan and the Reform of the Financial Markets," speech given at the *Kisaragi-kai* Meeting, April 14, 1997.
- Matsushita, Y. (1997b), "A New Framework of Monetary Policy under the New Bank of Japan Law," speech given at the *Yomiuri* International Economic Society, June 27, 1997.
- Ministry of Finance (1992a), *The Schedule of the Liberalization of Interest Rate on Deposits*, Banking Bureau, provisional translation, Tokyo: Ministry of Finance.
- Ministry of Finance (1992b), *Interest Rate Liberalization of Time Deposits and Postal Savings Deposits*, Banking Bureau, provisional translation, Tokyo: Ministry of Finance.
- Ministry of Finance (1992c), *MoF's Stance on Financial Policy: Securing the Stability of the Financial System and Promoting its Efficiency*, Banking Bureau, memorandum, Tokyo: Ministry of Finance.
- Ministry of Finance (1993a), *The Mechanism and Economic Effects of Asset Price Fluctuations: A Report of the Research Committee*, Tokyo: The Institute of Fiscal and Monetary Policy, Ministry of Finance.
- Ministry of Finance (1993b), *Main Functions of Government Debt Division*, Financial Bureau, unofficial mimeograph, Tokyo: Ministry of Finance.
- Ministry of Finance (1997), *Financial System Reform: Toward the Early Achievement of Reform*, Ministry of Finance, mimeograph, June 13, Tokyo: Ministry of Finance.
- Nakajima, Z. and Taguchi, H. (1995), "Toward a More Stable Financial Framework: Long-term Alternatives - An Overview of Recent Bank Disruption Worldwide," in *Financial Stability in a Changing Environment*, eds. K. Sawamoto, Z. Nakajima, and H. Taguchi, Houndmills, Basingstoke: MacMillan Press Ltd, 41-98.

- Nakao, M., and Horii, A. (1991), "The Process of Decision-Making and Implementation of Monetary Policy in Japan," Special Paper Series No.198, Tokyo: The Bank of Japan.
- Nihon Ginko Kinyu Kenkyujo*, various issues of *Nihon Kinyu Nenpyo* [Institute for Monetary and Economic Studies, Bank of Japan: Chronology of Japanese Finance], Tokyo: Institute for Monetary and Economic Studies, Bank of Japan.
- Nihon Keizai Shimbun* [Japan Economic Newspaper], Various issues.
- The Nikkei Weekly, Various issues.
- Nippon Finance (1986), *Technical Note*, September 30, Nippon Finance I, no.18.
- Ohara, Y. (1995), *Japanese Financial Sector Overview: Financial System in Japan*, Tokyo: UBS Securities.
- Okabe, M. (1990), "The Conduct and the Transmission Mechanism of Japanese Monetary Policy 1975-1989: A Literature Survey", unpublished paper, Institute for Monetary and Economic Studies, the Bank of Japan, preliminary version, March.
- Okabe, M. (1995), "Monetary Policy in Japan: A Perspective on Tools, Transmission Channels and Outcomes," in *The Structure of the Japanese Economy: Changes on the Domestic and International Fronts*, ed. M. Okabe, Houndmills, Basingstoke: MacMillan Press Ltd, 323-357.
- Okina, K. (1991), "Market Operations in Japan: Theory and Practice", paper presented at NBER Conference on Japanese Monetary Policy, April, Tokyo.
- Ookura Zaimu Kyokai* (1991), *Ookurasho no Kiko 1992 Nenban* [Ministry of Finance's Finance Association, The Organization of the Ministry of Finance in 1992], Tokyo: *Ookura Zaimu Kyokai*, 71-96.
- Osugi, K. (1990), "Japan's Experience of Financial Deregulation Since 1984 In An International Perspective," Economic Papers No.26, Bank for International Settlements.
- Van Rixtel, A.A.R.J.M. (1988), *Financiële Liberalisatie, Financiële Innovaties en Monetair Politiek in Japan*, unpublished MA thesis Tilburg University [in Dutch; Financial Liberalization, Financial Innovations and Monetary Policy in Japan].
- Van Rixtel, A.A.R.J.M. (1989), "De Derde Golf: de opmars van de Japanse financiële conglomeraten," *Intermediair*, 25, 34 (august 25), pp.67-73 [in Dutch; The Third Wave: the advance of the Japanese financial conglomerates].
- Van Rixtel, A.A.R.J.M. (1990), "Tokio: het nieuwe financiële centrum van de wereld?," *Economisch Bulletin*, 1989/1990, 6, pp.26-29 [in Dutch; Tokyo: the world's new financial center?].
- Van Rixtel, A.A.R.J.M. (1994), "The Political Economy and Economic System of Japan: a Survey of Literature, Conflict and Confusion," Research Memorandum 1994-14, Economics Department, Free University Amsterdam.
- Van Rixtel, A.A.R.J.M. (1997), *Informality, Bureaucratic Control and Monetary Policy: The Case of Japan*, forthcoming, Ph.D. thesis, Tinbergen Institute, Free University Amsterdam, Amsterdam: Thesis Publishers.
- Van Rixtel, A.A.R.J.M., Van der Wal, D., and Swank, O.H. (1996), "Are Central Banks Inflation-Averse? Evidence from seven OECD-countries", unpublished mimeograph.
- Royama, S. (1989/1990), "Monetary Policy under the Evolution of Open Money Markets in Japan," unpublished mimeograph.

- Semkow, B.W. (1993), "Japan's Financial System Reform Act," *Butterworths Journal of International Banking and Financial Law*, October, 435-446.
- Shimamoto, R. (1982), "Monetary Control in Japan," in *Central Bank Views on Monetary Targeting*, ed. P. Meeke, New York: Federal Reserve Bank of New York, 80-85.
- Suzuki, Y. (1980), *Money and Banking in Contemporary Japan: The Theoretical Setting and Its Application*, New Haven/London: Yale University Press.
- Suzuki, Y. (1985), "Japan's Monetary Policy Over the Past 10 Years," *Bank of Japan Monetary and Economic Studies*, 3, 2, 1-9.
- Suzuki, Y. (1986), *Money, Finance and Macro-Economic Performance in Japan*, New Haven: Yale University Press.
- Suzuki, Y. (1987a), *The Japanese Financial System*, Oxford: Clarendon Press.
- Suzuki, Y. (1987b), "Implications for Monetary Policy: Monetary Policy in Japan under Financial Liberalization and Internationalization," in *Japan's Financial Markets*, FAIR Fact Series, ed. Foundation for Advanced Information and Research, 40, Tokyo: Look Japan.
- Suzuki, Y. (1989), *Japan's Economic Performance and International Role*, Tokyo: University of Tokyo Press.
- Suzuki, Y. (1994), "Monetary Policy of Japan," *Japanese Economic Studies*, 21, 6, 55-89.
- Suzuki, Y., Kuroda, A., and Shirakawa, H. (1988), "Monetary Control Mechanism in Japan," *Bank of Japan Monetary and Economic Studies*, 6, 2, 1-27.
- Suzuki, Y., and Yomo, H. (1986) (eds.), *Financial Innovation and Monetary Policy: Asia and the West*, Tokyo: University of Tokyo Press.
- Takagi, S. (1995), "Structural Changes in Japanese Long-term Capital Flows," in *The Structure of the Japanese Economy: Changes on the Domestic and International Fronts*, ed. M. Okabe, Houndmills, Basingstoke: MacMillan Press Ltd, 435-458.
- Takeda, M., and Turner, P. (1992), "The Liberalization of Japan's Financial Markets: Some Major Themes," *Economic Papers No.34*, Bank for International Settlements.
- Tamura, T. (1991), "The Bank of Japan Mechanism," unpublished paper presented at BRI Conference, March, London.
- Tsutsui, W.M., (1988), *Banking Policy in Japan: American Efforts at Reform During the Occupation*, London: Routledge.
- Ueda, K. (1993), "Institutional and Regulatory Frameworks for the Main Bank System," paper presented at Conference for the joint research project on the Japanese Main Bank System and its Relevance for Developing Market and Transforming Socialist Economies, April, Stanford University.
- Werner, R.A. (1992), "A Quantity Theory of Disaggregated Credit and International Capital Flows with Evidence from Japan," mimeograph.
- Wessels, R.E. (1987), "Prudential Regulation of Banks," in *Sparen en Investeren, Geld en Banken* [In Dutch; Savings and Investments, Money and Banks], eds. H.W.J. Bosman, and J.C. Brezet, Leiden/ Antwerpen: Stenfert Kroese, 94-107.
- Wood, C. (1993), *The Bubble Economy: The Japanese Economic Collapse*, Tokyo: Charles E. Tuttle Company.
- Yoshikawa, H. (1995), *Macroeconomics and the Japanese Economy*, Oxford: Oxford University Press.
- Zenginkyo (1993), *Zenkoku Ginko Zaimu Sho Hyo Bunseki* [Analysis of Financial Statements of All Banks, March 31, 1993], Tokyo: Zenginkyo.

- Yoshino, N. (1995), "Changing Behavior of Private Banks and Corporations and Monetary Policy in Japan", in *Financial Stability in a Changing Environment*, eds. K. Sawamoto, Z. Nakajima, and H. Taguchi, Houndmills, Basingstoke: MacMillan Press Ltd, 209-270.
- Zenginkyo* Financial Review, Various issues, Tokyo: Federation of Bankers Associations of Japan.

Germany

- Almekinders, G. & S.C.W. Eijffinger (1991), Empirical Evidence on Foreign Exchange Market Interventions: where do we stand?, *Weltwirtschaftliches Archiv*, Band 127, Heft 4, pp. 645 - 677.
- Arnold, I.J.M., (1995), Empirical essays in monetary economics, Nijenrode, December 1995.
- Aschoff, G. & E. Henningsen (1995), *Das Deutsche Genossenschaftswesen*, Frankfurt.
- The Banker, Top 500 Europeans: Movers and shakers, September 1996, pp. 54 - 72.
- Beaufort Wijnholds, J.O. de , S.C.W. Eijffinger & L. H. Hoogduin (ads.; 1993), *A Framework for Monetary Stability*, Amsterdam, November 1993.
- Becker, J. (1995), Banking Supervision: Who Does What?, in: Frowen & Pringle, pp. 62 - 71.
- Boonstra, W.W. (1990), Financiële markten en monetair beleid in de Bondsrepubliek Duitsland, (*Financial Markets and Monetary Policy in Germany*) in: Eijffinger & Gerards (1990), pp. 61 - 82. (in Dutch).
- Boonstra, W.W. (1992-a), Beleidsopties voor de Bundesbank (Policy Options for the Bundesbank) *Economisch Statistische Berichten*, July 1992, pp. 712 - 716 (in Dutch).
- Boonstra, W.W. (1992-b), De Duitse Mindestreserve nader beschouwd (A closer look at the German Mindestreserven), *Bank- en Effectenbedrijf*, May 1992, pp. 24 - 28 (in Dutch).
- Boonstra, W.W. & J.L.M. de Jong (1989), De Duitse bronbelasting en het monetaire beleid (The German withholding tax and monetary policy), *Economisch Statistische Berichten*, July 1989, pp. 654 - 656 (in Dutch).
- Boonstra, W.W. & B.G.J. Walschots (1993), De Duitse crisis (The German crisis), *Economisch Statistische Berichten*, August 1993, pp. 700 - 705 (in Dutch).
- Bundesverband der Deutschen Volksbanken und Raiffeisenbanken (1995; 1997), *Geldvermögensbildung der privaten Haushalte*, BVR Volkswirtschaftsreport Nr. 11/1995, July 4, 1995 and Nr. 8/1997, June 13, 1997.
- Bundesverband deutscher Banken and others (1996), *Master agreement on the execution of interbank domestic payments for the introduction of the euro currency*, April 26, 1996.
- Carstensen, M. (1988), Gedanken zur Mindestreservpolitik aus der Sicht der Geschäftsbanken, in: Ehrlichert & Simmert, pp. 93 - 108.
- Cecchetti, S.G. (1995), Distinguishing theories of the monetary transmission mechanism, *Federal Reserve Bank of St. Louis Review*, May/June 1995, pp. 83 - 97.

- Committee of Governors of the Central Banks of the Member States of the European Economic Community (1992), A framework to assess monetary policy instruments and procedures in EC countries, Brussels, December 1992.
- Covill, L. (1994), When the bankers go cap-in-hand, *Euromoney*, December 1994, pp. 79 - 82.
- Deutsche Bundesbank, Monatsberichte (Monthly Bulletin), various issues.
- Deutsche Bundesbank, Jahresberichte (Annual Reports), various issues.
- Deutsche Bundesbank (1985), Zur Längerfristischen Entwicklung und Kontrolle des Geldvolumens, Monatsberichte, January 1985, pp. 14 - 28.
- Deutsche Bundesbank (1994-a), The monetary policy of the Bundesbank, Frankfurt, March 1994.
- Deutsche Bundesbank (1994-b), Die geldmarktsteuerung der Deutschen Bundesbank, Monatsberichte, May 1994, pp. 61 - 75.
- Deutsche Bundesbank (1994-c), Die Fünfte Novelle des Kreditwesengesetzes, Monatsberichte, November 1994, pp. 59 - 67.
- Deutsche Bundesbank (1995-a), Geldmarktfonds tragen zu einer stärkeren Kurzfristorientierung der Finanzmärkte bei, *Zeitschrift für das gesamte Kreditwesen*, 1995-22, p.1134.
- Deutsche Bundesbank (1995-b), Überprüfung der Geldmengenziels und Neuordnung der Mindestreserve, Monatsberichte, July 1995, pp. 19 - 37.
- Deutsche Bundesbank (1995-c), Die Geldpolitik der Bundesbank, Frankfurt, October 1995.
- Duwendag, D. (1988), Das Konzept der Deutschen Bundesbank: Zwischen Geldmengenzielen und zinspolitischer Flexibilität, in: Ehrlicher & Simmert (1988), pp. 21 - 36.
- Economist* (1995), Those German banks and their industrial treasures, January 21, 1995.
- Edwards, J. & K. Fischer (1993), *Banks, finance and investment in Germany*, Cambridge (UK), 1993.
- Ehrlicher, W. & D.B. Simmert (1988), Wandlungen des geldpolitischen Instrumentariums der Deutschen Bundesbank, Beihefte zur Kredit und Kapital, Heft 10, Berlin.
- Eijffinger, S.C.W. (1986), Over de beheersing van de geldhoeveelheid (On the controllability of the money supply), Amsterdam (in Dutch).
- Eijffinger, S.C.W. (1996), Future European Monetary Policy, Inaugural Lecture, Berlin, May 31, 1996.
- Eijffinger, S.C.W. & J.L. Gerards (eds.; 1990), *Financiële markten en monetair beleid* (Financial Markets and Monetary Policy), Amsterdam (in Dutch).
- Eijffinger, S.C.W. & J.L. Gerards (eds.; 1993), *European monetary integration and the financial sector*, Amsterdam.
- Eijffinger, S.C.W. & J. de Haan (1996), The Political Economy of Central Bank Independence, Princeton Special Papers in International Economics, 1996.
- Euromoney* (1995), German securities: a new dawn. Pfandbriefe take on a new dimension, November 1995.
- European Monetary Institute (1996), *Payment Systems in the European Union* (Germany), Frankfurt, April 1996, pp.85 - 130.
- European Monetary Institute (1997), The single monetary policy in stage three. Specification of the operational framework, Frankfurt, January 1997.

- Fassbender, H. & P. Wuffi (1990), *European Banking after 1992*, *The McKinsey Quarterly*, Spring 1990, pp. 129 - 141.
- Francke, H-H & E. Ketzl (1995), *Konzepte und Erfahrungen der Geldpolitik*, Beihefte zu *Kredit und Kapital* (No. 13), Berlin, 1995.
- Frowen, S. & R. Pringle (1995), *Understanding the Bundesbank*, *Central Banking*, Special Issue, 1995.
- Gall, L. (ed.; 1995), *Die Deutsche Bank(1870 - 1995)*, München.
- Gils, M.M.E. van (1995), *Monetair beleid in de EMU (Monetary Policy in EMU)*, *Economisch Statistische Berichten*, December 22, 1995 (in Dutch).
- Gleske, L. (1995), *Bundesbank Independence, Organisation and decision-making*, in: Frowen & Pringle, pp. 21 - 28.
- Gray, J. (1996-a), *Going for growth*, *The Banker*, March 1996, pp. 27 - 29.
- Gray, J. (1996-b), *A shrinking feeling*, *The Banker*, October 1996, pp. 47 - 49.
- Hakenberg, T. (1995), *Zur Wirkung der Geldmarktfonds auf Mindestreserve und Geldmenge*, *Zeitschrift für das gesamte Kreditwesen*, 1995-22, pp. 1140 - 1142.
- Häusler, G. (1994), *The competitive position of Germany as a financial centre as seen by a central banker*, Paper presented at the SUERF Colloquium in Dublin, May 1994.
- Häusler, G. (1995-a), *Deutsche Geldpolitik in globalisierten Finanzmärkten - internationale Referenzwährungen*, *Zeitschrift für das gesamte Kreditwesen*, 1995-13, pp. 596 - 599.
- Häusler, G. (1995-b), *Deutsche Geldpolitik in globalisierten Finanzmärkten - geographisch begrenzte Währungssysteme*, *Zeitschrift für das gesamte Kreditwesen*, 1995-13, pp. 653 - 658.
- Issing, O. (1993), *Monetary Policy Strategy in the EMU*, in: De Beaufort Wijnholds a.o. (1993), pp. 135 - 148.
- Kole, L.S. & E.E. Meade (1995), *German Monetary Targeting: A Retrospective View*, *Federal Reserve Bulletin*, October 1995, pp. 917 - 931.
- König, R. & C. Willeke (1995), *German Monetary Unification*, in Frowen & Pringle, pp. 29 - 39.
- Kremers, J.J.M. & T.D. Lane (1990), *Economic and Monetary Integration and the Aggregate Demand for Money in the EMS*, *IMF Staff Papers*, December 1990, pp. 777 - 805.
- Marsh, D (1993), *The Bundesbank: the bank that rules Europe*, London.
- Mayer, T. & J. Fels (1994), *Wealth Effects in Buba's P-Star Model*, *Goldman Sachs German Economic Commentary*, 24 July 1994.
- Mütsch, B. (1996), *Kreditwirtschaftlich wichtige Vorhaben der EU*, *Zeitschrift für das gesamte Kreditwesen*, October 1996.
- OECD, *Economic Survey of Germany*, various issues, Paris.
- OECD, *Economic Outlook*, various issues, Paris.
- Polleit, T.(1995), *Geldmenge M3 - eine konsistente Konzeption?*, *Zeitschrift für das gesamte Kreditwesen*, 1995-12, pp. 600 - 603.
- Reichhardt, M. (1996), *Die Arbeit der Banken bei der Umstellung auf die "Euro"-Währung*, *Bank und Markt*, May 1996, pp. 23 - 28.
- Rohde, A. (1995), *Geldmarkt und Geldmarktsteuerung in der Bundesrepublik Deutschland*, in: Francke & Ketzl (1995), pp. 243 - 266.

- Schlesinger, H. (1983), The setting of monetary objectives in Germany, in: P. Meek, Central bank views on monetary targeting, New York, 1983.
- Schlesinger, H. (1988), Das Konzept der Deutschen Bundesbank, in: Ehrlicher & Simmert (1988), pp. 2 -20.
- Schmidt, P. (1995), Monetary Policy: Targets and Instruments, in : Frowen & Pringle, pp. 40 -51.
- Soffner, W. (1996), The role and responsibilities of a national Central Bank during and post the transition and the development of the local market under European Monetary Union, Address at the conference "preparing for a single European Currency", London, September 23/23, 1996.
- Sürig, M. (1995), Kurzfristige Geldmärkte und die Rolle der Mindestreservehaltung, Zeitschrift für das gesamte Kreditwesen, 1995-13, pp. 659 - 663.
- Tödter, K-H. (1994), Ein transaktionsorientierte Geldmenge, Kredit und Kapital, 1994, pp.319 - 347.
- Wahlig, B. (1995), Relations between the Bundesbank and the Federal Government, in Frowen & pringle, pp. 52 - 61.
- Watts, K.V. (1995), There is room for both - the German and the Anglo-Saxon model, Zeitschrift für das gesamte Kreditwesen, 1995-23, pp. 1203 - 1206.

France

- Ardagh, J., *France today*
- Artus, P. & R. Salomon (1992), *The EMS Credibility and Disinflation: The French Case*, Caisse des Dépôts et Consignations, Document de travail No. 1992 17/E, December.
- Banque de France (1990-1995), Bulletins and Annual Reports.
- Banque de France, The Banque de France's Money market interventions, Bulletin Digest, No. 10, October 1994.
- Benink, H.A., *European monetary integration and the financial sector*, Bank- en Effectenbedrijf, January / February 1994.
- Beaufort Wijnholds, J.A.H. de, S.C.W. Eijffinger and L.H. Hoogduin (eds.) (1994), *A Framework for Monetary Stability*, Kluwer Academic Publishers, Dordrecht / Boston / London.
- Bordes, C., Strauss-Kahn, M.O., *1977-1986: dix ans de politique d'objectifs en France ou le "targeting" a la France*, Etudes de Suerf sur Politiques Monetaire et les Systemes Financiers, No.4.
- Chomette, J.P. et. al., *Taux d'intéret réels et activité économique*, Bulletin Mensuel de la Banque de France, No. 40, August 1993.
- CDC, *French banks in the 1980s*, Economic notes, No. 67, June 1995.
- Credit Agricole, *European domestic markets, 1992; Guide to currencies, 1994 special reports*. Les Echos, several issues.
- The Economist, *Economic Survey of France*.
- Eijffinger, S.C.W. (1991), *Konvergenz in der geldpolitik: Das Beispiel Deutschland – Frankreich*, in: M. Weber (1991), pp.171-192.
- Eijffinger, S.C.W., *De evolutie van het Franse monetaire beleid*, Bank- en Effectenbedrijf, January / February 1991 (in Dutch).

- Eijffinger, S.C.W. & M.van Keulen (1995), *Central Bank Independence in Another Eleven Countries*, Banca Nazionale del Lavoro Quarterly Review, No.192, March 1995, pp.39-83.
- Eijffinger, S.C.W. (1993), *Convergence of Monetary Policies in Europe: Concepts, Targets and Instruments*, in: K. Gretschmann (ed.), *Economic and Monetary Union: Implications for National Policy-Makers*, Martinus Nijhoff Publishers, Dordrecht / Boston / London, 1993, pp.125-149
- Eijffinger, S.C.W., *Central bank Independence: theory and evidence*, Center for Economic Research, discussion paper No. 9325.
- Eijffinger, S.C.W. & J. de Haan, *The Political Economy of Central Bank Independence*, Princeton Special Papers in International Economics, Princeton University, Princeton, 1996.
- Eizinga, W., *The Banque de France and monetary policy*, Suerf Papers on Monetary Policy and Financial Systems, No. 8, 1990.
- Eizinga, W., *Zelfstandigheid centrale banken van: Duitsland koploper*, Bank- en Effectenbedrijf, September 1994 (in Dutch).
- European Monetary Institute, *Annual Report 1995*, Frankfurt-am-Main, April 1996.
- Goldman Sachs, *The independent Bank of France*, Special Focus.
- Hendrie, A. *Banking in the EEC*, FBTL, 1985.
- Icard, A. (1992), *Les effets de la politique monétaire dans un environnement financier en mutation*, cahier Econbomiques et Monétaires, No. 40.
- Icard, A. (1994), *Monetary Policy and Exchange Rates: the French Experience*, in: J.A.H. de Beaufort Wijnholds, S.C.W. Eijffinger and L.H. Hoogduin (1994), pp.239-256.
- IMF, *The conduct of monetary policy in the major industrial countries*, instruments and operating procedures, July 1990, occasional paper, No. 70.
- Insee, *Tableaux de l'économie Française*, 1995-1996.
- Janssen, R., Chavannes, *Banque de France houdt zich precies aan 'Maastricht'*, NRC 27, September 1994 (in Dutch).
- Mullineux, A., *European Banking*, Blackwell, 1992.
- Neue Zürcher Zeitung, *Wie selbständig ist die Banque France?*, 13 January 1995.
- OECD, *Exchange Rate Management and the conduct of Monetary Policy*, Paris 1995.
- Patat, J.P. (1987), *Monnaie, institutions financiers et politique monétaire*, Economica, Paris, pp. 299 - 308.
- Schong, H. and van der Wal, D., *Harmonisatie van het monetaire instrumentarium in de EMU*, Economische Statistische Berichten (in Dutch).
- Swiss Bank Corporation, *The mechanics of Banque de France policy*, economic and financial prospects, June / July 1994.
- Thomas-Roubine, S., *Role et missions de la Banque de France*, No. 68-July 1995.
- Weber, M. (1991) (ed.), *Europa auf dem Weg zur Währungsunion*, Darmstadt.
- Wilson, J.S.G., *The money market in France*, Banca Nazionale del Lavoro, Quarterly Review, No. 169, June 1989.

United Kingdom

Bank of England Quarterly Bulletin, various issues.

Articles in Bank of England Quarterly Bulletin not credited to specific authors:

- 'The supplementary special deposit scheme', March 1982, pp.74-85;
- 'The nature and implications of financial innovation', September 1983, – pp.358-362;
- 'External flows and broad money', December 1983, pp.525-529;
- 'The role of the exchange rate', December 1983, pp. 529-533;
- 'Problems of monetary policy and change in the City', December 1985, pp. 534-536;
- 'The UK approach to financial regulation', March 1986, pp.48-50;
- 'Financial change and broad money', December 1986, pp.499-507;
- 'Measures of broad money', May 1987, pp.212-219;
- 'The instruments of monetary policy', August 1987, pp.365-370.
- 'The interest rate transmission mechanism in the UK and overseas', May 1990, pp.198-215.
- 'The determination of monetary aggregates', August 1990, pp.380-383.

Bank of England, 'Inflation Report', various issues.

Bank of England, (1997) 'Reform of the Bank of England's operations in the sterling money markets', London.

Coleby, A.L., (1983) 'The Bank's operational procedures for meeting monetary objectives' in Bank of England Quarterly Bulletin, June, pp.209-215.

Connolly, B., (1995) 'The Rotten Heart of Europe', London.

Crockett, A., (1994) 'Rules versus Discretion in Monetary Policy' in: 'J. de Beaufort Wijnants et al (eds), 'A Framework for Monetary Stability', Kluwer, pp.165-184.

Eijffinger, S. and de Haan, J., (1995) 'The political economy of central bank independence', CentER discussion paper, Tilburg.

Ferris, K. and Jones, M. (1994) 'The Reuter guide to official interest rates' Cambridge.

Fjorde, F.S. (1983) 'Setting monetary objectives', Bank of England Quarterly Bulletin, June, pp.200-208.

Gardener, E.P.M., en Molyneux, Ph., (1988) Structure and regulation of UK financial markets, Institute of European Finance, Research monographs in Banking and Finance no. 6, Bangor.

Goodhart, C.A.E., (1984) Monetary theory and practice, the UK experience, London.

Goodhart, C.A.E., (1985) 'Monetary control, the British experience', in: C. van Ewijk en J.J.Klant (eds,) Monetary conditions for economic recovery, Dordrecht, pp.59-84.

Goodhart, C.A.E., (1989) 'The conduct of monetary policy', in The Economic Journal, June 1989, pp.293-346.

Governor of the Bank of England, (1994a) 'The role of the exchange rate in monetary policy' in Bank of England Quarterly Bulletin, August, pp.255-258.

Governor of the Bank of England, (1994b) 'The prospects for monetary stability' in Bank of England Quarterly Bulletin, August, pp.259-260.

Governor of the Bank of England, (1995) 'Monetary policy realities' in Bank of England Quarterly Bulletin, November, pp.388-391.

- Haldane A. G. (1995) 'Rules, Discretion and the United Kingdom's New Monetary Framework', Bank of England working paper series, no 40, London.
- Hall, S.G., Henry, S.G.B., en Wilcox, J.B., (1989), The long run determination of the UK monetary aggregates, Bank of England discussion papers no. 41.
- Healey, J., Mann, C., Clews, R. en Hoggarth, G. (1990) Monetary aggregates in a changing environment: a statistical discussion paper, Bank of England discussion papers no. 47, London.
- HM Treasury, Minutes of monthly monetary meeting, various issues, London.
- James, H. (1996) 'International Monetary Cooperation since Bretton Woods', Washington.
- Kaletsky, A. (1995) 'The Disastrous Campaign for Autonomy' in *The International Economy*, Sept. / Oct. p.12.
- King, M. (1993) 'The Bundesbank: a view from the Bank of England' in *Bank of England Quarterly Bulletin*, May, pp.269-274.
- King, M. (1994a) 'Monetary Policy in the UK' in *Fiscal Studies* vol 15, no 3. pp.109-128.
- King, M. (1994b) 'The transmission mechanism of monetary policy' in *Bank of England Quarterly Bulletin*, August, pp.261-267.
- King, M. (1994c) 'Monetary policy instruments: the UK experience' in *Bank of England Quarterly Bulletin*, August, pp.268-276.
- King, M. (1995a) 'Credibility and monetary policy: theory and evidence' in *Bank of England Quarterly Bulletin*, February, pp.84-91.
- King, M. (1995b) 'Do inflation targets work?' in *Bank of England Quarterly Bulletin*, November, pp.392-394.
- Lawson, N. (1992) 'The View From No. 11, Memoirs of a Tory Radical', London.
- Llewellyn, D. T. (1986) 'Monetary Policy: an Assessment', in: *Comment* no. 10, A quarterly review by Butler Treasury Services Limited, London.
- MacFarlane, H. and Mortimer-Lee, P. (1994) 'Inflation over 300 years', in *Bank of England Quarterly Bulletin*, May, pp.156-162.
- Miles, D.K. en Wilcox, J.B (1989). The money transmission mechanism, Bank of England discussion papers no. 46, London.
- Mullineux, A., (1987) *International banking and financial systems: a comparison*, London.
- OECD, *Economic Surveys*, United Kingdom, various issues.
- Roll, E. et al. (1993) 'Independent and Accountable - A New Mandate for the Bank of England', Report of Independent Panel, Centre for Economic Policy Research (CEPR), London.
- Thatcher, M. (1993) 'The Downing Street Years', London.

Italy

- Arcelli, Mario, *Monetary and Fiscal Policies in Italy in the Present Phase of Transition towards Europe in: Banco di Roma, Review of Economic Conditions in Italy*, Rome, May-August 1989.
- Banca Commerciale Italiana, *Monetary Trends*. Various issues.

- Banca d'Italia*, Relazione Annuale: Assemblea Generale Ordinaria dei Partecipanti. Roma, various issues.
- Banca d'Italia*, Bollettino Economico. Roma, various issues.
- Banco di Roma, Review of Economic Conditions in Italy, Major Banks and Financial Innovation. Roma, May-August 1986.
- Berg, Caroline van den, Veranderingen op de Italiaanse Financiële Markten in: Economisch Statistische Berichten, June 24, 1987.
- Berg, Caroline van den, De dalende gezinsbesparingen in de VS in: Economisch Statistische Berichten, January 4, 1989.
- Caprio, Gerard and Patrick Honohan ed., Monetary Policy Instruments for Developing Countries. Washington D.C., 1991.
- Cariplo, Credit and Finance in Italy: Quarterly Bulletin. Milan, various issues.
- Cesarini, Francisco, The Relationship Between Banks and Firms in Italy: A Banker's View in: Banco di Roma, Review of Economic Conditions in Italy. Rome, January-July 1994.
- Cecco, Marcello de, The Italian Banking System at a Historic Turning-point in: Banco di Roma, Review of Economic Conditions in Italy. Rome, January - July 1994.
- Committee of Governors of the Central Banks of the Member States of the European Economic Community, Annual Report 1992. April 1993.
- Conti, V., R. Hamaui, and H.M. Scobie, Bond Markets, Treasury and Debt Management: The Italian Case. London, 1994, pp.1-11 and pp.217-230.
- Cottarelli, Carlo, and Angeliki Kourelis, Financial Structure, Bank Lending Rates, and the Transmission Mechanism of Monetary Policy. IMF Staff Papers, December 1994, pp. 587-623.
- Cottarelli, Carlo, Giovanni Ferri and Andrea Generale, Bank Lending Rates and Financial Structure in Italy: A Case Study. IMF Staff Papers, September 1995, pp. 670-700.
- Dini, Lamberto, The Italian Financial System in the Perspective of 1992 in: Banca Nazionale del Lavoro, Quarterly Review, Roma, December 1988, pp. 441-449.
- Economist, European Financial Centres no.2. Italy: A Guide to the Changing Structure and Regulation of the Financial Services Sector. London, August 1989.
- Eizenga, Wietze, The *Banca d'Italia* and Monetary Policy. Tilburg, 1993.
- Euromoney, The 1995 Guide to Italy.
- European Economy, The Economic and Financial Situation in Italy. 1993.
- European Monetary Institute, Annual Report 1994. Frankfurt am Main, April 1995.
- Financial Times, Italian Banking and Finance. London, 24 November 1994.
- Financial Times, Weakness Exposed in Bank Siege. London, 2 February 1995.
- Gils, Monique M.E van, Monetair Beleid in de EMU in: Economisch Statistische Berichten, 13 December 1995.
- IMF, International Financial Statistics Yearbook. Washington D.C., 1994.
- IMF Staff Country Report No. 95/36, Italy - Background Economic Developments and Issues. Washington D.C., May 1995.
- Istituto Bancario San Paolo di Torino, ECU Newsletter, March 1993.
- Monti, E. and Onado, M. Il Mercato Monetario e Finanziario in Italia. Bologna, 1982.
- Moody's System Study. The Italian Banking System. New York, July 1990.
- OECD, Economic Outlook. Paris, various issues.

- OECD, *Economic Surveys: Italy*. Paris, various issues.
- OECD, *Financial Market Trends*. Paris, various issues.
- Oxford Economic Analytica, various issues on Internet.
- Padao Schioppa, F. and Kostoris L. *Italy: The Sheltered Economy. Structural Problems in the Italian Economy*. Oxford, 1993, pp.158-162.
- Pradhan, Mahmood, *Privatization and the Development of Financial Markets in Italy in: Finance and Development*, December 1995.
- Vittas, Dimitri ed. *Financial Regulation: Changing the Rules of the Game*. EDI Development Studies. Washington D.C., 1992.

Spain

- Alejano, A. and J.M. Peñalosa (1995), *La integración financiera de la economía española: efectos sobre los mercados financieros y la política monetaria*, draft paper Banco de España.
- Bakker, A.F.P. (1994), *The Liberalization of Capital Movements in Europe*, dissertation University of Amsterdam.
- Banco de España (1994), *Law of Autonomy of the Banco de España*, in: *Economic Bulletin*, July 1994, Banco de España.
- Banco de España (1995), *Inflation report*, September 1995.
- Burink, F. (1990), *Financial Innovations and Monetary Policy in Spain*, in: *Financial Markets and Monetary Policy*, S.C.W. Eijffinger and J.L. Gerards (eds.), NIBE, Amsterdam (in Dutch).
- Canals, J. (1994), *Competitive strategies in European banking*, Clarendon Press, Oxford.
- Carbo, S. (1994), *Institutional, Structural and Supervisory Developments in Spanish Banking*, Institute of European Finance, Research Paper in Banking and Finance RP 94/18, University College of North Wales.
- Casado, C., J.A. Campoy and C. Chulía (1995), *Regulación financiera española desde la adhesión a la Unión Europea*, documento de trabajo No. 9510, Banco de España.
- Cruz Manzano, M. and S. Galmés, (1995), *Políticas de precios de las entidades de crédito y tipo de clientela: Efectos sobre el mecanismo de transmisión*, draft paper Banco de España.
- Edey, M. and K. Hviding (1995), *An assessment of financial reform in OECD countries*, Working Paper Nr. 154, OECD Economics Department, Paris.
- Eijffinger, S.C.W., *On Controlling the Money Supply*, NIBE-publication series Nr. 56, Amsterdam (in Dutch).
- Escrivá, J.L. and J.L. Malo de Molina (1991), *Implementation of Spanish Monetary Policy in the Framework of European Integration*, Working Paper Nr. 9104, Banco de España.
- Fieleke, N.S. (1993), *International capital transactions: should they be restricted?*, IMF Paper on Policy Analysis and Assessment PPAA/93/20, Washington.
- Freedman, C. (1994), *Formal Targets for Inflation Reduction: The Canadian Experience*, in: de Beaufort Wijnholds, J.A.H., S.C.W. Eijffinger and L.H. Hoogduin, *A Framework for Monetary Stability*, Dordrecht, 1994.

- Fuentes, I. (1993), Changes in the Spanish banking system's workings in the period 1989-1992, in: *Economic Bulletin*, July 1993, Banco de España.
- Galy, M., G. Pastor and T. Pujol (1993), Spain: Converging with the European Community, Occasional Paper Nr. 101, International Monetary Fund, Washington.
- García-Vaquero, V. (1994), The Spanish securities markets and the common financial area. Recent developments and outlook, in: *Economic Bulletin*, January 1994, Banco de España.
- García-Vaquero, V. and L.A. Maza (1994), Unit trust performance in 1991-1993 and outlook, in: *Economic Bulletin*, July 1994, Banco de España.
- Juan, Aristobulo de (1993), *Dealing with problem banks: the case of Spain (1978-84)*, in: *Transformation of the Banking System: Portfolio restructuring, privatisation and the payment system*, OECD Center for co-operation with the European Economies in transition, Paris.
- Lemmen, J.J.G. and S.C.W. Eijffinger, The Degree of Financial Integration in The European Community, *De Economist*, 141, Nr. 2, 1993.
- Lygum, B., E. Pere and A. Steinherr (1989), *The Spanish financial system*, European Investment Bank.
- Pellicer, M. (1992), Los mercados financieros organizados en España, *Estudios Economicos* No. 50, Banco de España.
- Santos, R. (1993), On the reserve requirement and the process of monetary union, in: *Economic Bulletin*, October 1993, Banco de España.
- Sanz, B. and M. Val (1993), Monetary Policy Implementation Techniques in Spain, in: *Economic Bulletin*, April 1993, Banco de España.
- Vega, J.L. (1994), Is the ALP long-run demand function stable?, Working document No. 9422, Banco de España.

The Netherlands

- Agency of the Ministry of Finance, Annual reports.
- Bank Act 1948.
- Boonstra, W.W., Rabobank's approach towards EMU, speech at conference "Preparing for a Single European Currency", London 24 & 25 September 1996.
- Breen, M.L. van, H.P. Molenkamp, *De geldmarkt in de praktijk*, NIBE 1991.
- Central Bureau of Statistics, National Accounts.
- Centraal Plan Bureau, *Centraal Economisch Plan* 1996.
- Coljé, H. *Het toezicht op de banken in Nederland*, NIBE 1988.
- Committee on Banking Regulations and Supervisory Practises, *International convergence of capital measurement and capital standards*, July 1988.
- Custers, J.J.L. *De Nederlandse kapitaalmarkt*, NIBE 1993.
- Custers, J.J.L. & B.G.W. Walschots, *The Dutch capital market*, Rabobank Nederland, September 1994.
- Dierick, A.M., *Het coöperative bankwezen in Nederland*, NIBE 1996.
- Dierick, A.M., J.H.P.M. van Lange, *Monetaire teugels strakker aangehaald*, *Economische Statistische Berichten*, March 12, 1986, pp. 277-279.

- Dunnen, E. den, Instrumenten van het geld- en valutamarktbeleid in Nederland, NIBE, second print 1987.
- EEC, Second Council Directive 15/12/89, 89/646/EEC.
- Eijffinger, S.C.W., Over de beheersbaarheid van de geldhoeveelheid, NIBE/VU-uitgeverij 1986.
- Eijffinger, S.C.W., J. de Haan, The Political Economy of Central Bank Independence, Princeton Special Papers in International Economics, Princeton University, May 1996.
- Eijffinger, S.C.W., Future European Monetary Policy, Inaugural Lecture, Berlin, May 31, 1996.
- Het Financieele Dagblad, 18/4/1996.
- Gils, M.M.E. van, Monetair beleid in de EMU, Economisch Statistische Berichten, December 12, 1995.
- Gils, M.M.E. van, Rating pakt goed uit voor Nederlandse banken, Bank- en Effectenbedrijf, September, 1996.
- Haan, J. de, (red.), De onderhandse kapitaalmarkt in Nederland, NIBE 1991.
- Klant, J.J., C. van Ewijk, Geld, Banken en Financiële Markten, Wolters-Noordhoff, 1990.
- KPMG Klynveld, Banking and Finance in the Netherlands, December 1993.
- Manual Act on Supervision of the Credit System (Handboek Wet Toezicht Kredietwezen).
- Moody's Investor Service, Moody's assigns Financial Strength Ratings to 540 Banks, September 1995.
- National Budget Memorandum 1997.
- De Nederlandsche Bank, Annual reports.
- NIBE Bankenboekje 1995.
- OECD Economic Outlook, June 1996.
- Roij, G.P.L. van, Banken, Euromarkten en financiële innovaties, NIBE 1992.
- Scholtens, L.J.R., Ontwikkeling en activiteiten van de Nederlandse overheidsbanken, NIBE 1991.
- Staatscourant 125, July 5 1994.
- Straaten, A.J. van, Veertig jaar monetaire analyse door de Nederlandsche Bank 1947-1986, NIBE-publikatierreeks No. 67, 1989.
- Velden, L.T.M. van & G.F.T. Wolswijk, DNB harmoniseert geldmarktinstrumentarium, Bank- en Effectenbedrijf June 1996.
- Ven, P.L.M. van de, Country Profile The Netherlands, Rabobank Nederland 1996.
- Voûte, J.R., Hypotheekbanken vroeger en nu, NIBE 1989.
- Wijk, H.H. van, De Nederlandsche Bank; functie en werkkterrein, NIBE 1988.

Belgium

- Acx R., O. Lefèbvre, E. Peree, M. Quintyn and R. Schreurs, (1986), De Belgische Geldmarkt over tien jaar, Herdiscontering- en Waarborg Instituut, Brussel.
- Baudewijns J., (1979), La fixation d'objectifs pour les agrégats monétaires : l'opinion d'un non-monétariste, Cahier 2, Revue de la Banque, avril 1979, pp. 103-109.

- Belgian Banking Association, (1996), *Statistisch Vademecum van de Banksector, 1995, Aspecten en Documenten*, 184, Brussels.
- Belgian Banking Association, *Hervorming van het Monetair Beleidsinstrumentarium, Aspecten en Documenten*, 114, Brussels.
- Committee of Governors of the Central Banks of the Member States of the European Economic Community, Economic Unit, (1992), *A Framework to Assess Monetary Policy Instruments and Procedures in EC Countries*, Mimeo, December.
- Dijkstra T, J. De Haan and K. Knot, (1996), *De Rentetermijnstructuur in een Doelzone Wisselkoersysteem : Schattingen voor België en Nederland*, *Tijdschrift voor Economie en Management*, Februari, pp. 11-26.
- Droesbeke FK, (1996), *La Crédibilité de la Politique Belge en Matière de Taux d'Intérêts; une Approche Empirique*. *Cahiers Economiques de Bruxelles*, n° 149, Ier trim. pp. 55-86.
- Eizenga W., (1994), *The National Bank of Belgium and Monetary Policy*, *SUERF Papers on Monetary Policy and Financial Systems*, No.17, Tilburg.
- Eijffinger S. and J. De Haan, (1996), *The Political Economy of Central-Bank Independence*, *Special Papers in International Economics*, No.19, Princeton University, May 1996.
- Eijffinger S. and E. Schaling, (1993), *Central Banks Independence in Twelve Industrial Countries*, *Banca Nazionale del Lavoro Quarterly Review*, pp. 1-41.
- Halikias I., (1994), *Testing the Credibility of Belgium's Exchange Rate Policy*, *International Monetary Fund Staff Papers*, June, pp. 350-365.
- Janssens V., (1976), *De Belgische Frank, anderhalve eeuw geldgeschiedenis*, *De Standaard*, Antwerpen.
- Knot K. and J. De Haan, (1995), *Interest Rate Differentials and Exchange Rate Policies in Austria, The Netherlands and Belgium*, *Journal of Banking and Finance*, 2, pp. 363-389.
- Koen V., (1991), *Testing the Credibility of the Belgian Hard Currency Policy*, Working paper 79, International Monetary Fund.
- Lucas R., (1976), *Econometric Policy Evaluations : A Critique*, in K. Brunner and A. Meltzer (eds.), *"The Phillips Curve and Labour Markets"*, *Carnegie-Rochester Conference Series on Public Policy* no.1, Amsterdam, North-Holland, pp. 19-46
- Ministry of Foreign Affairs, (1975), *Het Belgisch Monetair Stelsel*, Brussels.
- National Bank, *Annual Reports*, Brussels.
- Nationale Bank, *Wisselkoerspolitiek - Keuze en Gevolgen*, *Tijdschrift van de Nationale Bank van België*, LIIIe jaargang, deel I, nr 4, April 1978, p. 3-71.
- National Bank of Belgium, Research Department, (1992), *Reform of the Money Market and of the Instruments of Monetary Policy in Belgium*, Mimeo.
- National Bank of Belgium, Research Department (1995), *Monetary Policy in Belgium*, Oct. 4, Mimeo.
- National Bank of Belgium (1996), Research Department, *Opérations Financières des Grands Secteurs de l'Economie Belge*, Mimeo, Sept. 10.
- Organization for Economic Cooperation and Development, *Belgium, Economic Surveys*, Paris.
- Quintyn M. and J. Vuchelen, (1992), *Monetary Policy*, in Van Meerhaeghe M. (ed.), in *"Belgium and EC Membership Evaluated"*, Pinter, London, pp. 62-70.

- Salvatore D., *International Economics*, fifth edition, Prentice Hall, Englewood Cliffs, 1996.
- Sargent T. and N. Wallace (1981), Some Unpleasant Monetarist Arithmetic, *Federal Reserve Bank of Minneapolis Quarterly Review*, Fall pp. 1-17.
- Svensson L., (1991), The Simplest Test of Target Zone Credibility, *International Monetary Fund Staff Papers*, September, pp. 655-665.
- Vuchelen J., (1991), The Modernization of the Belgian Money and Capital Markets, *Gestion* 2000, 5, pp. 191-109.
- Vuchelen J. and P. Marien, (1988), The Exchange Market Announcement Effects of Belgian Discount Rate Changes. *European Economic Review* 32, pp.1335-1347.

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