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Recent developments
In the fourth quarter of 1999, Dutch inflation declined slightly, to 1.9%. In the euro area, however, inflation has been on the increase, in part because the rise in oil prices feeds through to inflation in greater measure there than in the Netherlands. Given the upward risks to price stability in the medium term, the Governing Council of the ECB decided to raise the Eurosystem’s interest rates by 25 basis points as from 3 February. Monetary growth and the expansion of lending again pointed to easy liquidity conditions, while the broadly based assessment of inflationary prospects indicated upward pressure on consumer prices. The interest rate decision was taken in an environment of favourable growth prospects for the euro area. Continuation of moderate wage developments in the euro area is a major precondition for further economic growth at moderate inflation. The Netherlands is in the vanguard of euro area countries with relatively high economic growth. As a result of this vigorous growth rate, an increasing number of Dutch sectors are facing labour market shortages. Another consequence is that 1999 saw the first budgetary surplus since 1973. Thanks to the structural improvement of Dutch public finance, increasing attention is being paid to structural issues which urgently need to be addressed, such as the consequences of ageing for government policy.

Dutch inflation down towards euro area average

The harmonised index of consumer prices (hicp) showed prices in the fourth quarter of 1999 to be 1.9% up on a year earlier. This brought hicp inflation for 1999 to 2.0% (Table 1), the upper limit in the escb’s definition of price stability. In 1999, Dutch price movements were the most stable in the euro area, although major fluctuations were in evidence in some components. As a result of the poor harvest in 1998, many seasonal products were much dearer in 1999 than they had been a year earlier. The price of potatoes, for instance, was 24% higher. On the other hand, the prices of computers fell by 29% and those for telecommunication services by 5%, under the influence of competition and technical innovation.

By contrast with the Netherlands, inflation in the euro area has been going up in recent months. Yet, at 1.5% up on a year earlier, prices in the euro area in the fourth quarter of 1999 continued to rise at a slower pace than in the Netherlands. The higher inflation in the euro area is largely due to the higher prices for energy. Expressed in dollars, oil prices were over 130% up in 1999. Oil prices continued to rise in the first few months of 2000, to around USD 28 per barrel Brent at the end of February. Given the more favourable cyclical position of the Dutch economy, it is worth noting that the Dutch inflationary trend is lagging behind that in the euro area. The main explanatory factor is that, by comparison with the euro area, the rise in oil prices is working through relatively slowly in Dutch inflation. This is partly due to the fact that the energy needs of Dutch households are met largely by natural gas, whose price is adjusted to the average oil price of several months previously only once every six months. As the rise in the price of natural gas has remained limited to a statutory maximum, the rise in oil prices has so far affected oil prices in the Netherlands to a lesser extent than in the euro area. According to model simulations made by the Bank, a USD 4 rise in the oil price per barrel makes Dutch inflation go up by 0.2–0.3 percentage point. The oil price movements will bring much influence to bear on future inflation rates. Statements by representatives of various major OPEC countries indicate that they intend to continue the successful strategy of production cuts. At end-March, the OPEC Council of Ministers will decide on continuation of the production cuts.

Table 1 Inflation (hicp)
Percentage changes on previous corresponding period

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>1999</th>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>0.6</td>
<td>0.6</td>
<td>0.9</td>
<td>1.0</td>
</tr>
<tr>
<td>France</td>
<td>0.7</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Italy</td>
<td>2.0</td>
<td>1.7</td>
<td>1.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Spain</td>
<td>1.8</td>
<td>2.2</td>
<td>2.4</td>
<td>2.7</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.8</td>
<td>2.0</td>
<td>1.8</td>
<td>2.0</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.9</td>
<td>1.1</td>
<td>1.4</td>
<td>1.6</td>
</tr>
<tr>
<td>Austria</td>
<td>0.8</td>
<td>0.5</td>
<td>0.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Portugal</td>
<td>2.2</td>
<td>2.2</td>
<td>1.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Finland</td>
<td>1.4</td>
<td>1.3</td>
<td>1.6</td>
<td>1.9</td>
</tr>
<tr>
<td>Ireland</td>
<td>2.1</td>
<td>2.5</td>
<td>2.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>1.0</td>
<td>1.0</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Euro area</strong></td>
<td><strong>1.1</strong></td>
<td><strong>1.1</strong></td>
<td><strong>1.4</strong></td>
<td><strong>1.5</strong></td>
</tr>
<tr>
<td>On preceding month</td>
<td>0.1</td>
<td>0.2</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Three-month averages</td>
<td>1.7</td>
<td>1.7</td>
<td>1.9</td>
<td>2.2</td>
</tr>
<tr>
<td>annualised</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

1 The changes have been calculated with the aid of seasonally adjusted figures.
Obviously it is not easy to predict future oil prices. The Box sets out why estimations based on the information contained in futures contracts are unreliable.

Given the lagged effect of oil price rises in Dutch inflation, inflation may be expected to rise in 2000. In January, however, the twelve-month figure for HICP inflation was 1.6%, while the rise in the consumer price index (CPI) and the CPI excluding indirect and consumption-related taxes, which are often used in the national context, also declined (Chart 2). The latter is used as a reference in collective bargaining. The fall in Dutch HICP inflation is caused by a number of partly offsetting technical factors. The main technical factor is the inclusion of TV and radio licence fees in taxation, which will account for a downward effect of about 0.6 percentage point on HICP inflation in 2000. A change in the definition of the harmonised price index as at 1 January will have a slight upward influence. The main adjustment of the HICP concerns the inclusion of the index of goods and services from the health care and insurance sectors.

**Wage costs crucial to inflation**

Both individual euro area countries and the euro area as a whole should seek to ensure that cost shocks, such as increases in oil prices or indirect taxation, do not lead to wage inflation, and thus undermine price stability. In addition, wage cost rises which exceed the development of productivity may weaken national competitiveness. In the third quarter of 1999, hourly labour costs in the euro area were 2.4% up on a year earlier (Chart 3). The

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**Box The (un)predictability of oil prices**

In model estimations, the expected development of the price of oil is often derived from the prices of futures (contracts for future delivery at a pre-determined price), the underlying thought being that the market parties involved have insight into future price movements. It is assumed that the prices of futures contain all relevant information available at that particular moment in time. The price of an oil futures contract is determined not just by the future oil price, but also by a risk premium which compensates for the uncertainty about actual future price movements and a premium for the cost of carry. As the cost of carry may be considerable, the price of an oil futures contract – assuming neutral expectations regarding future oil prices – will, under normal circumstances, be higher than the spot price. The longer the maturity of the futures contract, the higher its price, because the cost of carry goes up. Chart 1 shows that the futures prices on 15 January 1998 and 1 January 1999 had a normal structure. In the course of 1999, the oil price rose considerably, however, and the structure of futures prices began to decline, owing to market perceptions that the tightness in the oil market would be a temporary phenomenon, so that the further in the future the delivery, the lower the scarcity premium contained in the spot price and the price for delivery in the near future. On the cut-off date of this Quarterly Bulletin, the prices of futures contracts are on the decline, so that market parties expect oil prices to fall. As the Chart shows, this is no more than a limited indication that prices will indeed go down. Those who, on the basis of futures prices in June 1999, expected oil prices to decline from then on, have so far seen the opposite happen. Apparently market parties, too, have little insight into where oil prices will go. Although futures prices offer the best possible forecast of future oil prices and there are few well-founded alternatives, there is no denying that their predictive powers are limited. In model estimations, scenarios consequently constitute a major supplement to the baseline projection. The Bank-made estimations for the Dutch economy contained in the Quarterly Bulletin of December 1999 therefore include an alternative oil price scenario.

**Chart 1 Oil price (Brent)**

Dollars per barrel

<table>
<thead>
<tr>
<th>30</th>
<th>25</th>
<th>20</th>
<th>15</th>
<th>10</th>
<th>5</th>
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</thead>
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<tr>
<td>96</td>
<td>97</td>
<td>98</td>
<td>99</td>
<td>00</td>
<td>01</td>
</tr>
<tr>
<td>Oil price up to and including 9 February 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 15 Sep. 96 | 15 Jan. 98 | 01 Jan. 99 | 15 Jun. 99 | 23 Nov. 99 | 10 Feb. 00 |

Explanatory note: The grey lines show futures contracts.
annual figure is also expected to come out slightly above 2%. As, according to current insight, labour productivity has gone up by slightly less than 1%, 1999 will see an increase in unit labour costs of over 1%, as compared with 0.1% in 1998. It is encouraging that the German social partners agreed in January that, in the near future, wage movements must be commensurate with productivity growth. In France, hourly wage costs will go up as a result of the introduction of the 35-hour work week. As the effect of this measure is compensated for partly by government subsidies, its ultimate consequences for movements in wage costs will be limited. In the Netherlands, the wage bargaining season for 2000 has barely started. Akzo-Nobel is always the first large industrial enterprise to conclude a new collective labour agreement. The employers’ organisations and the trade unions have been unable to agree on result-related remuneration. The 4.25% wage rise agreed on for fifteen months is an indication of the general wage rise this year. According to estimations made with the Bank’s macro-economic model, published in the Quarterly Bulletin for December 1999, unit wage costs would be going up by 2.0% in 2000. There are signs that the tight labour market conditions in some sectors will be inducing considerable wage drift.

Cyclical upturn in euro area deepens

In both the euro area and the Netherlands, economic growth picked up in the third quarter of 1999 (Table 2). In the fourth quarter of 1999, Dutch economic growth came out at 4.3%, so that it has been 3% or over for 15 quarters on end. It is gratifying that Germany and Italy, the two countries with the lowest growth rates in the euro area in early 1999, are also seeing a recovery. In January, the ifo index, the measure of West German producer confidence, topped the 100 mark for the first time in over two years. The euro area expansion is being driven by an upturn in exports and the continuing high level of consumer spending (Chart 4). Expectations for the near future are favourable. In November, euro area manufacturing output was about 3% up on a year earlier, and will, according to confidence indicators, be picking up further. Now that the growth figures for consumer spending have declined somewhat, the Netherlands stands to benefit from the cyclical recovery of the euro area. Thanks in part to the euro area-wide recovery, the growth of exports picked up in the third quarter. As consumer confidence in January was at its highest level since it was first measured over 25 years ago, the direct prospects for the Dutch economy are favourable.

Compared to the sustained economic growth in the United States, the positive signals emanating from Europe are still modest. In the fourth quarter, economic growth in the United States was 6.9% on an annual basis. Since February, the United States is experiencing the longest period of boom since 1854 (107 months). With information and communications technology being applied on a vast scale, an ample supply
of risk-bearing capital and competitive labour and product markets, the American economy is recording higher average annual productivity growth rates and higher structural growth rates than Europe. Europe could improve its growth potential through structural reforms.

The euro area’s cyclical recovery has made itself felt in a limited decrease in unemployment to 9.6% of the working population at end-1999. Dutch unemployment continued to fall, to 2.7% of the working population, the lowest level since September 1974. Another milestone is the fact that the number of vacancies in the Netherlands has surpassed the number of registered unemployed for the first time since the 1970s. As a result, a growing number of sectors are having to contend with labour shortages, as evidenced by the rising percentage of businesses indicating that they are having to deal with production restraints (Chart 5). Staffing shortages are making themselves felt notably in the catering business, the retail sector and retail trade. Data supplied by the central agency for the labour supply show that in 1999, the Netherlands granted 22,500 applications for work permits for employees from outside the European Union, nearly 50% more than a year earlier. For next year the agency anticipates another sharp rise in the number of work permits for employees from outside the European Union. Most of them are highly skilled and seek high-grade jobs in such sectors as IT.

The unmistakeable signs of a more or less overheated Dutch labour market cannot conceal that large groups in the Netherlands do not figure in the unemployment statistics, although they could be considered to be seeking work. That goes for those who are partly incapacitated, the over-50s who have retired early, and non-working partners in single-income households. Over the next few years, it will be one of the challenges for economic policy to activate this potential supply of labour.

Eurosystem’s interest rates raised

On 3 February 2000, the Eurosystem decided to raise all its official rates by 25 basis points. An article in this Quarterly Bulletin describes how interest rate decisions are made within the Eurosystem. The main refinancing rate consequently came out at 3.25%. The decision was prompted by the assessment of the risks to price stability in the medium term. In what is known as the first pillar of the Eurosystem’s monetary strategy, both money growth and the expansion of lending indicated easy liquidity conditions. The three-month moving average of the growth of the broad monetary aggregate M3 of the euro area came out at 5.7% in January 2000, well above the 4 1/2% reference value. Private sector lending in the euro area in the fourth quarter of 1999 was 10.6% up on a year earlier. In the second pillar, rising oil prices and producer prices were pointing at inflationary risks. Here a role may also have been played by the possible inflationary consequences of the improved prospects for economic growth in the euro area, and the
effective depreciation of the euro. Via higher import prices, a depreciated euro may lead to higher inflation in the medium term. At the end of February, the nominal effective exchange rate of the euro was around 12% down on the first quarter of 1999. On 27 January, the euro’s closing rate dropped below parity with the US dollar for the first time. The euro’s depreciation against the dollar is due to the exceptional vigour of the American economy.

Over the past few months, the ten-year interest rate in the euro area has risen to its highest level since end-1997 (Chart 6). At end-February, the long-term rate stood at 5.5%. The rising long-term rate shows that the cyclical recovery of the euro area is expected to persist. Surveys held by financial research bureaus indicate that the development of the long-term rate could also be an indication of increasing inflationary expectations. The rise in the long-term rate over the past few months has led to a steeper yield curve.

Under the influence of the long-term interest rate movements, the growth of Dutch private sector lending was slightly less vigorous than in early 1999, although still strong in January 2000, at 13.1% on a year earlier. One of the main factors behind the high growth rate of private lending of the last few years has been the exuberant rise in house prices. In 1999, Dutch house prices rose by an average of 15.8%, while the average mortgage in the fourth quarter of 1999 was still 19% up on a year earlier. Although the average house price in the fourth quarter of 1999 remained constant at NLG 342,000, it is still too early to speak of a turnaround in the house market.

In spite of the higher long-term rate, share prices in the euro area went up markedly in the last quarter of 1999 (Chart 7). In that quarter, the Eurostoxx index rose...
more than the American Standard & Poor’s 500 index. Technology shares in particular have gone up considerably over the past year: the Eurostoxx technology sub-index went up 128% in 1999, due to optimism on the part of market operators as to future profits. In the first two months of this year, share indices initially continued to rise further because the turn of the millennium had gone well. After that share prices worldwide fell prey to volatility under the influence of interest rate sentiments.

Netherlands records budgetary surplus

For the first time since 1973, the Netherlands has managed to end the year with a budgetary surplus. According to provisional figures, the emu balance has come out at 0.5% of GDP. The fact that a surplus has been realised rather than the modest deficit anticipated earlier is the outcome of favourable economic growth. Tax revenues were higher than budgeted. Natural gas revenues were also higher than expected as a result of the higher oil price. The expenditure side of the budget saw lower-than-expected spending on social security (unemployment benefits and social assistance) and on interest payments.

With public finance in a more favourable position than several years ago, growing attention can be paid to major structural issues such as the 2001 tax reform. This reform is intended to strengthen the supply side of the economy. The lower taxes on labour will smoothen the labour market. The planned reduction of the burden of taxation and social insurance contributions should translate into a moderation of wage cost developments. If it does not, this measure will only fuel the already exuberant cyclical conditions further and overheat the economy. A fixed tax on standardised capital yields and other revisions of taxation on capital are intended to counter tax flight and investment constructions aimed at tax evasion. Taxation on capital will become more neutral, thus making for a better allocation of savings and investment. A shift is expected to take place from contractual to free savings.

Now that some of the most acute problems have been remedied, there is growing attention for the long-term development of public finance. The Advisory Council on Government Policy has recently drawn attention to the importance of repaying public debt, in order to spread public spending and income more equitably over the generations. Various studies indicate that a structural budgetary surplus is needed to keep the debt ratio under control, and to reduce intergenerational disequilibria. All this is, however, conditional upon a higher participation rate and further reforms of the health care sector. A shift in public spending, from transfer payments to public investment could also lead to a further decrease of intergenerational disequilibria and a more favourable development of public debt.

Chart 7 Stock prices

1998 = 100, weekly averages
Latest developments in payments and securities transactions

This article on current developments in payments and securities transactions looks in detail at a number of topical issues. Focal points in respect of banknotes and coins include the demand for banknotes during the century date change and the progress in the scheme for introducing euro banknotes and coins on 1 January 2000. The future status and form of collectors’ and commemorative coins, and the recent establishment of a coordination centre for the analysis of counterfeit coins in Paris are also reviewed.

Turning to non-cash transactions, this article discusses the consultative report ‘Core Principles for Systemically Important Payment Systems’ published by the BIS in December 1999. This report outlines the fundamental principles that must be observed when setting up payments settlement systems to ensure that the systems are reliable, safe and efficient.

Banknote circulation during the millennium transition

As in other areas, the millennium transition ran smoothly as regards the distribution of banknotes. No sudden panic demand occurred prior to the changeover to the year 2000, and the ATM's and the various relevant computer systems proved to be y2k-compliant, allowing the public to withdraw cash after the turn of the year. There was fortunately no call to implement the emergency plans which the Bank had devised in consultation with the banks and security transport firms to safeguard the distribution of banknotes in the event of a calamity or sudden panic demand. The development of the banknotes in circulation shows a slightly higher than normal increase in demand for banknotes close to the century date change (Chart 1). Banknote circulation generally swells at the turn of the year as part of a seasonal pattern that shows more money flowing during the summer vacation period and the Christmas holidays than at other times. However, the increase in circulation in the month December 1999 was more than one percentage point higher than in previous years. The banks and the public accordingly had a bigger stock of banknotes than usual at the turn of the year. Nonetheless, extra demand for banknotes was moderate and could easily be catered for by the distribution system.

The extra demand for banknotes in the Netherlands related to the century date change was below the average in the euro area countries.

Progress in working out details of changeover scenario

During the past few months the Bank’s Euro Exchange Bureau has made significant headway in fleshing out the changeover scenario. This involves close cooperation with experts from the banking, retail and catering sectors as well as security transport firms and the police. In respect of security transport, the survey commissioned by the Bank revealed that the security transport firms should have sufficient transport capacity to continue serving their customers (banks and other institutions engaging in cash transactions). Nonetheless, some timely measures are required such as equipping extra capacity for the supply and removal of coins. Moreover, it will be necessary in many cases to call on existing customers at different times of the day than usual. Any transports outside the normal hours for supply and delivery will hence often have to be agreed in advance with the local authorities. Security transports must at any rate be allowed on the last Saturday of 2001 and the first Saturday of 2002.

As the Minister of Finance has reported to the Second Chamber of Parliament, plans are to give those institutions engaging in cash transactions that do not use security transport services the option of having standard packs of euro coins delivered to their door in the run-up to the exchange of banknotes and coins and in the period immediately afterwards. The same delivery

Chart 1  Development in the value of the banknote circulation

Month-end, billions of guilders

<table>
<thead>
<tr>
<th>Month</th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>36</td>
<td></td>
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</tr>
<tr>
<td>Feb</td>
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<td>Mar</td>
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<td>May</td>
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<tr>
<td>Jun</td>
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<td>Jul</td>
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<td>Sep</td>
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<td>Oct</td>
<td></td>
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<td>Nov</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Dec</td>
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</tr>
</tbody>
</table>
service will also collect guilder coins, provided these are sorted, counted and packaged in accordance with the Bank’s instructions. The preliminary phase of this project is nearing completion and will be followed by a definite decision on its implementation. The Ministry of Finance has decided that the institutions which return their guilder coins to the Bank’s Storage and Distribution Centre in Lelystad by this means, or by secured transport, will be compensated for the costs incurred in counting, sorting and packaging. This will be allocated in proportion to the amount of coins handed in, amounting to NLG 125 million on intake of the expected return of 3 billion guilder coins. The minister has requested the Bank to look after the details and implementation of this scheme.

All these efforts are aimed at completing the changeover in the Netherlands as quickly as possible. To this end, it is desirable that retailers and other institutions engaging in cash transactions do everything in their power to give back change in euro only. But since that means that retailers temporarily need more cash in reserve, ways of restricting the amount required are now being sought. One significant way of limiting it is by using the technical possibility of distributing the EUR 5 banknotes through the ATMs at the start of the changeover, since this will make it easier for the public to pay exact amounts in euro. With a view to a swift changeover, the public will be asked to start paying in euro as soon as possible as from 1 January 2002.

Collectors’ or commemorative coins after 1 January 2002

In preparation for the arrival of the euro coins, agreements were recently made between the 11 participating countries in the euro area on the status and form of collectors’ or commemorative coins if these are issued by one of the euro area Member States after 1 January 2002. It has already been established that the individual Member States must still be able to issue commemorative coins, as they are an expression of separate cultural values and traditions. That is why, even after 2002, Member States will still have the authority to issue commemorative coins. However, these will only be accepted as legal tender in the country of origin. National legislation will ultimately determine whether a commemorative coin should have legal tender status. If a country wishes to assign legal tender status to such coins, it must first obtain the ECB’s permission to issue them as the ECB is formally responsible for the amount of coins issued in the euro area.

As the commemorative coins are not generally intended for circulation, they must be clearly distinguishable from the coins in daily use. For example the value of the commemorative coins must differ from those in regular circulation. In other words, the commemorative coins may not have the value of one of the eight euro denominations (1, 2, 5, 10, 20 euro cent and 1 and 2 euro). In addition, the designs on the coins and the external features such as colour, thickness, diameter must be distinct from the coins in circulation and the country of issuance must be easily recognisable. As the collectors’ coins can only be legal tender in one of the Member States in the euro area, the owner will be able to change them, for a transaction charge, in specially designated institutions in the other Member States. It has been agreed that, during the first years after the introduction of euro banknotes and coins, the Member States will be restrained in the issuance of collectors’ and commemoritive coins to avoid confusing the public. The introduction of the cash euro will in itself bring many different euro coins into circulation since each country in the euro area is issuing euro coins with a national emblem on one side. In all, more than one hundred different euro coins will be brought into circulation as from 1 January 2002. The public must first become acquainted with these.

Efforts to combat forgery of euro coins

In order to effectively tackle the forgery of euro coins, the European Council of Finance Ministers decided to establish a European centre, the ‘European Technical and Scientific Centre’ (ETSC), that will register and classify counterfeit euro coins. This will be provisionally located at the Paris Mint, using the facilities and expertise already available. The functioning of the centre will be evaluated towards the end of 2003, and a subsequent decision taken on its definitive status and location. Besides the European centre, each Member State, in accordance with national legislation, will set up its own national test centre for the analysis of counterfeit euro coins. The information from these centres will be centrally stored in a databank – to be set up by the ETSC and administered by the ECB – which will also register details of counterfeit euro banknotes. In order to coordinate efforts to combat forgery, the ECB had already decided at an earlier stage to set up an ECB Centre in Frankfurt for the registration and analysis of counterfeit banknotes. Europol in The Hague is responsible for coordinating the investigative tasks relating to euro banknotes and coins.
Globalisation and automated payment and securities settlement systems

The past ten years have seen a huge increase in the use of automated payment and securities settlement systems to clear and settle transactions. This is also evident in the processing methods. On the one hand, this reflects technological developments whereby payment and securities orders can now be processed automatically rather than manually, while on the other, the rapid advance can be attributed to the increasing integration of financial markets and the cross-border use of the systems. Both the international trend towards globalisation and, closer to home, the start of EMU with the launch of the euro on 1 January 1999, formed a significant impetus for the design of new systems and for plans to realise better cross-border coordination of both payment and securities settlement systems. Where this coordination is already in place in respect of large-value interbank payments, thanks to the arrival of TARGET and other high-grade cross-border euro payment systems, attention in the next few years will focus on retail payment transactions too, partly with a view to improving efficiency. For example in September 1999 — in response to the European Commission’s Financial Services Action Plan of May 1999 – the ECB published the report ‘Improving Cross-Border Retail Payment Services: The Eurosystem’s View’. This report can also be consulted on the ECB’s Internet site (www.ecb.int). The ECB is not seeking its own operational involvement in processing retail payments, but has chosen to pursue improvements in these mass payments in consultation with the banking sector. In this report, the ECB calls on banks to introduce measures to ensure that, no later than 1 January 2002, cross-border retail payments will be executed more cheaply and rapidly than at present. The report makes some concrete recommendations which will be discussed in more detail with the banking industry.

Role of central banks in payment and securities settlement systems

Risks are inherent in the settlement of payments and securities transactions and in the use of automated systems. Risk factors include the debtor (credit risk), liquidity, collateral and the exchange rate with systems also subject to legal, operational and systemic risk. This systemic risk is a key concern for central banks as it refers to the risk that difficulties experienced by one financial institution could – through the use of payment and securities settlement systems – spread to other participants in the system, so creating a chain of problems and – at worst – undermining the stability of the financial system. In view of their responsibility for the stability of the financial system, central banks have always had a keen interest in the reliability, safety and efficiency of payment and securities settlement systems. An important milestone in this regard was the publication in 1990 of the pioneering report on interbank netting schemes (often referred to in short as the Lamfalussy report after the chairman), which formulated six minimum standards for cross-border and foreign currency payment systems. The scope of the Lamfalussy standards is restricted to so-called netting systems, in which the claims and liabilities between the participants are first cleared before the final net payment is effected. Since then, various countries have also passed legislation providing that central banks shall exercise supervision on payment and securities settlement systems. In the Netherlands, the Bank’s responsibility for payments and securities transactions is set down in the Bank Act 1998. In advance of the Act on the supervision of settlement systems now in preparation, the supervisory framework AEX (AEX Clearing & Depository) now covers the supervision of the AEX securities settlement system, exercised jointly by the Bank and the Securities Board of the Netherlands. In addition, in accordance with article 105 of the Maastricht Treaty, article 22 of the ECB/ESCBB states that the ECB may make regulations to ensure efficient and sound clearing and payment systems within the EU and with other countries. This form of supervision, which applies to settlement systems or to interbank payment products, should be distinguished from traditional prudential supervision (that relates to the financial soundness of the individual banks). System-wide supervision is generally referred to as ‘oversight’.

Report ‘Core Principles for Systemically Important Payment Systems’

The Lamfalussy standards have been normative for the design of payment systems in recent years and are a guideline for the setting up of securities settlement systems. Whereas the Lamfalussy requirements were formulated for netting systems (in which, as described above, transactions are first offset against each other before a net payment is effected between the participants), the change in attitude towards risk has given rise
to non-netting systems, the so-termed real-time gross settlement systems (RTGS) in which transactions are effected in real time on an order-by-order basis (gross) and are so directly finalised. In netting systems, payments are not final until all the separate payments have been matched and the balances settled. RTGS systems accordingly have the great advantage that transactions can be effected safely and irrevocably. Moreover, these systems for the settlement of large-value interbank payments have been introduced worldwide so a good financial infrastructure is in place. One possible consequence of RTGS systems can be that, compared with netting systems, participants require more liquidity. In order to accommodate for this need, intermediate forms of net and gross systems have come into use, in which clearing and settlement is carried out several times a day. Over the past year central banks have worked in the BIS Committee on Payment and Settlement Systems (CPSS) on updating the Lamfalussy standards and extending them to cover non-netting systems. In December 1999, this resulted in an initial consultative document, the report 'Core Principles for Systemically Important Payment Systems'. The report can be found on the Internet (www.bis.org). Extending the Lamfalussy standards, this report formulates ten principles for the safety and efficiency of all systemically important payment systems. Moreover, it discusses the way that central banks apply the criteria, and puts forward recommendations to ensure that the central banks’ own systems meet the standards listed. A group of 23 central banks, including those from the G10 countries and from a number of major emerging economies from all over the world, cooperated in compiling the report along with the IMF and the World Bank. These latter institutions were involved in the issue because of their enhanced efforts, particularly in the wake of the Asian crisis, to strengthen the financial infrastructure.

Building on the Lamfalussy standards of 1990, the BIS report of December 1999 sets out the following ten core principles which must be observed in order to guarantee, insofar as possible, the safety, reliability and efficiency of payment systems:

1. The system should have a well-founded legal basis under all relevant jurisdictions.
2. The system’s rules and procedures should enable participants to have a clear understanding of the system’s impact on each of the financial risks they incur through participation in it.
3. The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.
4. The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.
5. A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.
6. Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk.
7. The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.
8. The system should provide a means of making payments which is practical for its users and efficient for the economy.
9. The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.
10. The system’s governance arrangements should be effective, accountable and transparent.

The central bank’s responsibilities in applying these core principles are that it should:

• clearly define its payment system objectives and disclose publicly its role and major policies with respect to systemically important payment systems;
• ensure that the systems it operates comply with the core principles;
• oversee compliance with the core principles by systems it does not operate and have the ability to carry out this oversight;
• cooperate with other central banks and with any other relevant domestic or foreign authorities in promoting payment system safety and efficiency through the core principles.

As noted above, the report describes the core principles in general terms and has been presented to interested parties who were invited to comment on it by 17 March. Within the Netherlands Bankers’ Association, Dutch banks are also preparing a response. A second follow-up report, scheduled for publication in the course of the year, will go into more detail on how the core principles
work in practice. A crucial question in this context is which systems are actually covered by the term ‘systemically important payment systems’. It should be noted that, in a separate development, the cpss and the supervisors of the securities trade belonging to the International Organization for Securities Commissions (iosco) have launched an initiative to formulate similar criteria for securities settlement systems.
Developments in supervision

Developments in banking

Banks’ results
In 1999, Dutch banks recorded a material increase in profitability, after profits in 1998 had been depressed by the consequences of the crises in the emerging markets and the turbulence in the financial markets. Provisional figures show an increase in the earnings of all banks combined of around 20% in 1999, while their operational expenses grew by nearly 15%. With lending expanding vigorously, the banks’ net interest earnings grew by almost 16%. Earnings from commission, which include earnings from securities transactions, even grew by around 23%. Some institutions also recorded major non-recurring earnings, such as the proceeds from the sale of participations. On balance, the gross operational results of all banks combined expanded by one-third. These positive developments were reinforced by the fact that the banks reduced write-downs on claims and transfers to the fund for general banking risks to their normal levels again, following an unfavourable development in 1998. All in all, the banks’ net profits (after taxation) for 1999 as a whole expanded by more than one half.

The rate of cost increases at the banks, though still fairly considerable, is undergoing a structural decline; last year it lagged behind the growth rate of earnings. As a result, the earnings/expenses ratio, which constitutes an indicator of operational cost control and hence for the banks’ efficiency, has gone up, to 1.48 (1998: 1.41) following a steady decline in earlier years. It would seem that the Dutch banks’ efforts to keep their costs under control are bearing fruit. This is a welcome development from the point of view of prudential supervision, but also given the sharp competition worldwide.

International and national consultations on banking supervision

Innovative forms of capital
The Bank has recently determined its policy in respect of innovative capital constructions. These are tax-friendly forms of mostly preferential share capital which may in principle be considered to form part of a bank’s core capital by supervisors (Tier 1 capital). On this point, agreement was reached by the Basel Committee on Banking Supervision in the autumn of 1998. It was not long before a number of Dutch banks evinced a major interest in these new forms of capital. The constructions proposed by them compelled the Bank to state precisely under what conditions it is prepared to accept such forms of capital.

The capital constructions prepared or already implemented by Dutch banks invariably make use of a special, domestic or foreign group company known as a special purpose vehicle (spv). An spv places preferential or ordinary shares with investors, which are in the nature of permanent capital and do not carry cumulative dividend entitlements. The aim is to make these shares as similar as possible to shares which have been issued by the bank itself. The spv usually transfers the proceeds from the issue to the bank in the form of a long-term subordinated loan. Spv shares may furthermore be attended by a call option, which provides for the possibility of nominal repayment of the spv shares after at least five years. In order to make it more attractive for institutional market operators to invest in these shares, the call option is sometimes combined with a step-up, i.e. an interest premium, of (at most) 100 basis points after at least ten years. This interest premium is intended as compensation in the event the spv shares are not repaid.

The advantages of these complex constructions for the banks are that the capital raised counts as core capital, while the interest paid on the subordinated loan is tax-deductible. The capital raised via an spv figures in the consolidated balance sheet as a minority interest. The bank’s non-consolidated balance sheet, however, shows a subordinated loan which would, strictly speaking, qualify as Tier 2 capital.

The Bank, in assessing these constructions, holds that the existing requirements for core capital be respected in full. Ordinary share capital, disclosed reserves and retained profits are essential elements in a bank’s own funds. After all, they allow the bank to absorb possible losses at any time, and on a going-concern basis. In addition, ordinary share capital affords banks complete freedom and discretion when it comes to what dividends to pay to shareholders. That is why ordinary share capital, disclosed reserves and retained profits should continue to form the bulk of banks’ Tier 1 capital. All forms of preferential and innovative share capital are therefore subject to a limit of 50% of Tier 1 capital. However, as soon as these capital components exceed 25% of a bank’s core capital, the Bank will discuss their size and composition with the bank in question. Moreover, if, for instance as a consequence of a step-up construction, there is a higher chance of new capital instruments being repaid by a bank under certain circumstances (making for declining solvency), such capital instruments may not exceed 15% of that bank’s total consolidated core capital.
In order to safeguard the quality of Tier 1 capital, the new capital instruments as such are subjected to further conditions, which must be met if they are to be accepted as core capital by the Bank. That is one of the reasons why Dutch banks must submit plans for issues, via an spv or otherwise, to the Bank for prior approval. The Bank retains the right to impose additional conditions where necessary. These may, for instance, relate to the Bank’s prior approval for planned repayments.

Revision of capital requirements for banks – where does the market mechanism come in?

The consultations between the Basel Committee and the European Commission and the international banking system about the former’s proposals for revision of the capital requirements are still ongoing. These proposals provide for a new, three-pillared system, consisting of quantitative requirements, a qualitative assessment of solvency by the supervisory authorities (the supervisory review), and a larger role for the market mechanism. The disciplining effect of the market mechanism is boosted by greater public disclosure on the part of the banks about, for instance, their exposures. As this allows of a better assessment of the solidity of individual banks by their counterparties, the banks are stimulated to conduct a prudent policy.

The proposal for a greater role for the market mechanism is not an isolated measure but forms part of a broader international initiative to boost the market orientation and transparency of banks and of the financial system. In the Basel context, this matter is being addressed by the Transparency Group of the Basel Committee, headed by Jan Brockmeijer, Deputy Executive Director of the Bank since the autumn of 1999. Last year the Transparency Group again looked at the information provided by banks in three fields, and interviewed the users of such information, i.e. rating agencies and financial analysts. These three fields were the banks’ trading and derivatives activities, their lending risks and their solvency. The conclusion was that the data published by banks show international lacunae, and that there is a need for more and more detailed information.

Against this background, the Basel Committee published a separate document in January, on which the banks were consulted. This paper notably contains recommendations about the data which every bank should publish on a regular basis. This information concerns such items as the structure of a bank’s own funds, its valuation policy, exposures, solvency and what influences these items. The document stresses that a bank offering new capital instruments such as those described earlier should publish sufficient information about these instruments.

Banking supervision in practice – the turn of the millennium

The Dutch banking system did not come up against major problems during the millennium changeover. In August 1999, the Bank had already announced that the banks were ready for this unusual event; however, no one could be absolutely sure that no problems would arise. The Bank’s main objective was, however, ultimately achieved, viz. uninterrupted financial services in the Netherlands at the beginning of the year 2000, thanks to the thorough and lengthy preparations made by the banking system and the Bank. There is no doubt that, but for these extensive preparations, the Dutch financial sector, and with it the entire economy, would have been unable to function properly after the turn of the millennium. The fact that no major problems arose prompted questions as to whether the preventive measures had not been excessive. Such questions can never be answered with certainty beforehand. What we do know for certain is that the banks, with their automated systems, fulfil an essential role within the economy, for instance, because they effect (inter)national payments. Disturbances in such processes should be prevented at all times. Apart from this, the intensive preparations for the millennium changeover have had favourable side-effects. The top management has, for instance, gained greater insight into automation, operational and systemic risks have been identified in greater detail, and the banks’ automated systems have been improved.

Developments in behavioural supervision

Enforcement – administrative fine and mandate on pain of payment of penal sum

As from 1 January 2000, the Bank is authorised to impose an administrative fine or a cease and desist order sum for specific infringements of one of the supervisory acts and the External Financial Relations Act, and to publicise such sanctions. In order to be able to fulfil this new competence adequately, function segregations have been effected within the Bank between those who identify the infringement, those who make the preparations for imposition of the administrative fine or the cease and desist order, those who take the...
decisions, and those who deal with any appeals against such decisions. In addition, the Bank will, notably when imposing an administrative fine, abide by a number of legal procedures to ensure that the decision is taken with due care.

Register under the Act on the Supervision of the Credit System

In the fourth quarter of 1999, the following changes were made to the register under the Act on the Supervision of the Credit System (Table 1). As a consequence of mergers between local or regional Rabobanks, 11 authorisations were revoked in Section 1, Sub-section 3. Bank of Scotland was registered in Section iii, and

Table 1 Entries in the register under the Act on the Supervision of the Credit System

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</table>

Section 1

Credit institutions supervised pursuant to section 6 of the Act

- **Sub-section 1** Universal banks: 98 97 98 94 98 100 100 100
- **Sub-section 2** Central credit institutions: 1 1 1 1 1 1 1 1
- **Sub-section 3** Credit institutions affiliated to a central credit institution: 547 510 481 444 444 442 434 423
- **Sub-section 4** Security credit institutions: 18 18 18 13 12 12 12 12
- **Sub-section 5** Savings banks: 26 26 26 24 21 21 21 21
- **Sub-section 6** Mortgage banks: 6 6 4 4 4 4 4 4

Section II

Branches of credit institutions established in non-EU countries: 11 12 11 11 10 10 10 10

Section III

Branches of credit institutions established in EU countries: 14 12 11 15 18 19 20 21

Section IV

EU credit institutions offering cross-border services in the Netherlands: 120 146 170 194 201 207 211 214

Sections v, vi and vii

Other financial institutions: 1 1 2 2 1 1 1 2

Total: 842 829 822 802 810 817 814 808
Crédit Industriel de l’Ouest s.a., Morgan Stanley Dean Witter Bank Limited and Münchener Hypothekenbank a.g. were registered in Section IV.

Register under the Act on the Supervision of Investment Institutions

In the fourth quarter of 1999, 25 institutions were entered in Section I of the register under the Act on the Supervision of Investment Institutions, 14 of which have a temporary authorisation. These authorisations are granted for a specified period of time (usually three months) to partnerships or limited partnerships investing in real estate or ships. At the end of the period, no further moneys are raised, and the purchase of the investment objects is completed. The authorisation is then revoked. Twenty authorisations were revoked, 16 of which had been for a specified period. Two institutions were entered in Section II, one of which had been registered as a non-UCITS until then (see the footnote to Table 2). A Luxembourg UCITS with a so-called umbrella construction was entered in Section III. This umbrella fund comprises eleven sub-funds.

Table 2 Entries in the register under the Act on the Supervision of Investment Institutions

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<tr>
<td>Section I</td>
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<tr>
<td>Investment institutions not having UCITS status¹</td>
<td>243</td>
<td>262</td>
<td>292</td>
<td>320</td>
<td>327</td>
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<tr>
<td>Section II</td>
<td></td>
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<tr>
<td>UCITS having their registered office in the Netherlands</td>
<td>10</td>
<td>10</td>
<td>12</td>
<td>16</td>
<td>16</td>
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<tr>
<td>Section III</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UCITS having their registered office in another EU Member State</td>
<td>71</td>
<td>90</td>
<td>97</td>
<td>110</td>
<td>111</td>
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<tr>
<td></td>
<td>324</td>
<td>362</td>
<td>401</td>
<td>446</td>
<td>454</td>
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</tbody>
</table>

Explanatory note: An investment institution which has been granted an authorisation is entered in a register maintained by the Bank (section 18 of the Act on the Supervision of Investment Institutions). If the authorisation is subject to limitations and/or instructions, these are listed in the register. The register is open to the public and can be found on the Bank’s website.

¹ A UCITS is ‘an institution for collective investment in transferable securities’ within the meaning of the EU UCITS Directive. UCITS are subject to extra requirements with regard to investments. The advantage of the UCITS status is that, having obtained authorisation in the Member State where it has its registered office, the institution concerned may, under the home country control principle, operate throughout the European market.

Crédit Industriel de l’Ouest s.a., Morgan Stanley Dean Witter Bank Limited and Münchener Hypothekenbank a.g. were registered in Section IV.

Register under the Exchange Offices Act

In the fourth quarter of 1999, the authorisations of two exchange offices were revoked (Table 3), viz. RKV Foreign Exchange Services v.o.f. and Valuta Plaza B.V.

Table 3 Entries in the register under the Exchange Offices Act

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<tbody>
<tr>
<td>Number of institutions</td>
<td>29</td>
<td>42</td>
<td>47</td>
<td>51</td>
<td>50</td>
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</tbody>
</table>

Explanatory note: Pursuant to Section 3(1) of the Exchange Offices Act, the Bank maintains a register of exchange offices.
Changes in the register of investment institutions in the fourth quarter of 1999

<table>
<thead>
<tr>
<th>New entries</th>
<th>Authorisations revoked</th>
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<tbody>
<tr>
<td><strong>Section I</strong></td>
<td></td>
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<tr>
<td>Maatschap Woningmaatschap Monnickendam</td>
<td>RG Den Fund N.V.</td>
</tr>
<tr>
<td>Staalvastgoedmaatschap Barendrecht</td>
<td>ING Bank Japan Fund N.V.</td>
</tr>
<tr>
<td>SCI Vastgoedfonds Paris-Caen</td>
<td>Pakship 1 C.V.</td>
</tr>
<tr>
<td>ROB Scholen Garantiefonds</td>
<td>Pakship II C.V.</td>
</tr>
<tr>
<td>InnoVago I</td>
<td>Pakship III C.V.</td>
</tr>
<tr>
<td>Ocean Gas II C.V.</td>
<td>Pakship IV C.V.</td>
</tr>
<tr>
<td>Vastgoed Maatschap ABRONNED VII</td>
<td>Pakship V C.V.</td>
</tr>
<tr>
<td>Postbank Farmaciefonds N.V.</td>
<td>Pakship VI C.V.</td>
</tr>
<tr>
<td>ING Bank Communicatie Technologie Fonds N.V.</td>
<td>Insinger Manager Select</td>
</tr>
<tr>
<td>Immorendita Vastgoed Maatschap II</td>
<td>Friesland Groen Fund</td>
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<tr>
<td>Labouchere Obligatiefonds N.V.</td>
<td>Maatschap Woningmaatschap XXII</td>
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<td>Labouchere Global Aandelenfonds N.V.</td>
<td>Maatschap Woningmaatschap XXIII</td>
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<td>Beleggingsfonds Daffodil 7 C.V.</td>
<td>Beleggingsfonds Daffodil 1 C.V.</td>
</tr>
<tr>
<td>C.V. De Zeeuwse Compagnie V</td>
<td>Beleggingsfonds Daffodil 2 C.V.</td>
</tr>
<tr>
<td>Eerste Winkel- en Woningmaatschap</td>
<td>Beleggingsfonds Daffodil 3 C.V.</td>
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<td>Scheepvaartbedrijf ms Rijn Trader C.V.</td>
<td>Beleggingsfonds Daffodil 4 C.V.</td>
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<td>VVAA Aandelenfonds Europa</td>
<td>Beleggingsfonds Daffodil 6 C.V.</td>
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<td>VVAA Mixfonds Europa</td>
<td>Eenhoorn 36th Street</td>
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<td>VVAA Obligatiefonds Europa</td>
<td>Trust Vastgoedmaatschappij VI, Adverium</td>
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<td>RG AEX Garantfund dec 99/06</td>
<td>c.V. Zeeland Kustgoed</td>
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<tr>
<td>ASN-Novib Fonds</td>
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<tr>
<td>Fortis Investment Supermarktfonds II</td>
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<tr>
<td>Cambridge Vastgoed C.V.</td>
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<td>FIAM N.V.</td>
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<tr>
<td>Maatschap M2 3350 Tech Park</td>
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<tr>
<td><strong>Section II</strong></td>
<td></td>
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<tr>
<td>Van Lanschot Investments Funds N.V.</td>
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<tr>
<td><strong>Section III</strong></td>
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<tr>
<td>Fidelity Institutional Funds</td>
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<td><strong>Transferred from section I to II</strong></td>
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<tr>
<td>Fortis Azië Fonds N.V.</td>
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</tbody>
</table>

1 The revision of the capital requirements is discussed in greater detail in the Nederlandsche Bank’s Annual Reports for 1998 and 1999, and in its three preceding Quarterly Bulletins.
3 See the Nederlandsche Bank’s press release of 18 August 1999 on the Dutch banks' preparations for the turn of the millennium, and the Bank’s Quarterly Bulletin of September 1999, pp. 16-17.
4 The instrument of an administrative fine or a mandate on pain of payment of a penal sum is described in greater detail in the Bank’s Quarterly Bulletin of December 1999.
Articles
The role of a national central bank in the single European monetary policy

The start of Stage Three of Economic and Monetary Union (EMU) required national central banks (NCBs) to remodel their monetary policy: from an exclusive national responsibility to a shared supranational task. This reorientation influences monetary policy preparations. Especially for those Member States which previously had an exchange rate target, their involvement in monetary policy has now become more complex in several ways. Along with preparing NCB governors as members of the policy-determining Governing Council of the European Central Bank (ECB), the focus now lies on the NCBs’ tasks of monitoring national economic developments and serving as centres of knowledge, concentrating much of their efforts on applied economic research with a direct bearing on policy. NCBs also have an important communicative role to play, both in explaining the monetary policy decisions taken on a European level and in clarifying the implications of these decisions for the national economy and other national policies.
Introduction

Stage Three of EMU got underway on 1 January 1999, launching the euro as the currency in 11 of the 15 EU Member States. The former national currencies of these countries have become various denominations of the euro, which itself exists only in non-cash form as yet. The inception of the single European currency has also raised the responsibility for monetary policy to a common European level. This responsibility now effectively lies with the Eurosystem, the term for the ECB and the NCBs of the EU Member States which have adopted the euro. For these NCBs, which up until the start of Stage Three of EMU bore responsibility for maintaining national price stability, the introduction of the single European monetary policy is a fundamental change. This article addresses the nature of this change, and more specifically, the role of an NCB in the single European monetary policy; it does not discuss the part played by NCBs of Member States that are not yet full members of the European System of Central Banks (ESCB), the collective term for the ECB and the NCBs used in the EC Treaty.

The ESCB’s tasks notably go beyond formulating and implementing monetary policy; they include conducting exchange market operations, maintaining and managing the official reserves of the Member States, and fostering the smooth operation of payment systems. However, this article will not delve further into these areas of the Eurosystem. It is equally important to note that, despite the major changes brought about by the arrival of Stage Three of EMU, NCBs in general and the Nederlandsche Bank in particular, still function independently in many fields. The most obvious area is the prudential supervision of banks, investment institutions and exchange offices, which is entrusted to the NCBs in most EU states, including the Netherlands, while NCBs in other Member States are involved in its implementation. Other tasks include the collation of statistical data and the preparation of statistics (including the Netherlands balance of payments), monitoring stability in national and international financial markets, representing the Netherlands as a member of the International Monetary Fund (IMF) alongside the Ministry of Finance, and the Bank’s capacity as an advisor on national socio-economic policy, a function partly shaped by the President’s membership of the Social and Economic Council. Many of these topics have a close, substantial link with monetary policy. For example there is a clear connection between financial stability and price stability and the single monetary policy has consequences for the rest of national policy. This latter aspect will be dealt with in more detail further on in this article. In view of these interdependencies, the Bank – due to its involvement in shaping policy in these areas – can bring about important synergies.

This article is structured as follows. We first look at the institutional organisation of European monetary policy before discussing the contributions that NCBs make to the planning and formulation of this policy. We then outline the role played by NCBs in bringing the implementation of European monetary policy out into the open, and conclude with a number of observations.

Institutional organisation of European monetary policy

The institutional organisation of the single European monetary policy is laid down in the EC Treaty as it stands since the Maastricht Treaty came into force. Within the Eurosystem, the ECB’s Governing Council (further referred to simply as the Council) bears responsibility for formulating monetary policy. The Treaty stipulates that the main objective of this policy is maintaining price stability in the European Community. Since not all Member States have adopted the euro, this effectively means: maintaining price stability in the euro area. The Council has formulated strategic key principles that indicate how policy is used to achieve this objective. The Box gives a short outline of this strategy.

The Council comprises the members of the ECB Executive Board (the President, Vice-President and four other members) and the governors of the NCBs that participate in the Eurosystem. The ECB President chairs the Council. In a formal sense, the NCBs themselves do not share responsibility for the single monetary policy, but rather the governors of the NCBs who, as members of the Council, shoulder this responsibility in a personal capacity. We shall argue below that this formal difference does not change the fact that the NCBs have a responsibility to actively contribute to policy preparations. This implies that the start of Stage Three has changed the role of the NCBs: from bearing an exclusive, national responsibility for formulating policy to having a shared, supranational responsibility for contributing to policy preparations. In other words, a shift has occurred from a large responsibility for a relatively small area to a lesser responsibility for a larger area. Certainly for the NCBs which, prior to the start of Stage
Box The Eurosystem monetary policy strategy

The primary task of the ECB under the EC Treaty is to maintain price stability in the euro area. As not all Member States have adopted the euro as yet, this means that the Eurosystem’s fundamental task is to maintain price stability in the euro area, the term for the Member States already participating in the euro. However, the Treaty does not give a precise definition of price stability, leaving the Eurosystem completely free to choose how to fulfil this task. A complicating factor is the long and variable period of time between the application of a monetary policy instrument and its effects on price levels. In this context, it is important for the Eurosystem to state its objectives in advance and reveal how it intends to realise them. This is the aim of a monetary policy strategy. A clear strategy gives the Eurosystem a structured framework for internal deliberations with an explicit emphasis on developments in the euro area as a whole. In addition, on the strength of a successful strategy, the Eurosystem can give the public a clear insight into its policy orientation, a factor that can stabilise inflation expectations. Moreover, the strategic objectives provide benchmarks for judging the performance of the monetary authority.

The Eurosystem’s monetary policy strategy comprises three key elements. First and foremost, price stability is precisely defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of below 2%. Another stipulation is that this price stability is to be maintained over the medium term. This indicates three points: monetary policy will not only combat inflation but also deflation (a fall in prices), and it will neither react to specific national developments nor counter every short-term price fluctuation (such as a sudden movement in oil prices or a VAR increase).

The second element of the strategy is the prominent role assigned to the development of the money supply. This was effected by announcing a reference value for monetary growth (M3). This reference value, which is evaluated annually, now stands at 4½% and is made up of the norm for price stability (an HICP increase of less than 2%) and the trend growth of real output (estimated at 1½% and the trend decline in the velocity of circulation (projected at ½·½%). The importance of the reference value lies not so much in reaching that objective, as in the fact that any deviations from it act as a warning signal: under normal circumstances such divergences will indicate risks to price stability, but will not automatically lead to policy reactions.

The third element consists of a broadly based assessment of the prospects for price developments in the euro area. Given the uncertainties about the stability and controllability of the demand for the euro, it is not possible to blindly follow the development of monetary growth. In view of this, the Eurosystem has indicated that it will consistently perform a systematic analysis on the basis of a wide range of other indicators, which can provide an extra insight into anticipated short-term price movements.

Three had shaped their monetary policy by maintaining a fixed exchange rate vis-à-vis the Deutsche mark, monetary policy preparations have become more complex in many respects. After all, these NCBs could largely rely on the exchange rate as a pointer for their interest rate policy, but that is no longer the case. In formulating monetary policy the Council draws on a broadly orientated strategy, and its successful implementation requires analysing a large amount of data. Accordingly, the preparations for Council meetings involve taking a large number of economic variables into consideration, separately and in relation to each other. The next section takes a closer look at the role played by the ECB and the NCBs in this process.

Comparing the new institutional constellation of the EU after the start of Stage Three with the situation in the United States helps to bring it into perspective. The monetary authority in that country is the Federal Reserve System, structured as a system comprising a central Federal Reserve Board, and 12 regional Federal Reserve banks. The policy-making organ of the Federal Reserve System is the Federal Open Market Committee (FOMC) which has 8 permanent members: the 7 members of the Federal Reserve Board and the president of the Federal Reserve bank of New York. In addition, 4 places are reserved for the 11 presidents of the other regional Federal Reserve banks who take up a seat by turns. In this respect the FOMC differs from the Council, to which all NCB governors permanently belong and so always bear responsibility for the formulation of monetary policy. Compared to the Eurosystem, the United States also has a greater degree of centralisation in other areas of monetary policy. Illustrative of this is the fact that the permanent FOMC seat of the Federal Reserve Bank of New York arises from the situation that it is the only regional Federal Reserve bank charged with the
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operational implementation of the formulated policy. This contrasts with the situation in the euro area, where there is a significant degree of decentralisation in the implementation of policy decisions. To a large extent, this reflects an efficient use of the existing infrastructure, given that national central banks have considerable experience and expertise in respect of relations with the national banking sector, including their financial systems, and the national legal constellation. Such relations are of great practical value for the implementation of monetary policy; the national central banks’ specific knowledge of national financial systems contributes to an efficient selection of counterparties for monetary policy operations, and of the financial instruments which can be used as collateral for such operations. Furthermore, this decentralisation can be seen as complementary to the general principle of subsidiarity which is an important aspect of European integration, as laid down in the EC Treaty.

Under the EC Treaty, the ECB Executive Board is responsible for preparing the meetings of the Council. On that account, the ECB plays an important role in collating statistical data for the euro as a whole and in preparing analyses and memorandums for Council discussions. However, the ECB is not the only source of information for the Council; it can for example also draw on the information that reaches it through the products of the specialist committees functioning within the ESCB. To facilitate the performance of the core tasks of the Eurosystem, such as monetary policy, money market policy and payments systems, committees have been set up consisting of subject specialists from both the ECB and the national central banks. These committees give technical and analytical support and contribute to policy preparations in their respective areas of expertise. The projections of the future state of the economy in the euro area, generated by macro-economic models, are a case in point. These forecasts, which provide an insight into future price developments in the euro area, and are useful for monetary policy (see Box on monetary policy strategy), are prepared by the Eurosystem’s monetary policy committee.

This shows that the Council receives a multifaceted supply of information from the entire ESCB. Besides the ECB, officials from the respective national central banks also play a role which goes beyond participation in the aforementioned committees. Within the national central banks, staff provide their governor – in his capacity as a member of the Council – with ideas, facts and arguments which can be put before the meeting. In the Bank, this process is headed by the Executive Director for Monetary Affairs, who also accompanies the President to Council meetings and takes his place in his absence. The following section takes a closer look at the role of national central banks and argues that such a pluriform supply of information also enhances the quality of the Council discussions, while increasing internal transparency and strengthening cohesion within the Eurosystem.

The role of national central banks in Council discussions

In view of the Eurosystem’s policy objective, the economic conditions in the euro area are central to the Council discussions (but there are other factors, see below). The ECB Executive Board plays an important part in these discussions, supported by its officials whose primary function is to monitor, analyse and interpret developments in the euro area as a whole. However, this task is not the ECB’s exclusive preserve. National central banks also contribute to policy analyses and other studies focused on the euro area. When necessary, national central banks even initiate such analyses. As the various Council members, representing either the ECB or national central banks, are well-briefed by their officials, the full benefits are felt from the different approaches to analysing information taken by the institutions participating in the Eurosystem. Compare for example a tradition that leans heavily on models and technical methods with a more qualitative, informal approach. Such pluriformity enriches policy discussions within the Council, since all Council members, partly thanks to these analyses, contribute to the interpretation of the economic constellation of the euro area and to the analysis of alternative policy options. There are therefore enough opportunities for Council members to inform, influence and convince each other during Council meetings. Such a process results in enhanced internal transparency and creates a climate conducive to decision-making in the Council on the basis of consensus. The diversity of the arguments so serves the development of a common vision on the formulation of monetary policy. The driving force in this process is the mandate to maintain price stability in the euro area.

It is essential that this process of finding a consensus be based on economic arguments. The influence of an opinion voiced by a Council member is not determined by the size of the region which he or she represents, but by the strength of the analysis behind it. This also indicates the importance of the aforementioned shared supranational responsibility of national central banks for...
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contributing to the preparation of policy: the fact that many and varied arguments are put forward during the policy discussions is one of the strengths of policy formulated by a system of central banks. This diversity is fuelled by in-depth analyses by staff throughout the Eurosystem.

Policy-oriented academic research, which takes a closer look at current affairs or topics which are expected to have more bearing on policy in future, is a valuable source of material for refining analyses and developing new insights. There is no reason why NCBs within the Eurosystem should specialise in certain fields of research. On the contrary, the ability to look at the same problem from several points of view gives a system of central banks an added advantage: healthy competition is a spur to innovative thinking. Nonetheless, a certain degree of specialisation often emerges through a natural process. For example the Board of an ECB can stimulate a certain type of research, or the accumulation of expertise within a certain line of thinking can have a self-reinforcing effect. A case in point is the Netherlands which, thanks to the Tinbergen tradition, excels at model-based research. The Bank’s Econometric Research and Special Studies Department has built up an internationally recognised expertise in the general area of monetary economic research, with particular emphasis on integrating the monetary and financial sector in macro-econometric models. The Bank was the first ECB within the Eurosystem to have a model of the European economy, EUROMON, at its disposal, and the Bank is one of the few ECBs which publishes model predictions for analysis.

The emphasis on the euro area in the Council discussions does not take away from the fact that national or regional information can be valuable in terms of monetary policy. Such information helps to fill in the Europe-wide picture. As a geographical unit with a single currency, the euro area has not been in existence for very long, and knowledge about the extent to which this area is an economic entity, and how this economic entity actually functions is still incomplete, especially when it comes to assessing the transmission of policy measures. Information about the individual parts can hence contribute to a greater understanding of the workings of the whole system. Experience in the US indicates that regional information is also relevant to a single monetary policy for another reason, namely that it can help to signal mood reversals before they become evident at euro area level. Timely anticipation of such changes is important to the Eurosystem because of the pre-emptive nature of monetary policy. A useful maxim for policy makers is that ‘prevention is better than cure’, and monetary policy decisions are accordingly often motivated by the desire to safeguard price stability. As such decisions do not impact on prices for a considerable length of time, they are often necessarily based on leading indicators which may outline a pattern that differs from the prevailing inflation rates. Within the Eurosystem, it is the ECBs which have the relevant expertise in respect of such regional and national developments, bringing us to their second function in Council discussions: as centres for national surveillance.

The task of an ECB as a centre for national surveillance is also relevant from a different perspective. Besides the single monetary policy on a European level, there are other forms of policy, such as fiscal and labour market policy, where most decisions are taken nationally. Looking specifically at the Dutch situation, the Bank plays an advisory role in these other policy areas. To perform this function adequately, the Bank needs to draw on knowledge of specific Dutch affairs, such as the much-talked of polder model. But in a more general sense too, the national economic expertise of an ECB within the Eurosystem is valuable because of the interdependencies between the single monetary policy and other forms of policy, and the ECB’s responsibility to explain monetary policy to the public. The latter task is dealt with more closely in the next section.

NCBs and the transparency of monetary policy

The EC Treaty requires that the Eurosystem, in realising its primary objective of price stability, shall act in accordance with the principle of an open market economy with free competition. One way in which the monetary authority can achieve this is to bring about the required monetary and financial stability in a manner that gives markets maximum freedom of movement. The decisions taken by policy-makers with a view to achieving this stability are aimed at influencing people’s behaviour, as prices are generally the result of transactions by households and enterprises (leaving aside the influence of economic policy which we shall return to later). The way in which people adapt their behaviour largely depends on their future expectations.

Credibility is a vital concept for a central bank, given that it must influence expectations and encourage confidence. The public must be absolutely confident that the monetary authority will always seek to maintain price
stability. To this end, the Eurosystem must ensure that the public clearly understands the methods used to achieve this objective. This includes convincing people of the need for monetary policy to be pre-emptive, and generating support for specific pre-emptive policy measures. Indeed, this is one of the aims of the monetary policy strategy outlined above. A central bank can gain credibility by doing what it says, and saying what it does. In other words, monetary policy must be transparent.

Communication with the public is therefore an essential part of a monetary policy-maker’s brief. This applies all the more to the Eurosystem, since the start of Stage Three of EMU has transformed monetary policy into a supranational affair, a development that could in itself make people feel more distanced from policy. The ECB takes the lead in communicating the single monetary policy. This is self-evident, as the President of the ECB speaks for the Council in his capacity as Council chairman. In addition, he represents the Eurosystem in international consultations on monetary policy. He is thus the exponent of monetary policy, and his public appearances, including the monthly press conference directly following Council meetings, form a main line of communication. However, the ECB contributes to the transparency of the single monetary policy in various other ways too. Cases in point are publications such as the Monthly Bulletin and the Annual Report, the active use of the Internet in the communication policy and the participation of ECB Executive Board members in hearings in the European Parliament.

NCBs also have an important function to perform in this regard. Other than in the US for example, the Eurosystem consists of Member States with different languages and diverse national traditions, including variations in the general public perception of central banks. NCBs have an in-depth knowledge of these issues in their own country, and can also draw on more expertise in respect of the national economy and the national institutional structures. All this makes NCBs eminently well-equipped to explain the single monetary policy in terms of its national impact. While European monetary policy is indeed based on maintaining price stability in the euro area as a whole, the economic conditions within that area can be diverse. Take the Netherlands, whose economic cycle has been ahead of that of most other countries within the euro area for the past few years. This is reflected in Dutch price developments: inflation has been considerable for some time, also from a European perspective, as has the rise in house prices and the growth in lending. It is up to the Bank to explain the need for some monetary policy decisions, which clash with what would, on the face of it, have been called for by conditions prevailing in the Netherlands.

The monetary authority not only communicates with the public, but also with other policy-makers. In view of its responsibility for the policy governing price developments in the euro area, the Eurosystem must also address the analysis and assessment of the interaction of monetary, fiscal and labour market policies, the so-called policy mix. After all, this policy mix has an effect on price levels, in the first instance at a national level but eventually on that of the entire euro area. Due to the national and supranational components of this policy mix, such an analysis is a complex and labour-intensive process. NCBs perform a vital, multi-dimensional task in this regard. For example an NCB explains the single monetary policy in terms of its impact on other policies, formulated at national level. In addition, it is responsible for alerting other participants in discussions on the national policy mix, such as talks on conditions of employment, to the possible consequences of their actions for national price movements.

It should be noted that the importance of this function of NCBs goes beyond maintaining healthy economic developments in the euro area, because a national policy mix with effects on national price movements also impacts on national competitiveness, which is in turn vital to the growth of employment and national income. This indicates that NCBs, in an advisory capacity, engage in a dialogue with other national parties responsible for shaping policy. To perform this communicative task, NCBs obviously need to have the relevant expertise in respect of other national policies at their disposal.

NCBs can interpret their communicative function in different ways. Given that NCB governors belong to the Council, they obviously play a prominent part in terms of communication; their membership of the Council makes them popular speakers among diverse national fora. But the message from NCBs, including those relating to the national policy mix, can also be voiced by other Board members and officials. In addition, NCBs have a wide range of publications for informing the general public. For example the Bank issues the Annual Report, Quarterly Bulletin, Statistical Bulletin, Staff reports: an academic working paper series, and all kinds of other brochures. In this way NCBs help to heighten public awareness of the single monetary policy and its consequences for national economic developments. Noteworthy in this connection is that the Netherlands
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institutions and exchange offices. This illustrates the pluriform nature of the Bank’s sphere of activity, which has become more complex – but undoubtedly also more interesting – since Europe embarked on monetary union.

1 See for example Sijben, J.J. (1999), ‘Prijstabiliteit versus financiële stabiliteit: een controversie?’, Maandblad voor Economie, vol 65, pp. 349-355

2 Examples of such indicators are the prices of financial instruments. As these prices generally have leading indicator properties, they tend to be of great interest to central banks. For a recent example see Angeloni, L. and Rovelli, R. (eds) (1998), ‘Monetary policy and interest rates’, Macmillan, London.

3 Agencies still resort under these regional central banks. For a detailed survey refer to: Board of Governors of the Federal Reserve System (1994), ‘The Federal Reserve System: Purposes and functions’. To put this in perspective it should be noted that, while not all presidents of the regional Federal Reserve banks are members of the FOMC, they all join in the discussions within the FOMC and so contribute indirectly to shaping monetary policy. However, only 5 of the 12 regional Federal Reserve bank presidents are entitled to vote on a decision about interest rates.


5 The ncb’s have been assigned an important role in this regard under the EC Treaty. For example the ncb’s collate the financial statistics needed for monetary policy preparations, such as those relating to money supply. This is done on the basis of a harmonised reporting framework and aggregated by the ECB to a level relevant to the euro area.

6 In this context see also Stark, J. (1999), ‘Europe’s new bureaucracy?’, The International Economy, November/December, pp. 34-36.


9 See for example Sijben, J.J. (1999), ‘Prijstabiliteit versus financiële stabiliteit: een controversie?’, Maandblad voor Economie, vol 65, pp. 349-355


This is closely related to the debate on the challenges EMU represents for economic policy coordination. See Mooslechner, P. and Schuerz, M. (1999), 'International macroeconomic policy coordination: any lessons for EMU?', *Empirica*, 26, pp. 171-199.
The importance of financial structure for monetary transmission in Europe

Countries differ as to financial structure. That also goes for countries taking part in the Economic and Monetary Union, EMU. As a result, the ECB’s monetary policy does not necessarily affect economic activity and price movements in individual euro area countries in the same way. The study into the importance of financial structure for monetary transmission therefore figures prominently on the agenda of monetary policy-makers. This article, based in part on research done at the Bank, discusses several aspects of the link between monetary transmission and financial structure, and focuses especially on the European situation and the future.
Introduction

The link between financial structure and monetary policy has become the focus of increasing attention on the part of economists and monetary authorities alike. This interest has been generated largely by the completion of Economic and Monetary Union (EMU). The question of how the single monetary policy of the ECB affects the participating countries with their diverging financial structures, also at the sectoral level, figures prominently on the agenda of the European System of Central Banks (ESCB).

On the basis of research by, among others, the Bank, this article looks at the link between financial structure and monetary policy from the perspective of EMU. It begins with an overview of the various transmission channels via which monetary policy affects economic activity and price determination. It then goes on to identify the most notable differences in financial structure for a number of EMU countries and the United Kingdom, the latter being the main pre-in. In this context, financial structure refers to the entire range of relationships among financial markets, the financial products traded in those markets and market operators.

How does monetary policy affect a country’s economy?

The traditional view, also known as the money view, places the start of transmission with the money stock, which can be influenced by the monetary authorities. In this view, the money stock is supply-determined and has a direct impact on economic activity via such routes as changes in the cash holdings of households and businesses and subsequent expenditures on goods and services. It must be kept in mind, however, that changes in the money stock also feed through in an indirect manner, i.e. through other monetary variables. Easy monetary conditions, for instance, usually make for lower interest rates, which may in turn stimulate the economy. Above all, however, monetary policy works through to interest rates. Central banks’ interest rates manifest themselves in the interest rates charged by commercial banks and other financial institutions. We all know that interest rate changes make themselves felt in the real economy in the costs of capital, in exchange rates, intertemporal substitution effects, income effects and wealth effects. But interest rates are clearly not the only determining factor in the transmission channels of monetary policy. The exchange rate is, for example, also affected by external shocks and by direct monetary action, as evidenced in the past by realignments within the European Monetary System. Here, the exchange rate may be seen as a separate transmission variable. The same goes for financial wealth insofar as changes in wealth are not brought about by interest rate changes. Take, for instance, stock exchange developments which are not generated by interest rate changes effected by the central bank.

Apart from the money stock, interest rates and exchange rates, the availability of credit from banks and other financial intermediaries may also constitute an important transmission channel. This channel plays a central role in what is known as the credit view. The credit view is concerned not so much with the effect of the cost of lending (interest rates) on lending, as with its effect on the bank-determined volume of lending, independent of cost. By contrast with traditional transmission mechanisms, the credit view is determined largely by imperfections and disequilibria in the financial markets. Imperfections in the credit market reinforce the effect of an initial change in monetary policy. They arise, for instance, because lenders find it difficult to estimate the creditworthiness of households or businesses owing to either a lack of direct information or inequitable distribution of such information. Asymmetry in information manifests itself notably in what is known as the external finance premium. This premium, which plays a central role in the credit view of monetary transmission, is the difference between the external and the internal financing rate. In this theory, every shock in the external financing premium determines the borrowing decisions of households and businesses and hence economic activity.

Monetary authorities can influence the external finance premium in two ways, viz., via bank lending and via the balance sheet. The bank lending channel is based on the assumption that monetary policy has a direct impact on the magnitude of bank lending to households and businesses. After all, the monetary authorities can influence the reserves which commercial banks must hold relative to their liquid liabilities, and hence the banks’ willingness to grant credit. It goes without saying that the banks’ supply of credit depends on their funding capability, i.e. the availability of sufficient sources of finance. Ultimately, the effect which a policy-induced tightening of lending has on spending also depends on whether households and businesses have access to other sources of finance. The greater the dependence of households and businesses on external finance for their financing needs because they are
Differences in financial structure within Europe

The degree to which a central bank controls the supply of credit, and the banks’ share in financial intermediation together determine whether the bank credit channel is a relevant monetary transmission route. Central banks influence bank lending above all via reserve and capital requirements. Reserve requirements relate to the minimum reserves which banks are required to hold (in balances at the central bank), usually relative to their liquid liabilities (deposits), and concern the liquidity of the banking system. Capital requirements serve to safeguard the solvency of individual financial intermediaries and show own funds as a percentage of (risk-weighted) assets. Bank capital is subject to internationally accepted minimum requirements on the basis of the Basel 1988 Capital Accord, as well as of possible national directives. From the point of view of the supply of credit it is important whether banks are able to mitigate monetary tightening by adjusting balance sheet items on either the liabilities or the assets side. On the liabilities side, one could think of, for instance, funding loans by other means than liquid time deposits. Certificates of deposits are a case in point. Here a role is also played by the degree to which banks operate internationally. Banks operating internationally may have greater access to alternative sources of finance by way of the international interbank market or through their own branches abroad. On the assets side, banks can absorb monetary shocks by selling liquid assets such as Treasury paper, government bonds and foreign marketable debt securities, without having to reduce their comparatively illiquid loans portfolio to households and businesses. Generally speaking, the healthier the banking system, the smaller the effect which a change in monetary policy is expected to have via the credit channel. In this respect, banks probably differ from country to country, as does their profitability. As the profitability and the international orientation of banks in countries such as the United Kingdom, Belgium and the Netherlands are relatively strong, it would be natural to expect the credit channel effect of monetary policy on spending in these countries to be smaller than in the other EU Member States.

On the continent of Europe, non-financial enterprises resorting to external finance usually do so indirectly, mainly via banks. Only a fraction, i.e. around 5% of the private sector’s need for capital, is met in the public capital market. The one exception is France, whose private sector meets about 15% of its financing needs in the public capital market. In the United Kingdom, as in the United States, 20% of the need for capital is financed direct in the capital market. The issue of short-term debt certificates of non-financial enterprises, i.e. the commercial paper market, is also relatively well-developed in France and the United Kingdom. However, it should not be overrated: in these countries, commercial paper made up no more than 2% of the private sector’s total outstanding loans in the early 1990s, as compared with 1% in the other continental European countries.

Credit market imperfections cannot be directly observed. It would seem that the larger the lenders and the borrowers, the less significant any imperfections, the underlying thought being that the efficient collection of information is conditional upon a minimum business size. Concerning their lending activities, banks in small economies such as Belgium and the Netherlands are relatively large, whereas Germany in particular has a large number of small banks, as evidenced by the fact that in the Netherlands around 80% of all bank assets are held by the five largest banks, whereas the comparable percentage for Germany is 20%. Size is also important when it comes to the incidence of information asymmetry and the possibility to borrow from non-banks. Small businesses, of which there are relatively many in Italy and few in Germany and Belgium, will therefore feel the negative effects of monetary tightening more than large enterprises.

Another characteristic difference in financial structures in European countries, which is especially relevant for the speed with which interest rate changes feed through, is the difference in the maturity structure of loans to the private sector. This can be seen in Table 1, which shows the share of short- and long-term lending in total lending. In Italy and the United Kingdom, loans have relatively short maturities. Where due to historical differences in the development of spreads and inflation, this difference will probably be reduced by the convergence achieved over the past few years.
Table 1  Short- and long-term credit, 1993
As percentages of each sector’s total credit

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<th>Country</th>
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<td>Germany</td>
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<td>22</td>
<td>78</td>
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<td>90</td>
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<tr>
<td>France</td>
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<td>Italy</td>
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<td>United Kingdom</td>
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<td>69</td>
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<td>50</td>
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<td>Belgium</td>
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Differences in financial structure also ensue from differences in legislation, for instance, concerning the rights and obligations of share- and bondholders, and the tax system. Empirical studies show that the capital markets of countries with a weakly developed legal framework and less stringent legislation are less developed. The tax deductibility of interest payments, which is conducive to bank lending, is another aspect which may differ from one country to the next.

Table 2 presents a summary of the characteristics of financial structure which are relevant to the importance of the credit channel of monetary transmission. All in all, it turns out that the credit channels of monetary policy play a potentially large role notably in Germany and Italy, and less so in other countries on the continent. The financial structure in the United Kingdom, on the other hand, seems to weaken the effects of credit channels of monetary policy.

Financial structure and monetary transmission: empirical evidence

In theory there are a number of monetary transmission channels. There is, however, no consensus about the relative practical importance of the various transmission mechanisms, for one thing because measuring monetary transmission is a complex activity fraught with uncertainties. One problem is, for instance, how to identify monetary policy shocks. There are various ways of doing so, each with its own pros and cons. There are three main approaches, viz.: (1) the large structural macro-econometric models, (2) (structural) vector-autoregressive or (s)var models which emphasise statistical links, and (3) small empirical models, based mostly on theory and not on complicated empirical evidence. The studies show that the outcomes of these three approaches differ materially. They do show, however, that monetary-policy-induced interest rate changes have a considerable impact on economic activity.

Table 2  Financial structure characteristics relevant for credit channels

<table>
<thead>
<tr>
<th>Credit channel indicator</th>
<th>GE</th>
<th>FR</th>
<th>IT</th>
<th>UK</th>
<th>BE</th>
<th>NL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks’ profitability</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Banks’ international orientation</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Indirect financing</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Equities</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Bonds</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Commercial paper</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Small banks</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Small enterprises</td>
<td>○</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>●</td>
</tr>
</tbody>
</table>

Explanatory note: the darker the dot, the greater the sensitivity to the credit channel.
Furthermore, simulation exercises with macro-economic structural models show that this impact is to a major extent co-determined by elements of financial structure. A case in point is a Bis study from 1995 which shows that interest rate changes in the United Kingdom have a – by comparison with other Eu countries – marked effect on economic activity. This is due in part to the larger share of short-term and longer-term loans at variable interest rates in the United Kingdom. The existence of a credit channel also implies that differences in the availability of information about the creditworthiness of borrowers and differences in the availability of alternative sources of finance make themselves felt in different reactions to a change in monetary policy. Empirical research shows that monetary tightening affects lending to households more than lending to businesses, because households can borrow only from banks, whereas businesses – especially if they are large and well-known – can also resort to the public capital market. There are also differences in the amount of information available about households and businesses. Much more is known about the creditworthiness of businesses, especially those quoted on the stock exchange or able to issue bonds of their own. The existence of credit channels is thus supported by empirical evidence. This also means that credit can be a major information variable for monetary policy-makers.

From a monetary policy perspective, the rate and intensity of transmission matter. An important link in the process of monetary transmission is that between bank interest rates and the central bank’s official rates. According to empirical studies summarised in Table 3, a change in the official policy rates barely feeds through to banks’ lending rates, especially in Germany and Italy. It would seem that this is due to the weak competition among banks in these countries, the high costs of alternative sources of finance, less sound bank balance sheets, and a strong relationship between banks and their customers. The latter is especially true of Germany and Italy, where home and local banking are popular. In the Netherlands, however, banks’ lending rates are quick to respond. In the United Kingdom, too, the official rates rapidly feed through to the rates charged by commercial banks.

A closer look at the empirical evidence of credit channels
The existence of credit channels implies that not all banks react to monetary tightening in the same way. Empirical research done at the Bank on the basis of panel data for European banks shows that in continental Europe the lending activities of small banks react comparatively strongly to a change in the monetary policy stance, measured by a monetary conditions index. There are also indications that in Germany and, to a lesser extent, Italy, lending by smaller banks in particular reacts to a deterioration of the balance sheet position of smaller enterprises. For the United Kingdom, it has not been possible to prove the existence of credit channels empirically.

Table 3 Short-term reaction of lending rates to 100 basis point rise in official rates
In basis points

<table>
<thead>
<tr>
<th>Study</th>
<th>GE</th>
<th>FR</th>
<th>IT</th>
<th>UK</th>
<th>BE</th>
<th>NL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cottarelli and Kourelis (1994)</td>
<td>37</td>
<td>12</td>
<td>87</td>
<td>21</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Borio and Fritz (1995)</td>
<td>11</td>
<td>43</td>
<td>26</td>
<td>100</td>
<td>61</td>
<td>108</td>
</tr>
<tr>
<td>Bis (1994)</td>
<td>18</td>
<td>43</td>
<td>14</td>
<td>99</td>
<td>85</td>
<td>125</td>
</tr>
</tbody>
</table>
Macro-economic relevance of the credit channel
In itself, the existence of a credit channel says little about its quantitative significance for, let us say, consumer spending or business investment. Various studies, including research by the Bank, show that in Europe the credit channel has macro-economic relevance for consumer spending. In these studies, the external finance premium, which came out at around 5 percentage points for European consumers in the period 1980-1995 (Chart 1), was used as a measure of credit market imperfections. As can be seen from the Chart, the premium differs over time and increases significantly in reaction to monetary tightening.

For countries such as Germany, Italy and the Netherlands, studies show that the external finance premium has a clearly negative impact on consumption, notably in times of cyclical downturn. Consumption in France, the United Kingdom and Belgium, on the other hand, shows less sensitivity on this score. In the past, the annual growth of consumption in the first three countries was mitigated in times of cyclical adversity by at most 0.4 percentage point by what is known as the financial accelerator mechanism. The relative insensitivity to real interest rate movements of consumption in France may have been caused by the fairly strict regulation of the French financial sector in the early 1980s.

Financial structure and monetary transmission: a look at the future
The results of empirical studies presented in the preceding section relate to the process of monetary transmission before Stage 3 of EMU set in. These experiences cannot simply be transposed to the current situation: after all, the changeover to EMU is an unprecedented change with a dynamism wholly of its own. Yet, and that is the implicit assumption being made here, a number of economic patterns will not disappear immediately, thus offering valuable insights for the future.

To begin with, the introduction of the euro will probably act as a catalyst for the further convergence and harmonisation of economic behaviour and financial structures in Europe. Ultimately, monetary transmission mechanisms in Europe will thus also converge. Of course, we cannot be wholly certain simply because we cannot foretell the future. We do know, however, that both economic and financial structures will change and hence differences in monetary transmission among countries. Innovation in the area of information and communication technology will, for instance, affect the financial structure in Europe through decreasing transaction costs and information asymmetries (Mishkin and Strahan, 1999). These changes will detract from the traditional role of financial intermediaries and make for greater efficiency through a decrease in the costs of financial contracts. At the same time, the banks will adjust their behaviour in reaction to monetary union and the single monetary policy. Expectations are that over the next few years the role of banks and dependence on bank finance will become more like those in the United States: there is, in other words, a trend towards greater market orientation. A liquid market for firms’ bonds could well emerge, thus reducing the intermediating role which banks have always played. Already a process of consolidation and restructuring is taking place in the financial and non-financial sectors. Economies of scale will make for lower information costs. Loan maturities will converge further, dependent as they are in part on the credibility of the single monetary policy aiming for price stability. It looks as if differences in tax regimes and other statutory regulations will continue to exist for the time being. The completion of a single liberalised European market will, however, generate a tendency towards the harmonisation of tax systems in the EU Member States. According to American empirical studies, however, convergence towards a more market-oriented financial system does not imply that credit channels will become irrelevant.
Conclusions

Monetary policy feeds through via a wide range of transmission channels. Recent empirical studies show that on the European continent the effects of a monetary policy change not only run directly via the price channel (interest rates, etc.), but are reinforced by credit channels (bank lending). It is worth noting that the first channel probably has the greater impact on the economies of the euro area countries.

The euro area countries also turn out to differ materially in terms of financial structure. As a result, the ECB’s monetary policy could well affect euro area countries in different ways. Here lies a major challenge for policy-makers: how to supplement the European monetary policy with national fiscal policies so that any undesirable side effects emanating from such asymmetries are prevented. Incidentally, further convergence of the financial structures in Europe could well make for smaller differences between the monetary transmission mechanisms of the European countries. They are, however, not expected to disappear entirely in the near future, for one thing because there will continue to be differences in economic and legal structures.

References

BIS (Bank for International Settlements), 1994, National Differences in Interest Rate Transmission, March, Basle.


Haan, L. de, and J. Hinloopen, 1999, Debt or equity? An empirical study of security issues by Dutch companies, DNB-Staff Reports, No. 41.


1 See De Bondt (2000) and Fase and De Bondt (1999).
2 Apart from these channels, expectations and uncertainty play a role in the process of monetary transmission. For a more extensive description of monetary transmission channels see, for instance, Boeschoten and Van Els (1999) as well as Morro, M or m o n, the Bank’s monetary model.
3 According to some, this information asymmetry may help to justify banks’ existence: savers delegate the selection and monitoring of borrowers to a specialised institution, i.e. a bank. The finance premium is then the fee paid to the bank for its intermediation.
4 Before EMU, the minimum reserve requirements in Germany and Italy were the strictest. Since EMU took off on 1 January 1999, there is of course but a single money market policy.
5 See, for instance, Garretsen and Swank (1998).
7 See La Porta et al. (1997 and 1999) and Cecchetti (1999).
The importance of financial structure for monetary transmission in Europe

9 See De Bondt (2000).
10 For more information about the financing behaviour of the Dutch business sector, see De Haan (1997) and De Haan and Hinloopen (1999).
11 As a proxy for the financing premium, the interest rate margin used by banks in their lending activities and to attract time deposits.
12 In this context see DNB Quarterly Bulletin, December 1999, and Fase and De Bondt (1999).
Risk analysis: the new tool for Supervision

The Bank’s supervision is changing constantly. Urged by the fast pace of changes in the financial sector, the Bank continually needs to revise its supervisory methods. Banking institutions and the risks entailed by their activities increasingly call for a customised approach. To be able to realise the required methodology objectively and enhance the effectiveness of the supervision it exercises, the Bank’s Directorate Supervision has introduced risk analysis as a new instrument. This article highlights the backgrounds, objectives and outlines of this new tool for the supervision on banks.
Introduction

The Dutch financial sector has grown strongly in the past decade, expanding its foreign activities further. The resulting presence of Dutch banks in a great many financial centres compels supervisors to co-operate on an international level. The constant flow of new financial instruments on the markets with sometimes complex risk characteristics renders special attention imperative. The said period has seen numerous mergers and acquisitions in the banking and insurance sectors, especially in the Netherlands, which have had significant consequences for the institutions concerned in terms of financial strength, management structure and risk profile. Also the ongoing advance of, and the correspondingly increasing dependence on, information technology in the banking industry have added a new dimension to supervision.

These fast developments entail new risks for the stability of independent financial institutions and the financial system. Therefore, within the scope of its task to maintain financial stability, the Bank has strengthened the analytical basis for its supervision on Dutch credit institutions. The first starting point underlying this policy is the notion that a uniform approach in supervision no longer suffices with today’s diversity of credit institutions in terms of size and activities. Instead, supervision must be geared to an individual credit institution’s activities and risks. In other words, the supervision on major credit institutions, like ABN AMRO, ING, Rabobank or Fortis, which are active in a great many countries in both retail and wholesale business with a wide range of new, complex products and services, is bound to differ from the supervision exercised on a small-scale credit institution in the Netherlands, focused on primarily traditional banking activities. The second starting point is that the supervision should be optimally adjusted to the risk control mechanisms employed by the credit institutions. After all, being the first responsible, credit institutions expend much effort on risk control, at considerable costs. Since, consequently, the objectives of credit institutions match those of the Bank’s Directorate Supervision, the Banks supervisors focus on the quality of the internal control, the administrative organisation and procedures and the other risk control mechanisms in place at the credit institutions under their supervision.

Both principles also underlie the risk analysis, a methodology designed to assess the risks entailed by a credit institution’s activities and the measures taken to control these risks. The outcome determines the Bank’s supervisory approach, including, e.g., the principal areas of attention, the intensity of the supervision and the aspects on which the supervisor should consult with the credit institution’s management. Put differently, risk analysis serves to standardise the methods of assessment of mutually divergent credit institutions, after which the supervision procedure may be differentiated according to the extent to which the risks entailed by the individual activities are controlled (see Figure 1).

In co-operation with external consultants, last year a project team of the Bank’s worked on developing and implementing the new risk analysis methodology. In the summer of 1999, the risk analysis handbook was completed, and in September the methodology was introduced to all banking supervisors. Its subsequent implementation has gone smoothly so far. The risk analysis is already being used as an aid in charting and assessing the risk profiles of credit institutions.

International developments

The above principles are also internationally being worked into new methods of supervision. For example, both the Basle Committee on Banking Supervision and the European Commission have published proposals providing for a radical review of capital adequacy supervision. Besides the minimum capital requirements and enhanced market discipline, the so-termed Supervisory...
Review functions as a new pillar for capital adequacy supervision. This Review aims at ensuring that a credit institution’s actual capital (in excess of what is minimally required) suffices to absorb its financial risks. To this end, the risk profile of every individual credit institution is charted and the credit institutions are stimulated to develop and employ better risk control mechanisms. This is in keeping with the aforesaid starting point.

The Supervisory Review is based on a number of principles. One such principle, for example, is that the supervisor may expect and, if necessary, require a credit institution to hold more than the minimum capital required, depending on its risk profile. This profile is determined by numerous factors, such as the markets in which the credit institution in question operates, its measure of diversification, its profitability and liquidity as well as the quality of its management and internal controls. As these factors differ from one credit institution to another, the margins required in excess of the minimum capital required differ accordingly. Another principle is that the way a credit institution chooses its capital objectives and assesses its actual solvency should come within the Bank’s supervisory scope. The supervisor should, for example, assess whether the credit institution takes account of all possible risks and calamities as well as the management information. All in all, much more than the capital requirements as such, the Supervisory Review calls for customised supervision (see the first starting point).

The foregoing means, however, that discretionary elements in the Supervisory Review are inevitable. Consequently, the need for a ‘tailored’ supervision method taking account of a credit institution’s unique characteristics, exposures and risk control is at odds with the necessity to treat credit institutions equally, where possible. Therefore, the Basle Committee on Banking Supervision and the European Commission recommend that, in performing their tasks, supervisors seek maximum transparency, within the limits inherent in the statutory confidentiality. Also in this respect, the risk analysis methodology provides a guideline for assessing the magnitude of risks and the quality of controls within credit institutions. It does so, first, by broadening and refining the scope of supervision, thus facilitating insight into the principal risks and the quality of a credit institution’s controls, and, second, by making the know-how and experience of individual supervisors explicit and transparent for their colleagues and the Bank’s executive officers. Besides, the methodology charts those areas of a credit institution’s activities on which the Bank may not yet have sufficient information to be able to compose a complete risk profile.

Objectives of the risk analysis

Considering the foregoing, the risk analysis should meet the two following objectives:

• Creating insight into the inherent risks and the quality of controls of credit institutions.
• Structuring and standardising the supervisory approach, to maximise the objectiveness of the outcomes of the supervision.

Other objectives are:

• Providing input for the Directorate Supervision’s planning process and for an efficient and effective allocation of scarce capacity (human resources).
• Facilitating effective communication with colleague supervisors at home and abroad.

Insight into the risks and controls of credit institutions under supervision

The risk analysis methodology provides a guideline for assessing the magnitude of risks and the quality of controls within credit institutions. It does so, first, by broadening and refining the scope of supervision, thus facilitating insight into the principal risks and the quality of a credit institution’s controls, and, second, by making the know-how and experience of individual supervisors explicit and transparent for their colleagues and the Bank’s executive officers. Besides, the methodology charts those areas of a credit institution’s activities on which the Bank may not yet have sufficient information to be able to compose a complete risk profile.

Standardisation of the risk analysis process

The risk analysis handbook presents a structured guideline for performing risk analyses. Use of a standardised and well-documented risk analysis enhances the transparency and consistency of assessments of individual credit institutions. Also, the risk analysis helps individual supervisors in substantiating their conclusions. Moreover, it improves the exchange of knowledge and experience in a team of supervisors.

Planning of supervisory capacity

Risk analysis results provide the Directorate Supervision with useful input for an effective and efficient management of time & resources. This allows the Bank to focus on those functional activities within a credit institution that show an unfavourable risk profile, i.e. activities with high risks and/or weak controls, and, if necessary, to allocate specific skills and expertise required for investigating such functional activities.
Communication with colleague supervisors
Just like the Bank, other supervisory institutions, e.g. the Federal Reserve System in the United States and the Financial Services Authority in the United Kingdom, recently designed and implemented a risk analysis methodology. Use of similar analytical methodologies facilitates communication between supervisors, especially in the exchange of information pertaining to the supervision on large, internationally operating credit institutions.

Risk analysis, an introduction
Risk analysis consists of four steps, as shown in the middle four boxes of Figure 2. These steps are supported by a so-called Risk Analysis Support Tool (RAST) and a quality assurance system designed to ensure a proper and consistent application of the methodology. The four steps are described in the following subparagraphs.

General description and financial analysis
This step in the risk analysis process is meant to lay down general information and a financial analysis of the institution, as is done of old. The general description covers information about the Board of Governors and the Supervisory Board, the external auditor and a possible rating, the overall strategy and policy, the group and shareholder structures, the core activities, (foreign) supervisors, contacts and any special areas of attention. The financial analysis comprises key figures from statutory reports submitted to the Bank by the institution under supervision. These figures concern the institution’s capital adequacy and liquidity, balance sheet and off-balance-sheet data and profit-and-loss account.

Breakdown of institutions
In order to facilitate the detection, assessment and aggregation of the risks and the quality of the controls, the credit institution is broken down into significant and manageable units. This process is made up of the following steps:
1. Identification of all management units and functional activities, using the institution’s organisation chart as a starting point. Functional activities are distinguished on the basis of similar risk characteristics and controls. Also the group functions at a central level should be taken into account, like risk management, asset & liability management (ALM), the internal audit department and information technology (IT), as well as the institution’s governance structure.
2. Determination of the significance of each individual operational unit and functional activity by means of quantitative criteria (based on contribution to earnings, profit or capital requirement) and qualitative criteria.
3. Assigning of weights on a three-point scale (large (l) : medium (m) : small (s) = 4 : 2 : 1) to significant management units and functional activities, reflecting their relative importance in terms of contribution to (budgeted) earnings.
4. Determination of the applicable risks and control categories as well as their weighting, on the basis of a standard matrix.
5. Performance of a full-scale assessment, unless there is good reason for a simplified, less detailed assessment. In the latter case, the scores are assigned directly, on a more aggregated level. Steps 1-3 are illustrated in Figure 3.

Risk and control assessment
The core of the risk analysis is constituted by the assessment of the inherent risks and the quality of the controls for all significant functional activities of an institution under supervision. The risk analysis distinguishes between ten risk categories and three control categories. Per functional activity, at least the four principal risk categories and the three control categories are assessed. Every risk and control category is subdivided into a number of items, i.e. the determinants of the risks and controls. These determinants are rated by means of a score. To support the supervisor, the methodology provides for item-specific evaluation topics. Besides the risk and control categories observed by the Bank, Figure 4 shows an example of the breakdown into items and evaluation topics for the risk category credit risk.

Per risk category, all items are assessed on a four-point scale reflecting the potentially negative impact on earnings and capital in an ascending order. This effect
may be small (1), non-significant (2), significant (3) or high (4). While the potential effect, directly or indirectly, on earnings and capital of some non-financial risks such as reputation risk, strategic risk, 

legal risk, integrity risk is not always clearly measurable, these items must nevertheless be assessed.

Similarly to the risk categories, also all control category items are assessed on a four-point scale, reflecting the quality of the controls in a descending order relative to the measure of mitigation of inherent risks.

Aggregation and reporting
For a full-scale assessment first the results of the assessment of (the items of) risks and controls are aggregated to obtain one score for the functional activity concerned, in a way that ensures that the combination of low risks and weak controls results in a better score than the combination of high risks and strong controls (see Figure 5).

Subsequently, the scores of all functional activities are aggregated to the credit institution’s higher levels as they are distinguished in the breakdown process. The assessment results are aggregated by means of a mathematical algorithm that takes all weighting coefficients from the breakdown into account. The algorithm, moreover, is based on the principle that high risks and weak controls should get greater emphasis in order to limit the averaging effect. The aggregation process is supported by the Risk Analysis Support Tool, which automatically calculates the aggregated scores at every level of the organisation. The supervisor should always verify the calculated scores and, if necessary, overrule the calculated scores manually at every level.

After aggregation of the scores to the highest level of the credit institution, the aggregated assessment is related to the financial position of the credit institution in terms of earnings and capital in order to determine the overall picture. Insight into the institution’s financial position is obtained through the financial analysis described above. A credit institution’s risk level and
financial position are summarised in one report. In addition, it is possible to draw up reports related to one specific risk (a so-called cross-section of the credit institution) and generate time series (the development of scores in the course of time). The various reports serve as starting points for internal planning, but also for consultations with the credit institutions.

Quality assurance and RAST
The Directorate Supervision is continuously watching over the quality, consistency and transparency of the risk analysis process. Quality assurance is an integral element of the overall process, both during and after the execution of the risk analyses. A special team has been set up to provide daily support to individual supervisors, to maintain the methodology and to manage and maintain the software. All steps in the risk analysis process are supported by in-house developed software, the Risk Analysis Support Tool (rast).

Conclusion
Designed to realise various objectives, the new risk analysis tool notably provides for a standard analysis and assessment of a credit institution. On the basis of the outcomes thereof, the Bank plans and, subsequently, implements a customised supervisory programme. This means that in the exercise of its supervisory tasks, the Bank pays much attention to the functional activities that make a substantial contribution to earnings or have a poor risk profile. Furthermore, the risk analysis may serve as a means for the Bank to substantiate the Supervisory Review. The Bank has already received positive responses to its new risk analysis tool from credit institutions under its supervision and from other supervisors. From these reactions it is clear that risk analysis is a methodology that will contribute to further improvement of risk control at credit institutions as well as making the Bank’s supervisory tools match the changes taking place in the Dutch banking system.
The Nederlandsche Bank has conducted an inquiry into the processing time and value dating of Dutch funds transfers. At the end of 1999, the Minister of Finance presented the Bank’s final report to Parliament. To promote the transparency of funds transfers, three recommendations were made in the report. These were to provide greater clarity to consumers about how long it takes to process funds transfers and whether or not their bank applies a value date to these transfers.

This article describes the background, structure and subject matter of the inquiry and discusses the considerations that underly its recommendations.
Background

Value dating – the use of a value date, other than the entry date, from or until which interest will be paid on the amount credited or debited – has been a regular topic of discussion at meetings of the Working Group on Payments Efficiency (Werkgroep Efficiency Betaalingsverkeer) since the mid-1990s. This working group, made up of representatives of users and providers of payments systems, discusses the various bottlenecks and developments in Dutch funds transfers. In 1996 and 1997, the Working Group appeared to be largely in agreement on the legitimacy of value dating: market parties may decide independently whether or not to use value dating. Only a few observations were made about the consequent lack of transparency.

This lack of transparency also received media attention. The question of value dating payments made through point-of-sale (POS) terminals on Sundays, for instance, came up at the end of 1997. The Dutch Consumers’ Association published the results of a comparative inquiry it conducted in 1998 into the number of value days banks used for funds transfers. At the same time, the Minister of Finance announced an amendment to Section 85 of the 1992 Act on the Supervision of the Credit System (the Act). The amendment was to give the Minister of Finance, under certain conditions, the authority to impose statutory regulations on institutions subject to the Act about the provision of information to customers with regard to specific products or procedures. The Minister indicated that, before deciding on any measures, he would first consult the relevant institutions. After their discussion with the Minister, the member banks of the Netherlands Bankers’ Association decided to prepare a brochure informing customers about value dating.

Reason for the Bank’s inquiry

In mid-1999 the Dutch Consumers’ Association published the results of an inquiry into funds transfers. Although these were the first results of a more comprehensive inquiry, the Association concluded in its accompanying report to the media that one of the major banks was to blame for the slow processing of payment instructions. This brought the subjects of processing times and value dating in funds transfers immediately back on the public and political agendas.

The Minister of Finance thereupon decided in August 1999 to ask the Nederlandsche Bank for an analysis of the processing time of funds transfers. Special attention should be paid to the value dating methods used by banks and to the information included in their brochures on value dating. The purpose of the inquiry would be to analyse to what extent banks’ brochures on value dating actually contribute to payments transparency. If such transparency (which includes banks’ compliance with their stated promises) would prove to be insufficient, the reasons underlying this lack of transparency should be analysed. Advice should then be given on the possibilities to achieve the required transparency. The Bank was asked to include the views and experiences of the banking sector and the Dutch Consumers’ Association, and to report on its findings in the autumn of 1999.

Structure of the inquiry

Acceding to the Minister’s request, the Bank sent a letter to seven banks, to Interpay, to the Netherlands Bankers’ Association and to the Dutch Consumers’ Association in early September 1999, asking them to cooperate with an impending inquiry into the processing times and value dating in funds transfers. As these organisations readily cooperated, virtually all interviews could be conducted before end-September. The interviews were preceded by desk research, the outcome of which was that the inquiry should at any rate concentrate on the precise meaning which the different parties attach to each of the concepts being used. It was further decided to analyse the actual transmission and settlement systems of three types of transactions, viz. money transfers, telebanking and POS payments. Besides the actual processing, attention would also be paid to the supply of information on these transaction types and to the available knowledge and information on consumer perception.
Confusion of terms

The first thing that came up during the inquiry was the confusion of terms. The different parties all appeared to have their own ways of defining and using such concepts as total transaction time, processing time, actual transfer time, value dating, account entry date, value date and interest date. In the final report, explicit attention has therefore been paid to the definition of the various terms (Chart 1). Such terms as total transaction time, processing time and actual transfer time all relate to the speed at which a payment order is executed. Value dating, on the other hand, has no bearing on the velocity of processing but solely concerns the date from or until which interest is computed. Setting that date separately whilst processing a funds transfer does not cause any delay in the actual accounting procedure. This means that the subjects of value dating and processing time in funds transfers can be studied independently of each other.

Value dating

It is up to the individual bank to decide whether or not to use value dating and for how many days. However, it should be borne in mind that, in terms of market share, only a minority of Dutch banks is currently using value dating. Some of these banks relate the value date to the settlement date (the date on which banks settle their mutual debts) whereas others relate the value date to the entry date. These differences have not made it any easier to prepare a joint banking industry brochure on value dating. The solution chosen by the Dutch banks was to make a general brochure to which each individual bank could add special information of its own.

One of the Bank’s findings was that a variety of methods was used to send this additional information to customers and employees. Mailings were sent, supplementary sheets and special brochures were made available and information was given to employees to pass on to customers. A topic during the interviews was also whether or not all customers should be provided with this specific information. As, in the daily payments practice, customers ask very few questions about value dating, the added value of sending such supplementary information on top of the existing information flows is, however, limited. It was therefore concluded in the final report that sufficient information was being made available on the subject of value dating, at any rate to interested customers.

For the implementation of value dating, banks have set up value dating schedules in their automated systems. Like any other part of a bank’s business, the adequate operation of these schedules is verified through periodic audits carried out by accountants or EDI auditors. Given the fact that these procedures have been automated and are periodically audited, the value dating rules are found to be properly observed according to the Bank’s final report.

Actual and perceived processing time of funds transfers

The processing time of payments is determined by the manner in which banks have set up their internal processing systems and, in the case of interbank transfers, by the interbank procedures that have been agreed upon. As these procedures differ per bank and per means of payment, there is no uniform processing time for interbank payments. However, interbank agreements have been made with respect to the duration of the actual transfer time. So, in practice, a maximum processing time exists for payment instructions from account holders, ranging from one to four (and, exceptionally, five) working days. This means that a payment order sent off during the weekend will be credited to the beneficiary’s account that same week, no matter at which bank the remitter and the beneficiary are account holders. It is possible, though, that instructions initiated during the week are executed after the weekend.

Although, in actual fact, processing times are fairly rapid, customers perceive this differently. The primary cause of this discrepancy lies at the very heart of banks’ funds transfer service. Funds transfer is a customary service, which customers only take note of if payment errors are made. Customers tend to remember these occasional payment errors, and disregard the vast majority of smoothly processed payments. Furthermore, several surveys indicate that most customers cannot accurately reproduce the product modalities that currently apply to them (fees, use of value dating or not). The same is true for the processing and total transaction times of funds transfers, which are being systematically overestimated by one or more days. The reason for this is twofold. Firstly, banks use longer retention periods before sending bank statements to their customers. Customers who define the speed of a funds transfer by the receipt of the relevant bank statement perceive the transfer as slower than is actually the case. Secondly, especially these past twelve months, the
delays and problems in mail delivery could have reinforced the impression of a slower payments process. The perception that transfers are being processed with more and more delays is therefore fully understandable, but does not correspond with reality.

**Information supply - before**

Banks have a great supply of written information on hand about the expected processing times where payments between account holders of the same bank are concerned. But none of them makes any written statement about how long it takes to process payments to customers of other banks. Such a statement would not make much sense, either, because banks often change their own processing methods. This means that, with some regularity, changes may occur in the processing time of some types of interbank payments, making it necessary, at considerable cost, to update brochures or other documentation. Banks therefore opt for verbal information supply. Customers can ask for information at their local bank branch or by telephone about what they might expect in terms of processing times for their payments. If, for a specific payment order, time is of the essence, customers will be informed about the various
methods by which, given the nature of the payment in question, faster settlement may be effected through existing facilities and products (e.g. telephone transfers).

It is understandable that banks provide only verbal information on the expected velocity of interbank transfers. This velocity depends on several factors such as exactly which banks are involved in the transfer and whether the transfer takes place at or around the end of the month when processing peaks may lead to delays in the total transaction time. Understandable is also that banks cannot say anything definite about a process in which another bank is involved. Yet, for the sake of transparency, customers should be informed of the maximum processing time they should reckon with. So the first recommendation the Bank made in its final report was that, in their communications to customers, Dutch banks should explicitly state that, irrespective of the beneficiary’s bank, all payment orders initiated during the weekend will be paid into the beneficiary’s account before the next weekend. This should put an end to the myth that banks would arbitrarily influence the speed of transfers in order to generate some additional income. In this way, banks may also provide more clarity towards their customers about the weekend effect (the possibility that a payment order sent off during the week will not be executed until after the weekend).

Information supply - after

The information provided on bank statements varies considerably. A major factor is the lack of uniform usage by banks of the terms ‘value date’, ‘interest date’ and ‘entry date’. The inclusion of an entry date on a bank statement gives no clue as to whether the bank has used value dating or not. Similarly, the inclusion of a value date is no indication that the bank has indeed used value dating. Finally, the term ‘interest date’ is also used as an alternative to value date. Subject to their value dating rules and clearing procedures for interbank transfers, the value date used by value dating banks may sometimes coincide with the entry date whilst, in other instances, a difference of one or two days may exist.

The consequence of such a wide range of methods being used is that consumers are not always able to learn both the entry date and, if value dating is used, the value date of a particular transaction. This means that the consumer cannot always directly establish how long the actual transfer process will take (the time between debiting the remitter’s account and crediting the beneficiary’s account), at least not for every interbank payment. To establish the actual transfer time used by a bank which includes only the value date or the interest date but not the entry date on its statements to customers, additional information is needed about its value dating method. In their brochures to customers, two of the institutions surveyed by the Bank made specific mention of a fixed number of days between the value date and the entry date, thus enabling their customers to determine the actual entry date of their transactions. For other banks that use value dating there is no fixed relationship between the entry and the value date, so it is up to their customers to find out the entry date, either by inquiring at their bank branch or, where possible, by consulting their electronic banking information.

In the light of this outcome and considering that the entry date is a fundamental and also a legally relevant identifying mark of a payment, the Bank’s final report has included as a second recommendation that banks should always include the entry date of a transaction on their statements of account. The third recommendation is that the value date should be specifically mentioned if banks have based it on data which their customers are unable to define (if, for example, there is no fixed number of days between the value date and the entry date). The report further stated that, for reasons of carefulness and efficiency, the last two recommendations could be implemented in combination with similar, already scheduled adjustments to banks’ business processes.

Follow-up

At the end of December 1999, the Minister of Finance presented the Bank’s final report to Parliament. Basically, the Minister supported all recommendations made in the report, and even broadened the scope of the third recommendation (see above): the Minister maintains that every bank that uses value dating is supposed to disclose the value date, irrespective of any customer-definable relationship between the value date and the entry date. The Minister also announced that he would contact the Netherlands Bankers’ Association to discuss possible ways to implement the recommendations. It is the Minister’s view that these recommendations, insofar as they lead to adjustments within bank systems, should be implemented prior to the introduction of euro notes and coin in 2002. The Netherlands Bankers’ Association has meanwhile been contacted by the Minister.

Furthermore, the report was discussed by the Working Group on Payments Efficiency last January. Mem-
bers of the Working Group suggested that the Netherlands Bankers’ Association be asked to see to further optimisation of interbank payments processing in the Netherlands. Finally, the Dutch Consumers’ Association is currently preparing a report with the final results of its funds transfer survey.

Conclusion

Although market parties have widely differing views on value dating and processing times of funds transfers, some progress has been made these past few years to improve the transparency towards consumers. Explicit attention has been paid to consumer information and statutory amendments. In the autumn of 1999 the Bank investigated the concrete situation at banks and made three recommendations. The first is that, in their communications to customers, Dutch banks should explicitly state that, irrespective of the beneficiary’s bank, all payment orders initiated during the weekend will be paid into the beneficiary’s account before the next weekend. The second recommendation is that the entry date of a transaction should always be included on bank statements. The third is that the value date should be specifically mentioned if banks have based it on non-customer-definable data (if, for instance, there is no fixed number of days between the value date and the entry date).

Literature

Aders, J.H.J., Marketing van betaaldiensten (Marketing of payment services), Amsterdam, NIBE (Netherlands Institute for the Banking and Stockbroking Industry), 1984.

Advokaat, H.G., Have, J. van der and F.L. Pauwels, Retailbanking in Nederland (Retail banking in the Netherlands), Amsterdam, NIBE, 1972.


EIM, Valutadagen zelfstandige levensmiddelendetaillisten (Value days of self-employed food retailers), Woerden, May 1997.

Mot, E.S., Cramer, J.S. and E.M. van der Gulik, De keuze van een betaalmiddel (The choice of a payment instrument), Amsterdam, SEO, February 1989.


Sitalsing, S. and Visser, M., Banken in den vreemde, duur, duurder, duurst (Banks abroad, expensive to most expensive), Elsevier 11-4-1998, pp 88-89.


Wolf, H., Betalen via de Bank (Paying by bank), Amsterdam: NIBE, 1983.

1 As the Bank has the statutory task of promoting the smooth operation of the payments system and as a well-oiled consultative machinery is important in that respect, the Bank has been appointed secretary of the Working Group on Payments Efficiency.
The Goldilocks economy of the United States in comparison with Europe: an analysis with EUROMON

The economic development in the United States has been very successful over the past decade, with high economic growth being accompanied by relatively low inflation. This article explores this development, comparing the economy of the United States with that of the EMU. In addition, it considers the contrasts between the large and small EMU countries as regards the correlation between inflation and unemployment. Analyses based on simulations using the Bank’s multicountry model EUROMON show how the economy in the United States would have developed in circumstances more typical of a ‘standard economy’, to which the traditional Phillips curve applies. Subsequently, also drawing on simulations, this article discusses several aspects of the new economy in the United States and the EMU, i.e. spending impulses in combination with more scope for market forces, and in combination with technological progress, for example, in the field of computers and information.
Introduction

For some time now, attention has on all sides been focussed on ‘the new paradigm’ of the ‘new economy’, which applies to the United States in particular. The American economy is characterised by prolonged, high economic growth concurrent with low inflation. This practically ‘recession-less and inflation-less’ period started in 1991 and has not come to a halt since.

One significant cause underlying these flourishing developments is the high pace of developments in the field of information and communication, which so far have had a tremendous impact on the American economy. As Europe, too, is becoming acquainted with the possibilities of the new technologies, it is not unlikely that sooner or later ‘the new world’ will also gain ground in Europe.

The contrasts between small and large countries in Europe are striking. Compared to Ireland, Denmark or the Netherlands, for example, in recent years the great powers Germany, France and Italy have registered a markedly lower economic growth attended by high unemployment as well as by a relatively low inflation. As of old, this development may still be ascribed to traditional economic patterns.

In some smaller European countries, including the Netherlands, economic growth has exceeded the trend growth for some years now, being accompanied by a noticeable decrease in unemployment. Inflation, on the other hand, has slightly risen to or above 2%. Consequently, the term ‘new economy’, defined as a sustained above-trend growth combined with a relatively low inflation, does not (yet) apply to these countries.

Just like Japan, Europe trails behind the United States when it comes to investment in research and development. Figures show that in 1998 expenditure on information technology as a percentage of GDP in the euro area amounted to just slightly over 5%, against 8% in the United States. Compared to Europe, the use made of the Internet in the United States is higher by a factor of five. Together with ongoing integration, continuing globalisation, more scope for market forces and the positive economic growth anticipated for the coming period, a further advance of information and communication technology might be conducive to a favourable economic development.

The following paragraphs discuss the development in the United States in comparison with the Economic and Monetary Union (EMU), on the basis of simulations using the Bank’s multicountry model EUROMON as an analysis instrument. The outcomes of these simulations give an impression of the effects produced in the event of a traditional economy, and are compared with cases assuming a freer play for market forces or a more advanced technological progress. The simulations were performed for the United States and the EMU.

The traditional economy as represented by the Phillips curve

In the fifties, the economist A.W. Phillips (1958) studied the trade-off between inflation and unemployment. Phillips concluded that high-inflation periods were attended by low unemployment and vice versa. This trade-off is referred to as the ‘Phillips curve’. Implicit in the Phillips curve is the assumption that monetary policy may influence unemployment. According to this view, a broad monetary policy promotes domestic spending in the short term, resulting in increased production and employment, which, in turn, feeds through into higher prices. If price stability is pursued, this calls for a tighter monetary policy. The reverse applies in the case of a tight monetary policy.

The effect of the Phillips curve is disputed. Milton Friedman and Edmund Phelps were the first to query openly the premise of a trade-off between unemployment and inflation, arguing that, all other things being equal, higher prices would cause domestic spending and, consequently, employment to decrease. In other words: the economy will return to its baseline. In their view, monetary policy cannot influence employment in the long run, since it cannot produce real effects. Some equilibrium theories assume that unemployment reverts to an equilibrium level or the ‘NAIRU’. The Phillips curve also got out of favour in periods of stagflation, cf. the seventies, in which low economic growth went hand in hand with relatively high inflation.

Data for some countries clearly suggest a trade-off between unemployment and inflation. This is illustrated by Chart 1, which reflects the unemployment and inflation figures for the United States and the EMU on the basis of the annual figures for the period 1980-1999.

For the EMU, the relation between unemployment and inflation is negative; high (low) unemployment did not coincide with high (low) inflation. For the United States, however, the nature of the relation between the said factors is less evident, since several times inflation was relatively low – i.e. approximately 1 to 3% – while at the same time unemployment did not rise above 6%.

Chart 2 covers unemployment and inflation in the
The United States in the shorter time span of 1992-1999. From this chart it appears that, instead of being negative, the trade-off between inflation and unemployment is even positive. This suggests that during the period under consideration, there was no trade-off as assumed by Phillips.

The new economic development in the United States

The unemployment and inflation developments in the United States as reflected in Chart 3 for the period 1980-1999 show how during the eighties times of high (low) inflation were attended by low (high) unemployment. From 1992, however, both unemployment and inflation diminish. In 1995, unemployment dropped below 5.5% – by some regarded as the nairu level – and in 1999 to as little as 4% even. Despite this low unemployment figure, inflation dropped to an average of 1.6% in 1998. Strikingly, the period in which both unemployment and inflation dropped covers as many as eight years, from 1992 up to and including 1999.

It is hard to account for the changing relation between unemployment and inflation. Labour productivity growth is often adduced as the principal cause. Between 1992 and 1999, this growth varied between 0.9 and 2.8% on an annual basis (for the entire economy). This signifies that production per worker in the United States continued to rise and, at the end of the nineties, at a considerable pace. This is exceptional after a boom of several years. Often, the increased production capacity is mentioned in this connection. The potential production, being the maximum production of goods that can be realised given the available capital goods supply and the labour potential, is said to have expanded considerably. This explanation appears to be plausible. A higher potential production may have absorbed the
increased demand and also resulted in a higher GDP or employment growth.

However, this explanation fails to account for the new paradigm. Usually, this phenomenon is attributed to two factors, the first being the ongoing globalisation and deregulation, and the second, the accelerated advance of information and computer technology (briefly: ICT). Globalisation results in an increase in international trade because borders and trade barriers are lifted. Furthermore, deregulation and increased competition lead to narrower profit margins and, possibly, also greater cost efficiency. In the case of the United States, the second factor may well be considered even more essential. The use of the Internet, mobile phones and other means of communication has grown at a super-fast pace. These means enable users to select, at little cost, the least expensive products world-wide as well as selling their products in the shortest possible time. Making for greater efficiency, the said advantages help cut the cost of inventory control. Both trends, i.e. globalisation and ICT, promote electronic commerce, facilitate production, reduce costs and reach the majority of the sectors in the economy.

Consequently, the fact that inflation in the United States has continued to be moderate despite continuing high growth should be attributed to developments on the production side and to price and cost competition having grown fiercer. On the other hand, neither higher import prices, nor nominal wage claims or foreign or domestic financial crises have exerted serious pressure on inflation in the United States.

Macro-economically, the prolonged high economic growth, the low unemployment and the moderate inflation have led to fewer expenditure cuts and boosted interest in equity investments. As a consequence, share prices have jumped considerably. Profits on investments have meanwhile become a mainstay of the sustained growth in spending. It may justly be wondered how long a boom of this magnitude can be sustained.

Supporters of the ‘new economy’ more and more often project that the American economy has turned into a higher trend growth path. Formerly – it is assumed – the trend growth fluctuated between 2 to 2.5%, whereas now it varies between 3 to 3.5%. On this higher path, the cycle would be able to develop further with alternating periods of slumps and booms, like before. The question whether this high growth is here to stay, or whether the past decade of a booming economy in the United States was nothing but an incidental, be it prolonged, interlude, will not be answerable until after a great many years.
Table 1 The United States and the EMU
Growth rates in percentages, unless indicated otherwise

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<td>6.1</td>
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<td>2.2</td>
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<td>Labour productivity for the overall economy</td>
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1 Provisional EU projection figures.
Source: De Nederlandsche Bank and OECD.

Some key figures for the United States and the EMU

The economic situation in most European countries differs from that in the United States in many respects. The American capital market, for example, is much better developed than its European counterpart and the American labour market typically has a higher mobility, also because of the relatively simple hiring policies and dismissal procedures. In most European countries, labour mobility is lower, even during periods of an economic boom. These differences have existed for a long time already. The other important differences are related to investment in software and computers and, more generally, expenditure on research and development, which are all higher in the United States. Furthermore, while in Europe the Internet and other means of communication are yet to be introduced on a large scale, the United States has a network economy in which these tools play a prominent role.

Within Europe, the advent of the EMU made for new dynamics. Interest rates and inflation in the euro area have meanwhile converged appreciably. Besides, in the run-up to the EMU, inflation has dropped to a much lower level. The common European market has brought a rise in mergers and take-overs, both national and international. Also, many sectors have made headway in the field of deregulation and liberalisation.

To afford more insight into the differences, several macro-economic figures applying to the United States and the EMU for the period 1992-99 are presented in Table 1. The most striking difference is in economic growth. The tremendous increase of domestic consumption and investment in the United States has resulted in GDP growth of at least 4% for each of the past three years. In addition, in 1998 inflation in the United States declined to 1.6%. Economic growth for the EMU as a whole was evidently lower and inflation in the period prior to EMU, which started in 1999, dropped to a very low level. One aspect to strike the eye is that unemployment dropped despite inflation in 1998 and 1999 staying low. A comparison of labour productivity figures in itself does not show exorbitant differences.
Chart 4 Unemployment and inflation in eight EMU countries
In percentages

Germany

Netherlands

France

Belgium

Italy

Finland

Spain

Austria

Unemployment  Inflation

Source: OECD.
between the United States and the EMU. Another difference standing out is that the growth of the American labour productivity in 1996-1999 accelerated to approximately 2.5%, even after several years of a booming economy.

Germany, France and Italy carry much weight in the EMU. These countries largely account for, e.g., the relatively moderate rise in consumer prices in the period 1997-1999. While having dropped these past three years, the level of unemployment is still relatively high (10-11.6%). Again, this is primarily attributable to the large three countries.

The differences between the EMU countries are large, as is illustrated by Chart 4, which shows the individual unemployment and inflation figures for Germany, France, Italy, Spain, the Netherlands, Belgium, Finland and Austria, also for the period 1980-99. In the large three countries, unemployment is high and persistent – approximately 11% in 1997, but diminishes appreciably in Germany and France as of 1997. Inflation declined sharply across the entire period. In Italy it even reached its lowest level in 1999. The smaller countries, but also Spain, on the other hand, present a different picture. Besides a stable or sometimes slightly rising inflation at the end of the period, these countries are marked by a sharp decline of unemployment. This is the result of higher GDP growth. Because of, among others, interest rates being low in the run-up to the EMU, these economies have profited in terms of economic growth, whereas Germany, France and Italy were experiencing more difficulty stimulating economic growth. In exchange for growth, these smaller countries have had to pay a price in terms of slightly rising inflation. Spain is the most remarkable EMU member, since this country clearly profited by the new developments, with unemployment dropping by almost 8 percentage points in the period 1996-1999.

The other EMU countries, Ireland, Luxembourg and Portugal show economic pictures that resemble those of small countries rather than those of the large countries, owing to a combination of decreasing unemployment and slightly rising inflation (save for Luxembourg).

An analysis with EUROMON

To gain more insight into aspects of the ‘new economy’, a number of simulations were performed using the Bank’s macro-economic model, EUROMON. EUROMON is a multicountry model for eleven European countries, the United States and Japan. Aspects of the ‘new economy’ are analysed on the basis of a number of impulses that each influence wage and price developments, assuming that the pursued monetary policy is not changed. The simulations were first performed for the United States, showing the effects of the American inflation, unemployment and labour productivity. Similar simulations followed for the EMU. Of these, the effects of inflation, unemployment and labour productivity in the EMU are presented.

The first simulation shows the consequences of a spending impulse that increases GDP growth by one percentage point during five years. Assuming that GDP growth in the baseline projection is 2.5%, this simulation represents the additional GDP growth, i.e. economic growth of 3.5%. This simulation may be interpreted as a prolonged period in which GDP growth exceeds trend growth. The United States have known such a period of prosperity in the past few years. The simulation will first be performed for the United States. After that, however, it will also be performed for the EMU, to enable an analysis of the possible differences between the United States and the EMU. The second simulation shows the effect of higher GDP growth in combination with a freer market mechanism. This is simulated by means of a spending impulse that, just like in the previous simulation, leads to a GDP growth increase by one percentage point during five years, together with a once-only decrease of consumer prices by one percentage point. The consumer price cut may be interpreted as a reduction of profit margins. Many supporters of the ‘new economy’ consider globalisation, with effects like lower profit margins, one of the causes of the recent economic development in the United States. This simulation may therefore be regarded as one aspect of the ‘new economy’.

In the third simulation, higher economic growth is attended by an equally high rise in production capacity. This time, a spending impulse which, just like in the first simulation, leads to GDP growth by one percentage point in five years, is combined with a production capacity increase by one percentage point. This increase may be regarded as a rapidly implemented new development in the field of ICT, which makes for a higher output at the same labour force. So, just like the previous simulation, this one sheds light on one aspect of the ‘new economy’.
The effects of higher economic growth in combination with a spending impulse: simulation one

Table 2 presents the simulation results for the United States and the EMU in the event of a domestic spending impulse leading to a GDP growth exactly 1 percentage point above trend growth for five years. Assuming that the monetary policy is not changed, it may be expected that during such a period employment and inflation increase significantly.

And that is what Table 2 shows. In the United States, inflation has been gradually rising by 1.9 of a percentage point in five years’ time. The rise in domestic spending is boosting employment. Assuming that labour supply does not change, unemployment in the United States will fall relative to the basis by 0.4 of a percentage point in the first year and 3.5 of a percentage point in the fifth year.

These employment effects may appear considerable, even for a prolonged period of boom. From Table 1, for example, it follows that during the period of boom in the United States, actual unemployment declined by 1.9% in 1992-1997, i.e. from 7.5% to 4.9%. One of the principal factors contributing to the effects on unemployment in the simulations is the constant level of labour supply. In reality, though, an economic boost and rise in employment have an impact on labour supply. This phenomenon was also perceived in the United States in the past decade. In addition, the United States has seen an increase in mergers and labour productivity, which, during the period of boom, also led to labour shakeouts. Labour-saving new technologies have rendered jobs redundant and created new jobs alike. On the labour market, the shed labour potential was largely absorbed by new jobs.8

According to the simulation results listed in Table 2, which are not based yet on the ’new economy’, unemployment and inflation interact. The spending impulse directly results in extra employment. The rise in labour productivity and the fall in unemployment exert an upward pressure on wages. As a consequence, unit labour costs increase, if slowly, in the longer term, causing consumer prices to rise. Besides, the output gap, representing the tension on the commodity market, exerts an upward pressure on consumer prices.

The results for the EMU show a similar development, be it that the effects are more modest. While, driven by the spending impulse, employment picks up, labour demand within the EMU responds less quickly to the rise in domestic demand. This is to be attributed to rigidities in the labour market, which in EMU translate into a more persistent demand for labour. Compared to the American labour market, staffing adjustments in Europe are more expensive and time-consuming due to dismissal and hiring procedures being more complex. This not only accounts for the comparatively slow pace at which unemployment in the EMU declines, but also explains why in the EMU inflation rises more gradually than in the United States. After all, the nominal wage bill increases at a later stage due to the slower decline of unemployment. As the employment recovery pace in the EMU is slower than in the United States, labour productivity in the EMU is higher. After five years, inflation in the EMU has risen by 1.1 of a percentage point. In the fifth year, unemployment in the EMU has dropped by 1.7 of a percentage point, against 3.5 of a percentage point in the United States.

Table 3 Effects of a consumer price decline by one percentage point in the first year and a GDP growth increase by one percentage point during five years

<table>
<thead>
<tr>
<th>Year</th>
<th>United States</th>
<th>EMU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Inflation</td>
<td>-1.0</td>
<td>-0.7</td>
</tr>
<tr>
<td>Unemployment</td>
<td>0.0</td>
<td>-0.6</td>
</tr>
<tr>
<td>Labour productivity</td>
<td>(in percentages)</td>
<td>0.8</td>
</tr>
</tbody>
</table>
The effects of a freer market mechanism and higher economic growth: simulation two

Globalisation and more deregulation enhance competition. It is generally held that the United States has succeeded in benefiting a great deal from this 'new economy'. To show the effects of a freer market mechanism, Table 3 presents the effects of a positive domestic spending impulse in combination with falling consumer prices. The decline of consumer prices may be interpreted as narrowed profit margins for the domestic producers. It remains confined to the first year, amounting to 1% precisely. The domestic spending impulse does not differ from that of the previous simulation in terms of extent and duration: a 1 percentage point higher GDP growth in five years.

In the United States, the decline of consumer prices reduces inflation by 1% in the first year. The increase of domestic spending has a positive effect on employment. In the first year, however, this increase is offset by the effect of real wages, which rise as a result of the sharp drop in consumer prices. As a result, unemployment does not change. After the first year, however, unemployment starts to decline, since GDP continues to grow and consumer prices have ceased their decline, causing labour demand to pick up.

A similar simulation performed for the EMU yields the same pattern. Employment develops favourably as of the second year, but just like in the previous simulation – at a slower pace than in the United States. Initially declining sharply, inflation rises in the long term, while unemployment decreases uninterruptedly in the first year.

So, unlike the previous simulation, in which only spending impulses were given, in this simulation, which proceeds from a freer market mechanism, both inflation and unemployment decline in the short term.

Effects of a technological shock and higher economic growth: simulation three

Besides the effect of globalisation, the term ‘information and communication technology’ is also frequently being heard in discussions about the ‘new economic paradigm’. It is said to increase the production capacity, since the new form of networking it has brought facilitates the production process by reducing the costs of inventories, enhancing the transparency on labour and commodity markets, etc. To afford insight into the consequences of such a positive shock on the supply side, an increase of the potential production capacity is simulated. This may be interpreted as a positive technology shock. This impulse, too, is combined with a positive shock on the demand side. Both impulses being equated, the simulation gap does not change. This implies that GDP growth is precisely equal to the growth of the potential production. Furthermore, it being assumed that the shocks last five years, the output gap will not change during that period. Again, the simulation is first performed for the United States and, subsequently, for the EMU.

The positive impulse on the demand side directly boosts labour demand. In the United States, unemployment declines by as much as 0.4 of a percentage point in the first year, in the EMU by 0.1 of a percentage point. This does not have a depressing effect on prices on the commodity market, though, since the new demand can be met immediately, owing to the production capacity expansion. As the output gap does not change, inflation does not rise through this channel. And since production growth rate outpaces that of employment, labour productivity increases.

This does not fail to exert pressure on wages, though. However, unit labour costs rise only gradually. This is the corollary of the relatively slow growth of employment. On the one hand, employment picks up because of extra expenditure; on the other hand, the pace of this process is stunted by the rise of real wages. As a consequence, the total wage bill relative to GDP does not increase rapidly. Unit labour costs may have a modest inflationary effect in the long run. Just like in the previous simulation with more scope for market forces, here, too, it holds that unemployment declines without

Table 4 Effects of a potential production increase by one percentage point and a GDP growth increase by one percentage point during five years

<table>
<thead>
<tr>
<th>Year</th>
<th>United States</th>
<th>EMU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inflation</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>2</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>5</td>
<td>1.0</td>
<td>1.7</td>
</tr>
</tbody>
</table>
inflation increasing in the short term. It follows that there is no clear interaction between inflation and unemployment.

Summary and conclusions

• It is assumed that globalisation and deregulation have contributed to the positive economic development in the United States these past few years, without raw material prices and crises elsewhere in the world having had any significantly adverse effects on economic growth. Naturally, an adequate monetary policy plays an important role in this context.

• According to traditional economic theories, an above-trend growth rate by one percentage point irrevocably causes high inflation for a number of years. The relatively modest rise of prices in the United States this past decade is bound to be related to major changes in production methods and price development. However, it will not be possible until after a great many years to determine whether these changes have raised economic growth to a higher growth path.

• The level of inflation within the EMU has dropped considerably. In the process, especially the smaller countries, but also Spain, have managed to benefit from higher economic growth as well as from recovering employment. The large EMU countries – Germany, France and Italy – appear to continue to follow the traditional patterns the most, having registered persistently high levels of unemployment for a long time. Unemployment in these countries does not start to decline until early 1997.

• Simulations with the macro-economic model EUROMON provide insight into the effects on inflation and unemployment if during a prolonged period spending impulses are combined with more scope for market forces and stepped-up investment in technology. The simulation outcomes show that unemployment declines without inflation rising appreciably, if at all. They confirm that the developments in the United States in the past decade may be ascribed to a combination of spending impulses, a free play for market forces and investment in potential production capacity expansion, leaving aside all other factors, such as import prices and the dollar exchange rate.

• The EUROMON simulations are performed for both the United States and the EMU to show the difference between both economies. It follows that comparable impulses would in particular have a stronger effect on unemployment in the United States than in the EMU.

• For Goldilocks to visit Europe, more drastic investment in information technology will be required. After all, compared to the United States, Europe is at a serious disadvantage in this field. In addition, it appears that markets in Europe will need to become more flexible. An acceleration in computer and information technology may yield cost reductions, a ‘knowledge’ economy and a higher production capacity in Europe. However, without more radical deregulation and privatisation these new technologies will most likely not be able to bring about a reproduction of the golden development in the United States.


2 The Phillips curve is in fact a simplified wage equation in which unemployment is the explaining factor and wage inflation is interpreted as the only source of inflation. Also see the Journal of Monetary Economics, 1999, ‘Special Issue: The Return of the Phillips Curve’, which comprises a number of studies of the Phillips curve.

3 The ‘Non-Accelerating Inflation Rate of Unemployment’ is the rate of unemployment at which inflation neither increases nor decreases.

4 See ‘Wo ist Goldilocks?’, The Economist, February 5, 2000, pp. 73-74. It has been estimated that in 1998 the United States invested 8% of GDP in IT, the United Kingdom 7% and the EMU only slightly over 5%.

5 Interestingly, the differences in labour productivity growth between EU countries are relatively large. Labour productivity in the period 1991-95 is low in the Netherlands in particular, and also obviously lower than in previous periods. Also see H.P. van der Wiel, 1999, ‘Sectoral labour productivity growth: A growth accounting analysis of Dutch industries, 1973-95,’ Onderzoeksmemorandum, Centraal Planbureau, Den Haag.

6 An older version of euromon was reported in G.J. de Bondt, P.J.A. van Els and A.C.J. Stokman, 1997, ‘euromon: a macroeconometric multi-country model for the EU’, DNB Staff report, No. 77, De Nederlandsche Bank. In a more recent version, euromon has been extended to include Japan and the United States.

7 The ‘emu’ consists of Belgium, Germany, Finland, France, Italy, the Netherlands, Austria and Spain, which together are practically representative of the entire EMU. Simulations are performed using the entire model, i.e. including all international effects. Furthermore, it is noted that the GDP shocks carried out in euromon do not lead to distorting effects for the variables shown; labour demand and prices are dependent on GDP and not on one of the GDP components.

8 See Remarks by Chairman Alan Greenspan, Technology and the economy, speech for the Economic Club of New York, 13 January 2000.

9 For the construction of the output gap in euromon; see W. Bolt and P.J.A. Van Els, 2000, ‘Output gap and inflation in the EU’, DNB Staff report, No. 44.
The unbridled credit growth in recent years prompted the Bank to investigate the underlying causes. The conclusion, particularly in respect of mortgage lending, is that the Netherlands economy has become more vulnerable. The findings on corporate lending are less clear-cut: domestic business sector lending accelerated in 1998, but slowed down somewhat in 1999. This growth spurt, which can not be fully explained by fundamental macro-economic developments, can be partly attributed to the financing of mergers, acquisitions and management buy-outs. To the extent that cross-border operations were involved, this offers an explanation for the concurrence of robust credit growth with an outflow of liquid assets. Moreover, there are indications that enterprises rely increasingly on bank financing in order to boost the return on shareholders’ equity through a higher leverage. In addition, foreign operations have expanded rapidly, mainly through acquisitions, and off-balance sheet lending has gained significance.
Introduction

In recent months the Bank conducted an extensive survey of the lending policy of Dutch banks, in respect of both mortgage lending and corporate lending. The investigation was prompted by the surge in lending seen in the past few years (Chart 1). Consistently high rates of growth (15% or more annually) were particularly marked for mortgage lending. Corporate lending initially lagged behind but has clearly accelerated since 1998. The pace slowed down a little in 1999, to just above 11%. Viewed from both macro-economic and supervision perspectives, an unbridled growth in lending entails risks.

The research first charted the development of mortgage and corporate lending portfolios during the 1994-1998 period and, insofar as possible, 1999. In addition, the review covered the organisational structure, the decision-making processes and the policy on granting loans which applied in the selected group of institutions in the stated period. The collection of information was largely outsourced to the external auditors of the institutions concerned, and was carried out from mid-August to mid-October 1999 on the basis of a questionnaire compiled by the Bank. This information was then analysed by the Bank and broken down in terms of mortgage and corporate lending. The Bank has already published its findings in relation to mortgage lending activities. This article first sets out the main findings on mortgage operations and corporate lending before looking at some of the general trends distilled from the research. We conclude with a brief summary, and some points which the Bank intends to address.

Research results

Chart 1 shows that the growth in bank lending in recent years is mainly concentrated in mortgage lending activities. On average, banks’ portfolios of mortgage lending doubled in the period between end-1993 and mid-1999.

Experiences from the past and in other countries show that excessive increases in house prices, coupled with a prolonged strong credit expansion, can, under certain circumstances, become divorced from the underlying fundamental factors. In this light it is alarming that since 1990 house prices in the Netherlands have risen faster than in all other EU countries apart from Ireland (Table 1), with house prices growing by a further 15.8% in 1999. Another striking factor is that the increase in outstanding mortgage debt as a percentage of GDP, as well as in debt per capita, is higher in Netherlands than in other EU countries, even though home ownership is significantly below the EU average. These ratios are now the highest in the Union apart from Denmark.

In the event of a reversal on the housing market, economic growth could be curtailed and households and lenders may run undesirably high financial risks. For example, simulations with the Bank’s macro-economic model morkmon show that a 20% drop in house prices, in combination with an interest rate hike of 1 percentage point, would reduce real GDP growth by 2 percentage points over two years in comparison to a baseline projection. The increased vulnerability is also linked to the partial use of mortgage loans for consumption and the purchase of securities. Another significant factor from a macro-economic viewpoint is that these developments on the mortgage and housing market have had a procyclical influence.

It is not possible to identify a single main cause for the robust growth in house prices and mortgage lending during the past few years. There is clearly a combination of reasons, which may be distinguished according to their cyclical (temporary or reversible) and structural nature. The foremost temporary factors are the low interest rates coupled with the strong economic growth of recent years. Low interest rates have enlarged the borrowing capacity of prospective buyers, but have also
encouraged homeowners to remortgage, and – due to the growth in the value of their homes – to increase the borrowed amount at the same time. Structural factors comprise demographic developments, tax legislation, housing policy, central government policy on spatial planning and changes in the banks’ acceptance policy. In addition, a significant role has been played by financial intermediaries who have profited enormously from the boom in loans - around half of the mortgages are channelled through them - and who have spurred the demand for mortgage lending.

These aspects have mutually influenced and reinforced each other and have led to an exceptionally rapid growth in bank mortgage operations. For example lower interest rates have raised the borrowing capacity of households, which in turn pushes up house prices. This makes it worthwhile to refinance and raise existing mortgages, a development which encourages the emergence of more financial intermediaries. Moreover, new mortgage products have been developed which, in combination with savings and investment products, make optimal use of the generous tax deductions in the Netherlands. As banks have also relaxed their lending terms, and so enlarged household borrowing capacity, the house price increases have been accommodated. There may well be a self-reinforcing spiral, with rising prices continually leading to higher loans and vice versa, and house prices becoming divorced from their underlying value.

All of the institutions under review had eased their acceptance criteria. This mainly entailed including second and temporary incomes in determining borrowing capacity and raising the permissible mortgage debt service/income ratio (the maximum proportion of gross income that may be spent on housing costs). The loans granted have also risen in relation to the collateral value of the mortgaged property. This relaxation of acceptance criteria occurred mainly in the mid-nineties, leading to a substantial enlargement of borrowing capacity. Calculations on the basis of a traditional 30-year annuity loan show that – due to the acceptance of second incomes, the increase in the mortgage debt service/income ratio, lower interest rates and the general rise in household incomes – an average double-income household can borrow 86% more in 1998 than in 1994.

The boom in the housing and mortgage markets has had an adverse impact on the risk profile of banks’ mortgage portfolios, as indicated by the surge in mortgage lending and the increasing degree to which mortgage loans exceed the collateral value. The share of the

Table 1  Key figures of the mortgage and housing markets in an international context

<table>
<thead>
<tr>
<th></th>
<th>Outstanding mortgages (percentages of GDP)</th>
<th>Mortgage debt per capita</th>
<th>Home ownership (per cent)</th>
<th>House price inflation (1990=100)</th>
<th>Cumulative GDP growth (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>20</td>
<td>22</td>
<td>25</td>
<td>3,717</td>
<td>4,416</td>
</tr>
<tr>
<td>Denmark</td>
<td>-</td>
<td>62</td>
<td>69</td>
<td>-</td>
<td>15,635</td>
</tr>
<tr>
<td>Germany</td>
<td>43</td>
<td>45</td>
<td>53</td>
<td>7,875</td>
<td>10,142</td>
</tr>
<tr>
<td>Spain</td>
<td>15</td>
<td>17</td>
<td>24</td>
<td>2,009</td>
<td>1,986</td>
</tr>
<tr>
<td>France</td>
<td>24</td>
<td>21</td>
<td>21</td>
<td>4,590</td>
<td>4,324</td>
</tr>
<tr>
<td>Ireland</td>
<td>19</td>
<td>23</td>
<td>27</td>
<td>2,318</td>
<td>3,174</td>
</tr>
<tr>
<td>Italy</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>1,055</td>
<td>1,041</td>
</tr>
<tr>
<td>Netherlands</td>
<td>40</td>
<td>48</td>
<td>65</td>
<td>7,375</td>
<td>9,653</td>
</tr>
<tr>
<td>Austria</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>877</td>
<td>1,160</td>
</tr>
<tr>
<td>Portugal</td>
<td>11</td>
<td>16</td>
<td>33</td>
<td>866</td>
<td>1,367</td>
</tr>
<tr>
<td>Finland</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>7,781</td>
<td>6,289</td>
</tr>
<tr>
<td>Sweden</td>
<td>57</td>
<td>63</td>
<td>50</td>
<td>14,985</td>
<td>12,571</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>54</td>
<td>56</td>
<td>57</td>
<td>9,331</td>
<td>9,291</td>
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</tbody>
</table>

Source: European Mortgage Federation, bis, Bank of Portugal, own calculations.
1 In ECU/euro. Figures for 1990 and 1994 are in 1998 euro, inflated on the basis of cpi.
portfolio covered by central government guarantee has also declined. Moreover, the vulnerability is largely concentrated among starters in the housing market, who have often taken out the highest mortgage possible. This vulnerability can have relatively significant macro-economic implications, as younger households have, on average, a higher propensity to consume and more limited financial buffers. Next to growth in a quantitative sense, there has also been an increasing diversity of mortgage products and distribution channels. As a result of this increased complexity and the strong growth in lending in recent years, stricter requirements should be imposed on banks’ administrative organisation and their management information systems. In this connection, the banks’ process control deserves extra attention and stress tests, which analyse the weak points of portfolios in extreme conditions, can provide more insight into possible risks. It should be noted, however, that the solidity of the bank sector was found to be beyond dispute.

The increase in domestic corporate lending initially lagged behind that of mortgage lending operations, with growth rates of no more than a few percentage points above that of nominal GDP growth. However, a clear acceleration took place in 1998, which cannot be fully attributed to fundamental factors such as the low interest rates and the economic boom: calculations with MORKMON show that around 40% of the growth in that year was unexplained (Table 2), representing 33 billion guilders. It should be noted that the growth rate eased to just over 11% in 1999, bringing the differential with the model projections back to ‘normal’ proportions.

A comparison of the growth in individual banks’ corporate lending between the individual banks gives a more fragmented picture than in the case of mortgage lending. This is partly due to the fact that banks’ mortgage lending operations are overwhelmingly geared to a single market (the residential property market) and one kind of client (homeowners), while corporate lending involves different types of markets and clients, as well as numerous aspects related to financial services. Moreover, the past few years were characterised by a large number of acquisitions and mergers within the banking sector, both at home and abroad, which makes the changes in banking practices – especially in respect of corporate lending – more difficult to discern. Nonetheless, some general trends can be discerned.

There are indications that enterprises are increasingly using bank loans to finance mergers, acquisitions and management buy-outs. To the extent that cross-border activities are involved, this explains the fact that the surge in lending in recent years was accompanied by a considerable outflow of liquidity abroad. Moreover, it appears that enterprises are increasing their borrowing to adjust their debt/equity ratios. In this way, enterprises can boost the return on shareholders’ equity through a higher leverage. This is consistent with the increased returns on shareholders’ equity during the past few years (Table 3). Obviously, these higher

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<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Projection</td>
<td>5.7</td>
<td>8.2</td>
<td>5.0</td>
<td>6.4</td>
<td>6.0</td>
<td>6.4</td>
<td>9.5</td>
<td>9.3</td>
<td>12.5</td>
</tr>
<tr>
<td>Actual</td>
<td>7.5</td>
<td>5.4</td>
<td>2.8</td>
<td>5.0</td>
<td>7.0</td>
<td>7.8</td>
<td>9.1</td>
<td>15.7</td>
<td>11.1</td>
</tr>
<tr>
<td>Difference</td>
<td>1.8</td>
<td>-2.8</td>
<td>-2.2</td>
<td>-1.2</td>
<td>1.0</td>
<td>1.4</td>
<td>-0.4</td>
<td>6.4</td>
<td>-1.4</td>
</tr>
</tbody>
</table>

Chart 2 On-balance compared to off-balance sheet corporate lending

Index, 1994=100

Total
off-balance
sheet
Total
on-balance
sheet
returns can be partially attributed to other factors, such as the favourable economic conditions. Nevertheless, long-term interest rates fell to a low level (4.6%) in 1997 and 1998, enhancing the appeal of leverage at precisely that time.\footnote{Investment less convincingly accounts for the recent rise in lending, since that has been strongly increasing since 1995. It should be observed however that total industrial investment, excluding the energy sector (which largely raises funds on the public capital market), did indeed show a marked acceleration in 1998 (of up to 16.7%).} The increase in corporate lending, presented in Chart 1, relates to domestic operations. These data are also the most interesting from a national macro-economic point of view. Nonetheless, the research also looked at the development of the so-termed off-balance sheet lending, and lending by Dutch banks’ foreign operations. Both categories have clearly grown faster than domestic corporate lending (Charts 2 and 3).\footnote{Off-balance sheet credit includes commitments arising from guarantees and trade finance (for example letters of credit) and unused credit lines; in principle this does not relate to actual lending but rather to unused scope for credit. If this scope is used, it increases on-balance sheet lending. The sharp rise in both on-balance and off-balance sheet lending implies that companies not only want to raise more borrowed funds (for example in order to achieve a higher leverage or to finance mergers) but also want to be assured of easy and rapid access to new borrowed funds.}

The strong credit expansion of foreign operations – averaging well over 20% a year between 1994 and 1998 – can mainly be attributed to acquisitions rather than autonomous growth. This expansion meant that the volume of foreign operations in 1998 almost equalled that of domestic operations (both well over NLG 300 billion, Chart 3). Another factor, especially relevant to foreign operations, is the large increase in the volume of reverse repos since 1997. In this case a banking institution buys securities from a non-banking counterparty, agrees to sell these back at a later date, and treats the corresponding cash flow as a loan. While these transactions are short-term, the ‘permanent’ volume of these loans has increased substantially due to the rapid growth and the large amounts involved in these agreements. To the extent that the level of reverse repos has risen, this temporarily adds to the growth in lending. However, the launch of EMU is a major stimulus to the European capital market, which will further boost the expansion of the repo market. This could well make reverse repos a significant source of lending for domestic operations too.

As indicated by the share of bad loans and the level of provisions, the quality of the business loans portfolios within the banks’ domestic operations has generally improved. This improvement in quality reflects the

### Table 3 Development of business investment and returns on shareholders’ equity

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term interest rate (%)</td>
<td>6.9</td>
<td>6.9</td>
<td>6.2</td>
<td>5.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Returns on shareholders’ equity (%)</td>
<td>8.9</td>
<td>10.0</td>
<td>9.2</td>
<td>10.4</td>
<td>10.8</td>
</tr>
<tr>
<td>Investment (% growth)</td>
<td>0.0</td>
<td>7.0</td>
<td>6.4</td>
<td>8.4</td>
<td>8.6</td>
</tr>
<tr>
<td>Ditto, excluding energy sector</td>
<td>-1.2</td>
<td>11.2</td>
<td>5.6</td>
<td>6.7</td>
<td>16.7</td>
</tr>
</tbody>
</table>


The Nederlandsche Bank’s analysis of bank lending

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**Chart 3 Corporate lending: domestic operations and foreign operations**

Billions of guilders

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign operations</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td>Domestic operations</td>
<td>94</td>
<td>95</td>
<td>96</td>
<td>97</td>
<td>98</td>
</tr>
</tbody>
</table>
favourable economic conditions seen in recent years. By contrast, as far as foreign operations are concerned, the credit quality in the period under review declined, mainly due to the financial crises in Asia and Latin America. However, the credit quality has recently improved thanks to the general recovery in the emerging economies.

General developments

The research has established a number of developments which apply to both mortgage and corporate lending. A striking trend is the increasing weight of current and anticipated income in determining the borrowing capacity of both households and enterprises. In mortgage lending this is evidenced by the greater importance attached to the mortgage debt service/income ratio (the maximum proportion of gross income that may be spent on housing costs) in determining borrowing capacity, while more traditional criteria such as the forced sale value of collateral has lost significance. A similar shift can be seen in corporate lending, where the importance of traditional lending criteria, such as balance sheet ratios and security, is diminishing in favour of more future-oriented criteria, such as anticipated cash flows. It is obvious that this development expands the borrowing capacity of households and enterprises at a time of buoyant economic activity, when real and expected incomes and cash flows are on the increase, and so has a procyclical effect. This was a likely factor in pushing up prices in the housing market (the self-reinforcing spiral referred to above). The extent to which banks are running greater risks by reducing the importance of their traditional lending criteria is difficult to assess. Dynamic and forward-looking elements are now given more weight, while less heed is paid to static factors at a given moment. The tendency to place more importance on cash flow is in line with an international trend, and is related to the fact that companies have less tangible collateral. Especially knowledge intensive sectors (information technology, biotechnology, consultancy) have intangible assets, which can hardly be used as collateral.

The product range has expanded for both mortgage lending and corporate lending. Examples in the mortgage lending market are products that combine both savings and investment elements and constructions that aim at securing a maximum tax advantage. A factor in corporate lending is that enterprises conduct increasingly active financial management. This has contributed to the emergence of the repo market and to the increased importance of commission as a source of bank income. Along with tougher competition, these developments are exerting pressure on the profitability of the portfolios. In the case of mortgages this is also related to the higher costs of the new products, which are more complex than the traditional, more uniform mortgage loans. In addition, banks in general are now more inclined to accept lower margins as part of a strategy, using cross-selling to earn more on other products sold to the same client (for example through commission income).

The surge in loans, in combination with the greater complexity of the products, places higher demands on banks’ administrative organisation and their internal process management. The Bank will address these points when carrying out its supervisory activities.

A final conclusion is that the securitisation of mortgages and corporate loans has clearly taken off over the past few years. By securitising loans, banks can remove them from their balance sheets. One of the motives for doing so is to reduce the solvency requirement. Banks are obliged to hold own funds of at least 8% against their claims, a stipulation that can restrict their ability to extend more loans. Securitising loans and placing these elsewhere frees up capital for new lending activities. The securitisation of residential mortgages relates almost exclusively to domestic operations, whereas most securitised business sector loans relate to foreign operations. It is important to continue monitoring this development, both because it may misleadingly reduce the reported growth in lending and because it may result in a higher risk profile for the remaining credit portfolios on the banks’ balance sheets (since, in practice, only high-quality loans are eligible for securitisation).

Concluding remarks

All things considered, the Dutch economy has become more vulnerable in recent years to possible shocks caused by a deterioration in the financial position of households. Although the increased mortgage debt is offset by the rise in the value of collateral, the higher debt entails greater vulnerability to a downward movement in house prices. In addition, there are indications that some of the mortgage lending during the past few years has been used to purchase consumer goods or securities, a trend that increases the economy’s vulnerability. The situation in respect of corporate lending is less clear-cut, even though domestic lending in
1998 accelerated significantly in 1998. While this growth spurt can not be fully explained by fundamental macro-economic developments, it can be partly attributed to a number of special factors (enterprises’ use of bank loans to finance mergers and acquisitions, conscious efforts to boost borrowed funds). Moreover, foreign operations expanded rapidly, mainly on account of acquisitions, and off-balance sheet lending gained significance.

The Bank will follow up the research into bank lending in several ways. The findings in respect of mortgage lending in particular call for further action. As noted above, the administrative organisation and process control of both mortgage and corporate lending deserve extra attention. Banks will also be encouraged to carry out more analyses to assess the vulnerability of their mortgage loans portfolios, for instance by developing stress tests. In consultation with the banking sector, the Bank will further examine the extent to which adjustments in the solvency requirements could contribute to a better balance between capital and risk. This would relate to the fact that the risks in the mortgage portfolios mainly involve loans with a high loan-to-value (LTV) ratio. The Bank will also analyse the feasibility of restricting the maximum mortgage loan on a property to its market value at the time of registration, thereby limiting the LTV ratio to 100%. The role of intermediaries also needs to be investigated further; the Bank will emphasise the need for consumer protection.

The primary aim of these measures is emphatically not to ‘correct’ the level of credit and other variables (such as house prices); rather, they are intended to prevent an imbalance in the development of loans and prices. A restriction on mortgage loans in excess of a property's market value on purchase would lead banks to adopt a more cautious lending policy, as they will no longer be able to speculate on the future appreciation of a property value. This will curtail the spiral of higher loans leading to higher prices and vice versa. To the extent that additional resources can be raised through personal loans, such a measure would incidentally have only a limited effect on the costs incurred by the house purchaser. In addition, relatively stringent solvency requirements for loans with a high LTV-ratio could make banks more reluctant to advance these riskier loans. And an improvement in the customer information supplied by intermediaries could help potential house buyers to better assess the risks.

The Bank needs more information in view of the increased importance of mortgage lending from a macro-perspective, and the greater risks attached to mortgage loans portfolios at a micro-level. Accordingly, it will press for a moderate expansion of the banks’ regular reports to include a more detailed breakdown of the mortgage portfolio in terms of short-term and long-term maturities, various types of mortgages and distribution channels, and LTV-ratio. In cooperation with an external research bureau, the Bank will also conduct surveys among the public to gain a better insight into the use of mortgage loans.

1 The item ‘other loans’ in Chart 1 consists almost wholly of corporate loans. The figures presented here are based on the returns for monetary supervision from the banks to the Bank, with allowance made for the changes in the reporting system at the end of 1997. Other figures, based on the prudential reports and other statistical material collected during the investigation, show a similar picture.
2 De Nederlandsche Bank, Het bancaire hypotheekbedrijf onder de loep, January 2000 (Internet: http://www.dnb.nl).
3 See also the article 'The Dutch housing and mortgage markets: a risk analysis’, De Nederlandsche Bank Quarterly Bulletin, September 1999. This article goes into detail on the risks resulting from the boom on the housing and stock markets.
4 The increased interest of enterprises in their debt/equity ratios also emerges from talks between the Bank’s regional managers and entrepreneurs. See P.D. van Loo and C.J. Zonderland, ‘Eigen vermogen, vreemd vermogen’, Economisch Statistische Berichten, October 1999 pp. 760-762.
5 This is also shown by the fact that in this period the solvency (the relation between shareholders’ equity and the balance sheet total) of enterprises declined slightly from 46.6% in 1997 to 45.7% in 1998. See Macro Economische Verkenning 2000, the Netherlands Bureau for Economic Policy Analysis.
6 The off-balance sheet lending depicted in Chart 2 is based on the reports from most, but not all, of the banks included in the review. The figures are presented as an index to be able to make a comparison with the growth of the corporate on-balance sheet lending operations.
7 A report on corporate lending to small and medium-sized enterprises, conducted last year under the auspices of the Ministry of Economic Affairs, also noted a shift from securities to cash flow as a criterion for acceptance policy. See Bureau Bartels, De markt voor kredietverlening aan kleine en middelgrote ondernemingen, June 1999.
8 For an analysis of the growth of knowledge-intensive sectors and the increase of intangible production resources in company financial reports also refer to the study by the Ministry of Economic Affairs Balanceren met kennis, June 1999.
9 See the report Het bancaire hypotheekbedrijf onder de loep for a more detailed description of these points for attention.
Publications
Since 1996 DNB Staff reports have been published. Aim and scope of this publication series is to disseminate a selection of the research done by staff members of the Bank to encourage scholarly discussion. An overview of the DNB Staff reports can be found on the Bank’s website, http://www.dnb.nl. During the first quarter of 2000, three Staff reports were published which are summarized below.

No. 43. H.M.M. Peeters

Achieving Price Stability in the Euro Zone: Monetary or Inflation Targeting?

In this paper a small econometric model with model-consistent expectations is adopted for the euro zone to study monetary and inflation targeting. Simulation results show that the ‘costs’ in terms of inflation and economic growth volatility are by and large lowest in case of inflation targeting. Some attention is finally drawn to asymmetric shocks.

*Keywords:* Monetary targeting, inflation targeting, euro zone
*JEL codes:* C32, E40, E52

No. 44. W. Bolt and P.J.A. van Els

Output Gap and Inflation in the EU

Output gaps for 11 EU countries, the US and Japan are constructed based on measures of potential output derived from a CES production function. This production function accommodates differences in substitution elasticities between countries. Indeed, the empirical evidence shows that real wage elasticities of labour demand differ widely across countries. The national output gaps constructed turn out to significantly explain future changes in inflation. Moreover, the analysis also reveals that an aggregate European output gap significantly precedes aggregate European inflation, as well as inflation in the individual EU countries. These findings imply that an aggregate European output gap may serve as an inflation indicator for the preparation of a single European monetary policy.

*Keywords:* output gap, potential output, inflation, Phillips curve
*JEL codes:* E32, E5

No. 45. P.J.G. Vlaar

Currency Crisis Models for Emerging Markets

In this paper, a new method is introduced to predict currency crises. The method models a continuous crisis index based on depreciations and reserve losses. The fact that during currency crises, the behaviour of market participants differs from normal circumstances is modelled by means of a model with two regimes, one for troubled, and one for normal times. Both the probability of entering the crisis regime, and the expected depreciation and volatility in this regime depend on economic circumstances. The probability of crisis can be explained by the real exchange rate, the inflation rate, the growth of the short-term debt over reserves ratio, the reserves over M2 ratio, and the imports over exports ratio. The depth of a crisis is primarily related to local depreciations and the short-term debt over reserves ratio. The most important factors for explaining current month’s crisis index are recent changes in the exchange rate and reserves themselves however. The model is reasonably successful in predicting currency crises, also out of sample.

*Keywords:* Panel data, endogenous jumps, two regime econometric model, fundamentals
*JEL codes:* C49, F31, F34
The Bank has been publishing Monetary Monographs at irregular intervals since 1984. These contain compact studies and analyses relating to the Bank’s tasks. Since September 1999, the Monetary Monographs also include reports of seminars and conferences organised by the Bank.

No. 17 The Netherlands’ Polder Model: Does it offer any clues for the solution of Europe’s socioeconomic flaws?

Editors
H.H.J. Labohm and C.G.A. Wijnker

This publication contains the products of an international seminar organised by the Bank in conjunction with the Dutch institute for international affairs, Clingendael, in 1999. At this seminar, the question whether the Dutch polder model can be exported to the rest of Europe was addressed by Dutch and foreign economists and policy-makers.

The contributions focus on three main themes. What is the Dutch polder model and can it be applied to the rest of Europe? What are the effects of wage moderation? and What is the relationship with EMU? The Dutch model turns out to be more than just wage moderation. The model’s core elements also include good relations between employers, trade unions and government (corporatism), and the economic and monetary policies pursued in the Netherlands over the past fifteen years. The polder model is, however, not flawless.

The effects of wage moderation are discussed in detail. Various contributions analyse the effects of wage moderation with the aid of model simulations. It turns out that individual countries benefit from wage moderation. In the longer term, its effects seem to be positive for Europe as a whole, too, albeit less so. In the context of EMU, the question arises whether wage developments should be coordinated at the European level, or whether EMU calls for decentralised wage flexibility, a question which is discussed in great detail. Finally, there appears to be no simple answer to the question whether the Dutch model can be exported. Some components, such as the sound macroeconomic policy conducted in the Netherlands, can be emulated, while others, such as the consensus prevailing among the social partners may be harder to achieve elsewhere.