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Recent developments
The Netherlands in the euro area

Owing in part to adjustments in consumption-related and indirect taxes, inflation in the Netherlands for January 2001 was the highest in the euro area. After a strong fourth quarter, the Dutch economy could look back on a good cyclical year; yet preliminary estimations indicate that growth levels may flatten out to 3% in 2001. The Bank’s GDP indicator also points to a cyclical deceleration to 2.7% growth on average during the first three quarters of the present year. As a result of the robust economic growth of recent years, unemployment appears to be mostly frictional. Employment growth is increasingly drawn from among broader echelons of previously inactive persons, causing the participation rate to rise. In view both of the Lisbon objectives (to be evaluated at the upcoming European Council meeting in Stockholm) and of the continuation of a satisfactory growth potential in the Dutch economy, prolongation of this trend is essential.

Inflation

The measure relevant to the Eurosystem’s European monetary policy is the harmonised consumer price index or hicp. As expected, hicp inflation shot up from 2.9% in December 2000 to 4.5% in January 2001. This inflation jump gave the Netherlands the highest current inflation figure in the euro area (Table 1). The rise stems primarily from the new taxation system, most notably from the vat rate increase from 17.5% to 19%, and the rise in taxation on energy consumption. The national Dutch measure of inflation, cpi (consumer price index), allows the causes of the inflation jump to be analysed quantitatively. The cpi is very similar to the hicp, except for the weight allotted to certain goods and services. The cpi rose by 1.2 percentage point to 4.2% in January, 0.5 percentage point resulting from the vat rate increase. A rise in the ecotax (‘Regulatory Tax on Energy’) accounted for 0.1 percentage point of increased inflation. And finally, the downward effect caused in 2000 by the transfer of tv licence fees to the general budget was eliminated, accounting for 0.4 percentage points of the inflation jump.

During the fourth quarter of 2000, hicp inflation in the Netherlands averaged 3.0%; over 2000 as a whole, inflation rose to 2.3%, the highest figure since the hicp was introduced in 1995. Like the Netherlands, the entire euro area saw inflation rise in the course of 2000. During the last quarter of 2000, inflation in the euro area was almost 3%, compared to 2% at the beginning of the year 2000. Principal causes for the inflation rise were higher energy prices and the depreciation of the euro. In the final quarter, the price of a barrel of (Brent) crude, for instance, was 23% higher than a year earlier, while the euro-dollar rate was 16% down. Over the last few months, the direct inflationary pressure of these external factors has begun to wear off gradually, although in the oil market great uncertainties remain. The euro, after bottoming out at usd 0.83 in October 2000, rose again to usd 0.92 in February, while the price of oil came down from the peak it reached in September, at usd 37, to usd 28 in February. The industrial sector especially is showing signs of decreasing direct inflation pressure. Between November and December, the selling prices of industrial goods came down, and the fall was the largest one in 20 years’ time.

The growth of the adjusted index for low income employees, which is the inflationary measure mostly used in collective wage bargaining, rose from 2.6% in December to 3.2% in January (Chart 1). The rise is less pronounced than the ones displayed by cpi and hicp, since the effects of indirect and consumption-related taxes (vat and ecotax) are disregarded. By contrast, however, this index is affected by the transfer of tv licence fees to the general budget. Without the latter effect, this adjusted index is up only 0.2 percentage points from December.

Table 1 Inflation (hicp)

Percentage changes from previous corresponding period

<table>
<thead>
<tr>
<th></th>
<th>1999</th>
<th>2000</th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>ii</td>
<td>iii</td>
<td>iv</td>
<td>Jan.</td>
</tr>
<tr>
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<td>2.1</td>
<td>1.7</td>
<td>2.2</td>
</tr>
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<td>France</td>
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<td>1.8</td>
<td>1.6</td>
<td>2.1</td>
</tr>
<tr>
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<td>2.6</td>
<td>2.5</td>
<td>2.6</td>
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<tr>
<td>Spain</td>
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<td>3.5</td>
<td>3.3</td>
<td>3.7</td>
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<td>2.0</td>
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<td>Belgium</td>
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<td>2.9</td>
<td>2.6</td>
<td>3.5</td>
</tr>
<tr>
<td>Austria</td>
<td>0.5</td>
<td>2.0</td>
<td>1.9</td>
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<tr>
<td>Portugal</td>
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<td>2.8</td>
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<tr>
<td>Finland</td>
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<td>3.0</td>
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<td>3.1</td>
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<tr>
<td>Ireland</td>
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<td>5.3</td>
<td>5.2</td>
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<tr>
<td>Luxembourg</td>
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<td>4.2</td>
</tr>
<tr>
<td>Euro area</td>
<td>1.1</td>
<td>2.3</td>
<td>2.1</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Note: Greece.

1 Excluding Greece.
Wages

The Netherlands is entering a collective wage bargaining season. Collective labour agreements for all of 2001 have been concluded for only a limited number of employees, although a general upward tendency toward a 4% rise may be observed. This wage increase, the highest since 1992, is greater than was forecast a year earlier, when expectations were that, owing to the substantial increase in purchasing power inherent in it, the tax review would exert a dampening influence on wage demands. But for the moment at least, the 4% demand set forth in the guideline of the Federation of Dutch Trade Unions, fnv, does not seem to point in that direction. Egged on by the building boom of recent years, the builders’ union has even demanded a 6% payrise. At the same time, however, the recommendations of the Dutch Labour Foundation (Stichting van de Arbeid) shows that social partners on both sides are aware of the present risks. The central elements of the recommendation are, first, a call to continue to aim for a responsible wage policy as strictures on the labour market and the risk of a wage-price spiral give rise to concern and, secondly, a call for more generous tax allowances regarding education and other forms of remuneration (such as profit-dependent wages).

An important indicator for the development of the Netherlands’ competitiveness is unit wage cost (Chart 2). In recent years, wages have risen considerably faster than labour productivity, causing unit wage cost to rise steeply. This year, too, wages will be rising notably faster than labour productivity, and further deterioration of Dutch competitiveness is expected. Experience from the early 1990s suggests that a delayed response of wages to a significantly weakening business cycle may lead to a hefty rise of unit wage cost. In recent years, the Netherlands has been losing ground within the euro area. The economic slowdown in which Germany until recently found itself caused that country to observe strict wage moderation from 1995. In Belgium and France, too, the upward trend in wages has been slower in recent years than it has in the Netherlands. At the same time, Dutch competitiveness as against the United Kingdom and, to a lesser degree, the United States has improved, but that was mainly owing to the depreciation of the euro.

Strong business cycle, yet downward risks

The euro area reached its cyclical high in the second quarter. This was followed in the third quarter by a slight deceleration of growth, to 3.4% still quite an acceptable growth figure in historical terms. In the Netherlands, growth also slowed down in the third quarter, to 3.3% from 4.1% in the second quarter, so that for the first time in years, volume growth of Dutch gross domestic product ($\text{gdp}$) dipped below that of the euro area. In the fourth quarter, the volume of Dutch $\text{gdp}$ was up 3.1% from a year before (Table 2). Although these figures show diminishing growth in the course of...
2000, it is still far too early to speak of a net slowdown. The lower growth figures for the second half of 2000 are largely caused by the reduced number of working days in that period. There is, in fact, a 0.5 percentage point downward distortion in the fourth quarter figure due to incidental causes (see Box 1). When corrected for incidental factors and seasonal influences, economic growth as measured against the previous quarter was stable during the first three quarters. The fourth quarter even showed an increase in consumption. The latter phenomenon was probably owing in part to anticipatory effects of the VAT increase. Investment growth did slow down in the last two quarters, in fact considerably, as compared to the first half of 2000. During the fourth quarter, moreover, stocks were heavily depleted owing to the small number of working days as compared to the large number of shopping days.

The outlook for the world economy is less favourable than it was a few months ago. After nine years of prosperity, the US economy is now rapidly cooling down. As

### Box 1  Impact of incidental factors during the fourth quarter

Besides trend-related and cyclical developments, influences on economic variables include various incidental factors such as calendar effects and working hours lost due to frost. Such factors complicate the interpretation of the underlying dynamics of the economy.

The most material distortions are those caused by so-called calendar effects, distinguished into working days effects and shopping days effects. The former are caused by differences in the number of working days in each quarter. For instance, the dates of holidays may vary from one quarter (or year) to the next, while the year 2000, being a leap year, had an extra working day. Shopping days effects are due the recognisable weekly pattern in consumer spending: more shopping is done towards the end than in the beginning of any week. But because a quarter is not exactly 13 weeks, the weekly pattern shifts across quarter boundaries.

In the fourth quarter, a number of specific factors were at work. In the first place, Christmas and Boxing Day 2000 were on a Monday and Tuesday, whereas in 1999 they were weekend days. As a result, December 2000 counted four working days less than December 1999, so that over the present quarter, volume growth of GDP is estimated to have been downwardly distorted by 0.4 to 0.5 percentage point owing to the difference in the number of working days. Secondly, many workers took the days after Christmas and Boxing Day off, possibly causing a positive shopping day effect. Thirdly, the last quarter of 1999 saw a great deal of extra work put in in order to manage expected computer-related risks in connexion with the millennium crossover. And finally, the last quarter of 2000 was colder and wetter than the corresponding quarter of 1999. This caused a further downward distortion, for instance because the number of days worked in construction turned out lower. These incidental effects are expected have caused distortions totalling about half a percentage point over the fourth quarter.
a result of slower growth in investment and consumer spending, US economic growth during the final quarter of 2000 was significantly slower than it had been during previous quarters. Several indicators are pointing towards a continued deceleration of US growth. In early 2000, the growth of industrial production slowed down, while several confidence indicators also fell. Against this backdrop of a weakening economy, the Federal Reserve Bank twice decreased its federal funds rate by a total of 100 base points. Partly as a result of the slowdown in US growth, the growth of world trade will turn out lower than was estimated earlier on. As the euro area is a relatively closed economy, however, this may have only limited implications. The same applies to our own (open) economy, as the emphasis of our trade relationships is on the other euro area countries. The consequences for the euro area and the Netherlands could become worse, of course, if confidence in the US should fall even lower and if the loss of confidence should then cross the Atlantic to Europe.

Even in the present circumstances, growth will probably turn out lower than forecast only a few months ago. A preliminary estimate by CPB (Netherlands Bureau for Economic Policy Analysis), published on 20 February, expected growth to fall back to 3%. Also, GDP indicators developed by the Bank, which elicit precursory information from confidence indicators and financial variables, point towards a slowdown in economic growth. The indicator for the Netherlands points to an average growth of 2.7% over the first three quarters of 2001 compared to the corresponding quarters of 2000.

**Chart 3 Producer and consumer confidence**

Balance of positive and negative responses; seasonally adjusted

This outlook is confirmed by the trend in producer confidence (Chart 3).

Consumer confidence, too, fell sharply over the past few months, largely reflecting a less positive consumer view of the economic climate (i.e. the economic situation in general), which is the first sub-indicator of consumer confidence. In January, despite consumers’ unflagging confidence in their private financial situation, the second sub-indicator of consumer confidence (propensity to buy) also fell as the propensity to make large purchases decreased (Chart 4). This decline could paradoxically be caused by the tax reform, as consumers may have moved forward large purchases to profit from the lower VAT rate applying until the end of last year. The diminished propensity to make large purchases may therefore be temporary. In contrast to the economic climate, this indicator did not decline any further in February. It is by no means the first time that the economic climate, which tends to be heavily impacted by events elsewhere in the world, seemed to herald a turning point in consumer spending. In the autumn of 1998, for instance, the momentary adjustment of the stock exchange and negative reports concerning Asia and Russia caused the economic climate to deteriorate, but this failed to affect the growth in consumer spending, and the propensity to buy remained unchanged. In the present situation, too, the decline in consumption growth may remain limited, since the less positive perception of the economic climate may be
occasioned in part by recent negative reports about the US economy. And another reason why a steep decline of consumption growth is unlikely is the positive impulse caused by, on the one hand, the tax reform and the concomitant improvement of purchasing power and, on the other, employees’ continued favourable labour market outlook.

The labour market

Long years of strong economic growth in the Netherlands have especially favoured the labour market. The tightness of the labour market is expressed in low unemployment figures and high numbers of vacancies. In December, seasonally adjusted (registered) unemployment averaged 179,000 persons or 2.6% of the workforce. This suggests that unemployment is primarily frictional, i.e. consisting of people who are temporarily unemployed between jobs. This explains why registered unemployment remained unchanged since August, despite continued robust growth. What did change was the composition of the unemployed workforce. The past year has seen a marked decline in the number of long-time unemployed – i.e. longer than one year. In the November 2000-January 2001 period, the number of people who had been unemployed for less than a year remained unchanged from the same period a year before. At present, therefore, long-time unemployed represent only 38% of unemployment, down from over 50% in the years between 1993 and 1999 (Chart 5).

Chart 5 Registered unemployment
Thousands of persons

The low level of unemployment means that employment growth is becoming increasingly dependent on people entering the workforce from other sources than the pool of unemployed. A broader measure of unemployment is unused labour supply, including not only unemployed workers but also jobseekers who have either not been actively seeking employment for some weeks or who are not immediately available. Compared to the unemployed workers, the unused labour supply includes a larger proportion of people re-entering the workforce. The unused labour supply decreased by 105,000 persons in 2000, of whom only a fourth part came from the ranks of the regular unemployed. In previous years, their proportion had been more than one half. People re-entering the workforce helped to push up the participation rate. In 2000, almost 69% of the population between 15 and 65 years had jobs involving twelve hours’ work or more per week, up one percentage point from 1999.

Apart from low unemployment, demographic developments, too, will contribute little to employment growth over the next few years. This is illustrated by Chart 6, which shows the growth of the number of persons between 20 and 65 (the employable population) between 1951 and 2020. Because the birth rate went down during the 1970s, the growth of the employable population was structurally halved from 1993 onwards as compared to the 1963-1993 period. However, the aging of the population is affecting the labour market relatively early on, because from 2000 onwards, the proportion of the over-55 age bracket, where the participation rate is low, is increasing sharply. A further increase in the participation rate will be required over the coming years to offset the negative consequences of demographic developments, besides giving a major impulse
to Dutch growth potential. This requirement, incidentally, is by no means restricted to the Netherlands. The negative impact of demographic developments is hurting other European countries as well, and at the Lisbon summit, European leaders agreed to increase their efforts to encourage participation (see Box 2). The success of this effort will depend to some extent on the policy initiatives that will be implemented in order to boost labour supply. These initiatives will have to be aimed primarily at encouraging participation by echelons who have characterised by low participation, such as women, the older age groups, immigrants and people with low education. Past experience in Anglo-Saxon and Scandinavian countries has shown that a further increase in participation by these echelons is quite possible. Already, current trends in the Netherlands are undoubtedly positive. Between 1997 and 2000, the proportion of working women grew by almost 6 percentage points to 52%, while labour participation by the older age groups is increasing as well. However, if the Netherlands is to meet its contribution to the Lisbon objectives, this trend will have to continue.

Apart from a participation rate increase, stronger productivity growth may also boost the Netherlands’ growth potential. Here, there is a glimmer of hope on the horizon. In the US, the impact of ICT has led to a measurable acceleration of productivity growth. However, the starting position of the Dutch differs from that of the Americans in that the latter have in the past invested more heavily in ICT, making the use of computers more widespread in the US. Therefore, the effect of ICT on productivity may be expected to be greater in the US than in the Netherlands. Besides, the US itself ascribes the acceleration of its productivity growth to the ICT sector. Especially the manufacture of computers has become considerably more efficient. However, the US computer industry is more than twice the relative size of the Dutch computer industry. Through this effect, combined with the influence of a structurally slower-growing participation rate, growth potential in the Netherlands will be below that of the US.

### Monetary and financial developments

Over the past months, monetary authorities in many parts of the world have lowered their interest rates amid a global climate of levelling business cycles. Decelerating monetary growth, decreasing inflationary pressure from oil prices and the euro’s exchange rate have combined to make medium term price stability risks more balanced than they were at the end of 2000. The Eurosystem left its interest rates unchanged from October 2000 until the closing of this Quarterly Bulletin.

In December, the Eurosystem reconsidered the reference value of policy-relevant monetary growth, expressed as the moving three-month average of the year-on-year growth of M3, and decided to leave it unchanged at 4½%. Policy-relevant monetary growth in December was 5%, continuing an ongoing downward trend to very near the reference value, under the influence of the interest rises implemented by the

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**Box 2 Participation increase and the Lissabon objectives**

During the Lisbon summit of March 2000, European leaders made several important agreements, to be first evaluated at the upcoming summit in Stockholm. The strategic objectives formulated in Lisbon may be summarised as follows. The EU strives to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth through more and better jobs and tighter social cohesion. It is being recognised that low labour participation is currently one of the EU’s weaker spots, primarily because of low participation by women and older age groups. Where economic participation is concerned, the Council has stated that net participation, 61% in 1999, should be as close as possible to 70% by 2010. At the same time, participation by women should increase from 51% to over 60%. If this objective is met, the EU will to a large extent have closed the current gap vis-à-vis the United States.

Although the Lisbon objectives have not been translated to objectives for the individual member states, the Commission has calculated the implications for the Netherlands by means of a technical exercise. Based on Eurostat’s demographic scenarios and in keeping with the Council’s growth objective of 3%, labour participation in the Netherlands should continue to rise at the same rate as it has in the past years. Thus net participation should reach almost 79% by 2010, while unemployment should fall to 1.6%. This would take the Netherlands, together with Denmark, to the top of the EU member states, with a participation rate exceeding that of the US. While this is admittedly a highly ambitious scenario, a hefty increase in participation rate is essential if old age provisions are to remain affordable and if the level of growth potential is to be maintained.
Eurosystem since November 1999. The contribution by the Netherlands to the broad monetary aggregate \(m_3\) remained high, growing in December to 9.3% in year-on-year terms. The growth of the Dutch contribution to the money supply is mostly accounted for by overnight deposits and deposits with agreed maturities of up to two years; in December these deposits increased by 10.2% and 49.3%, respectively, as compared to twelve months before. The growth of Dutch lending to the private sector, despite an overall downward movement, remained high in December 2000, at 12.2%. The credit expansion took place mostly in corporate lending. An analysis of corporate lending using the Bank’s macroeconomic structural model, markmon, shows that the bulk of the increase may be explained in terms of traditional determinants such as investment rate, yield curve, interest rate and development of profits. The growth of mortgage credit continued to slow down in the final quarter of 2000.

In the year 2000, the average selling price of dwellings as published by the Netherlands Land Register rose by 20% compared to 1999. Mostly realised during the first half of the year, the growth decelerated during the second half; over the final quarter of 2000, the average selling price of housing was just 2% up from the third quarter of the same year. During October and November, prices were actually below those of the preceding month. It should be noted, however, that price developments in the housing market follow a seasonal pattern where price rises tend to be lower toward the end of the year than halfway through the year. The number of registered mortgage contracts decreased by almost 25% compared to 1999. The fall was primarily due to a decline in the number of renegotiated mortgage renewals caused by risen interest rates.

**Public sector finance sailing before the wind**

Since 1994, the Dutch administration has conducted a more trend-based budgetary policy, whose main objective is a controlled increase of public sector spending. The budgetary policy over the past two decades has only recently yielded appealing budgetary results. In 2000, \(\text{emu}\) debt fell below the \(\text{emu}\) norm, and the \(\text{emu}\) fiscal balance now meets the requirements of the Growth and Stability Pact (Table 3). The budget surplus rose last year to 1.4% of \(\text{gdp}\) (excluding the 0.7% of \(\text{gdp}\) proceeds of the umt5 auction). The surplus is thus higher than had been foreseen in the Budget Memorandum for 2001. The strong increase is mainly due to the favourable business cycle (higher tax revenues and less spending on social security). The structural \(\text{emu}\) balance (i.e. the cyclically adjusted actual \(\text{emu}\) balance) is expected to fall steeply this year, largely due to the net reduction in direct taxation caused by the tax review.

**Table 3 Key fiscal data**

<table>
<thead>
<tr>
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<th>2002</th>
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<td>-0.1</td>
<td>1.0</td>
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</tbody>
</table>

2. Excluding proceeds of umt5 auction: 0.7% of \(\text{gdp}\).

1. See e.g. Quarterly Bulletin, September 2000, ‘Is the Dutch economy overheating?’
Euro sentiment has changed for the better. The Nederlandsche Bank’s eleventh Euro Survey found that both euro awareness and satisfaction with the provision of information have improved over the past six months. The survey, which was conducted at the end of February/early March, interviewed 750 private individuals over the age of 18 and 800 enterprises, with banks not included because of their special position.

The survey also discovered that Dutch businesses have now seriously taken on board dual pricing and that the spiral of ever-increasing euro conversion costs now seems to have been broken. Finally, a large proportion of Dutch consumers say they are willing to use their debit cards more often during the changeover period if that will help reduce the burden on retailers of swapping over to the new banknotes and coins. The main area of concern is over whether the business sector will succeed in making the bulk of its euro preparations in a brief timespan – an issue on which entrepreneurs themselves are not unduly pessimistic. The Dutch general public is not wholly convinced that cash payments around ‘E-day’ will be pulled off without a hitch, and fears are mounting that the changeover of product pricing from guilders to euro will trigger price increases.

Introduction

On 1 January 2002, euro notes and coins will replace national currencies in the twelve emu countries, completing monetary union. National governments, the business sector and consumers have nine months left to prepare for the abolition of their national currencies and to ‘euro-proof’ their organisations. The Bank’s six-monthly surveys keep a close watch on euro-related trends in the Netherlands, covering issues such as euro sentiment, euro awareness, satisfaction with the provision of euro information, progress of euro conversion preparations and intended euro exchange and payment behaviour of households and enterprises. This article reviews the main findings of the Bank’s eleventh euro survey.

Euro views and information

Recovering euro sentiment

Compared with some neighbouring emu countries, the Dutch have always shown firm support for the euro. In March 1999, four out of five people interviewed reported that they considered the euro an acceptable successor to the guilder, while this figure was as high as 90% for the Dutch business sector. But sentiment sub-sequently turned against the fledgling currency across a broad spectrum of Dutch households and enterprises. Elsewhere in Europe, euro confidence likewise eroded during the period.1 By the time the October 2000 survey rolled around, euro acceptance had fallen to 60% among private individuals and 70% in the Dutch business community – still, incidentally, a vast pro-euro majority.2 However, the February/March survey indicates up a pick-up in sentiment.

With an estimated 67% of the Dutch population now in favour of the euro, some measure of confidence has been regained. Among businesses the euro acceptance rate was unchanged compared with six months ago. The survey reveals that euro sentiment changes with the external value of the currency: of those less enamoured of the euro in last October’s survey, over 60% – quite possibly because of daily media coverage – cited its weakening value as a factor influencing their opinion. This percentage has halved in the most recent survey, suggesting that its rebound in the currency markets has helped improve public sentiment towards the euro somewhat.

Chart 1 captures the correlation between the euro/dollar exchange rate and the acceptance of the unified currency by the Dutch population. Since the euro was obviously not in actual existence before 1999, the chart includes what is known to statisticians as a synthetic euro/dollar rate for the 1995-98 period, reflecting a gdp-share weighted basket of national exchange

<table>
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<th>Pro-euro percentage</th>
<th>Euro/dollar exchange rate (synthetic rate until 1/1/1999), right-hand scale</th>
</tr>
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<td>100</td>
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rates vis-à-vis the dollar. It is worth noting that the correlation between rate and acceptance has grown stronger than it used to be in pre-EMU times. This is hardly surprising, since we have been dealing with an actual currency since 1999.

Public and business community satisfied with provision of information
At this point, 70% of the Dutch population feels sufficiently informed about matters such as the euro and the currency union, a showing that seems to mark an end to a period of sagging information satisfaction. Approval of the provision of information is strongest among the well-educated and the 30-50 age group, while a proportionally large group of young adults feels less informed, even though their actual knowledge is no less than that of others. Enterprises report unchanged satisfaction about the euro information provision: nearly 90% feel they have been adequately informed (see Table 2). Food retailers this time feel significantly ahead of the game, a finding also reflected in the euro knowledge survey (see section below).

Euro knowledge improved in crucial areas
The Bank’s survey gauges euro knowledge through questions covering such issues as the euro/guilder exchange rate, the number of countries participating in the euro, the launch date for euro banknotes and coins and the length of time in which both guilder and euro will be legal tender. Among consumers, 65% cited the correct value of the euro in guilders, compared with 54% in the autumn of 2000 (Table 1), taking the level of euro knowledge back up to what it was at the start of EMU. Among enterprises, nearly three-quarters know the exact rate, compared with 59% six months ago and 63% in March of last year (Table 2). Both groups surveyed thus show a reversal in the previously downward trend. This is good news indeed, as the Bank’s tenth survey had suggested that the weaker external value of the euro – which had come in for a great deal of media attention – had apparently caused the general public to be confused about the euro/guilder rate.

High scores on the question as to the euro launch date were also reassuring. In fact, the survey recorded 97% awareness among private individuals, an increase of 20 percentage points on October last year, so this date may now be considered common knowledge. The business sector shows a comparable picture: 96% named the correct year, compared with 80% six months ago.

When asked how long the euro and guilder will both be legal tender, nearly one-third of private individuals were able to name the correct period (four weeks), double the number of people in the know a year ago. However, this encouraging finding does not detract from the fact that nearly half the population wrongfully believe that this period extends to 1 July 2002. The business sector did better on this question, with around half of businesses aware of the correct period. This compares with 32% in the previous survey. Retailers did better than most (Chart 2), with food retailers scoring particularly high: nearly two out of three identified the correct period. Awareness of the length of the so-called ‘dual phase’ is crucially important. As long as enterprises believe this changeover period is longer, they will count on more preparation time than they actually have, which might lead to some unpleasant surprises. It is therefore imperative that they should rapidly become aware of this through euro awareness campaigns and industry organisations.

Awareness about the size of EMU has edged back down again. When asked how many countries participate in the euro, 41% of households said 10, 11 or 12 countries, compared with 48% in the autumn of 2000, 27% in March 2000 and 46% a year earlier. This ‘yo-yo’

Table 1  Euro awareness and knowledge: adult Dutch population, 1999-2001

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<tbody>
<tr>
<td>Sufficiently informed</td>
<td>79</td>
<td>72</td>
<td>69</td>
<td>70</td>
</tr>
<tr>
<td>Aware of euro exchange rate (2.20)</td>
<td>71</td>
<td>65</td>
<td>54</td>
<td>65</td>
</tr>
<tr>
<td>Aware of launch year of euro coins and notes (2002)</td>
<td>77</td>
<td>70</td>
<td>77</td>
<td>97</td>
</tr>
<tr>
<td>Aware of number of EMU countries (10, 11, 12)</td>
<td>46</td>
<td>27</td>
<td>48</td>
<td>41</td>
</tr>
<tr>
<td>Aware of length of transition period (4 weeks)</td>
<td>na</td>
<td>17</td>
<td>19</td>
<td>31</td>
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outcome is probably attributable to shifts in the focus of euro information campaigns (an advertisement on this topic has had hardly any airtime these past few months, and this may have impacted on public awareness on this particular score). The business community would seem to be less sensitive to advertising intensity: awareness here was virtually unchanged at 51%, compared with 52% in the autumn of last year.

Slow progress in business sector euro preparations

Previous surveys by the Bank have typically revealed a worrying picture of business sector preparations for the changeover to the euro. The eleventh survey has not detected any visible improvement. Two-thirds of businesses have no plan of action and 60% do not intend to draw up any such plan. Whether or not enterprises do have such a plan and are willing to implement it tends to be closely tied in with the actual size of their business. Small enterprises have hardly any action plans in place, compared with 85% of large companies that have made such preparations. The smallest players would seem content not to take action until the second half of 2001.

In addition to the degree of planning, another gauge is the actual level of investment spending on euro implementation. Consecutive surveys since the start of EMU have revealed consistent upward revisions of projected costs, from €4.5 billion in March 1999 to €7 billion six months ago. The latest March survey suggests no additional disappointments: the Dutch business community (not including the banking sector) currently reckons it will need over €6 billion to deal with the changeover (see Table 3 for a breakdown by sector), roughly €0.5 billion less than their estimates six months ago. The survey found that around one-quarter of this spending has actually been made, ranging from around 20% at small businesses to some 40% at medium-sized and large enterprises. By sector, these percentages break down into 20% for commercial services and 35% for wholesalers, while retailers report having incurred 28% of costs. All this suggests that the bulk of euro-proofing by enterprises has yet to be effected. That said, entrepreneurs themselves are not unduly pessimistic, with a majority foreseeing no difficulties in the run-up to euro con-

<table>
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<th>Table 2</th>
<th>Euro awareness and knowledge in business sector, retailers and total (October 2000, March 2001)</th>
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<tr>
<td></td>
<td>As a percentage of relevant sector</td>
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<tr>
<td>Sufficiently informed</td>
<td>72</td>
</tr>
<tr>
<td>Aware of euro exchange rate (2.20)</td>
<td>53</td>
</tr>
<tr>
<td>Aware of launch year of euro coins and notes (2002)</td>
<td>83</td>
</tr>
<tr>
<td>Aware of number of EMU countries (10, 11, 12)</td>
<td>50</td>
</tr>
<tr>
<td>Aware of length of transition period (4 weeks)</td>
<td>34</td>
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</tbody>
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version. Larger companies would seem to be less assured on this score.

The findings for the Dutch business sector largely coincide with recent research published by the European Commission, which revealed that some three-quarters of small and medium-sized enterprises in the euro area have still done far too little to be ready in time.

**Dual pricing and 'psychological' price hike worries**

In some eu countries, shops and restaurants have been using dual prices to help consumers get used to the euro. The Bank’s previous survey showed overwhelming support among the Dutch public for such an approach. The latest survey shows a large number of businesses have paid heed to this call for dual pricing (37%), with another 15% intending to do so before the summer and 21% planning to wait until the agreed date of 1 July 2001. Less than one-fifth of businesses will not change over to dual pricing until January 2002. These figures represent a huge step forward compared with the October findings.

Over the past few weeks, there has been a flurry of media stories about retailers hiking their prices upon introducing dual pricing. The public have grown more suspicious as a result, with 58% of individuals now factoring in covert price increases compared with 46% six months ago. A negligible 2% expect to see prices revised down. Although price increases would be contrary to official agreements reached at the end of 1999, they might yet creep in before e-day. Various organisations (e.g., the Consumers’ Association) are closely monitoring a wide range of individual product prices to make sure this does not happen. The Nederlandsche Bank is likewise conducting research into the upward price effects of such psychological factors.

**Cash payments and conversion**

Like previous surveys, the eleventh asked households what they intended to do with the guilder coins and banknotes in their possession at the end of 2001. Will they swap such notes and coins at banks, spend them in shops or save them at home? And when will they do so? A massive surge in ‘piggybank’ spending at shops might cause great problems at cash registers, while swapping of cash savings at banks had best be done either well before e-day or well after. Granted, the guilder will cease to be legal tender as from 28 January 2002, but banks will allow individuals to change their remaining guilders or transfer them into their accounts for a long time after this date.

Households are not yet quite sure what they will do with their Dutch banknotes and coins around e-day, according to the latest survey. Some 37% have yet to make up their minds or devote serious thought to the issue. The same percentage reports intending to deposit or exchange their guilder holdings at banks: 11% at the end of this year and 26% in 2002. A quarter of households intend simply to spend their guilders in shops in January 2002.

One way to lighten the burden on retailers would be for consumers to make more use of their debit cards around e-day. Three-quarters of individuals interviewed say they are prepared to use their pin cards for this purpose. Chip cards are less popular, although a solid 30% is willing to use them for this purpose if retailers enable them to.

**Concerns about euro transition**

As was the case six months ago, the Dutch express concerns about the changeover to the euro at the start of

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<tr>
<td>Manufacturing</td>
<td>0.5</td>
<td>0.5</td>
<td>0.9</td>
<td>0.9</td>
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<tr>
<td>Wholesale</td>
<td>0.6</td>
<td>1.0</td>
<td>0.9</td>
<td>0.9</td>
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<tr>
<td>Retail</td>
<td>1.0</td>
<td>1.1</td>
<td>1.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Business services</td>
<td>1.1</td>
<td>0.8</td>
<td>1.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Other (excl. banks)</td>
<td>1.3</td>
<td>1.9</td>
<td>1.9</td>
<td>1.6</td>
</tr>
<tr>
<td>Total</td>
<td>4.5</td>
<td>5.3</td>
<td>6.9</td>
<td>6.3</td>
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**Table 3 Euro implementation costs by sector**

(01 g billion, unless stated otherwise)
next year. Over half the population expect hiccups in cash payments. When questioned about the nature of their worries, one-third cite the complexity of the exercise and nearly a quarter fear long queues at check-outs and counters. Slightly fewer (15%) give poor preparation by companies as a reason for their anxiety.

The survey discovered similar unease among the business community: over two-thirds of businesses surveyed fear problems at the changeover, with a quarter citing the complexity of the exercise, a quarter trouble at check-outs and counters. Insufficient information to the public is another worry mentioned. A modest 11% blames this concern on their own lack of preparation.

Summary and conclusions

Key findings of the Bank’s eleventh Euro Survey:
– Euro sentiment among the Dutch public at large has edged back up, thanks in part to the slight recovery of the euro/dollar exchange rate.
– A comfortable majority of the Dutch population feels adequately informed about the euro and the currency union.
– Public and business sector euro knowledge has markedly improved in a number of key areas. The length of the dual phase is a case in point, although intensive campaigns continue to be necessary.
– The business community foresees no major bottlenecks or problems in euro-proofing their own organisations, but a big chunk of investment is yet to be realised this year. Of medium-sized and large enterprises, 40% now report having met their total preparation expenses, compared with 20% at small enterprises.
– Individuals and businesses fear disruptions in cash payments in January 2002. The main areas of concern are the complexity of the operation and queues at check-outs and counters.
– To help ensure a smooth transition in January 2002, Dutch consumers are prepared to use their PIN cards and also – to a lesser degree – their chip cards.
– Over one in three enterprises currently list separate guilder and euro prices for their products. By 1 July 2001, dual pricing is expected to be in force at three out of four businesses.
– Compared with six months ago, a greater percentage of the Dutch now believes the transition to dual pricing will entail price increases.

1 Research by the European Commission last summer showed 58% of EU citizens to have confidence in the euro, compared with 60% six months earlier. Ireland witnessed the biggest drop (from 78% to 65%), while the Netherlands saw a decline from 73% to 67%. Source: Het Financieele Dagblad, 25 July 2000.
3 The euro/dollar rate assumed in the month of the survey reflects the average of the three preceding months.
Developments in the financial sector

Financial developments within the banking system
A survey on results held among the eight largest Dutch banks shows that their profitability underwent a favourable development in 2000. Although developing less propitiously in the second half of the year than in the first, profits went up over 9% in 2000. This increase was caused primarily by the continuing expansion of banking operations. In the past six months, it was notably brought about by a material increase in corporate lending. Yet, net interest earnings went up less rapidly in 2000 than in the year before, as a result of the considerable pressure on the interest margin. The increase in profits was accounted for not only by the increase in lending, but also by earnings from other forms of financial services, such as (securities) commission and profits from financial transactions. In 2000, these other earnings made up no less than 48% of the Dutch banks’ total earnings, i.e. a considerable rise on for instance 1997 (40%). In the second half of 2000, the cost-benefit ratio of the banks surveyed came out at 1.42, a small deterioration on a year earlier (1.46). The banks’ transfers to the Fund for General Banking Risks for instance 1997 (40%). In the second half of 2000, the cost-benefit ratio of the banks surveyed came out at 1.42, a small deterioration on a year earlier (1.46). The banks’ transfers to the Fund for General Banking Risks were 11% down on 1999. The average solvency ratio (b/s ratio) of Dutch banks came out at 11.3% in the second half of 2000. At 10.6%, the three large banks scored slightly lower. This means that the banks’ solvency has stabilised at the 1999 level. The Bank will continue to monitor the development of solvency in relation to the banks’ risk profile closely.

Cyclical and sectoral risks
Although the Dutch banks’ current profitability and solvency are satisfactory, the macro-economic risks – and hence the uncertainty surrounding the banks’ future profits – have increased somewhat over the past six months. The United States’ declining economic growth is a case in point. If a deceleration of growth in the US were to be attended by rapidly falling equity prices, notably consumer confidence could well be impaired further. At this point in time, the debt levels of both American businesses and households are at record highs, making them extra sensitive to an economic recession. The direct consequences of a possible decline in the creditworthiness of corporate and personal borrowers would be expected to be concentrated especially at the American (investment) banks. Although the US is a major market for the large Dutch banks in particular, these banks’ activities are highly diversified internationally, the emphasis being on the euro area. A cyclical decline in the US will therefore certainly affect the results of the Dutch banks, but the consequences of the increased risks are relatively limited.

The worsening financial climate for ICT companies is also affecting the Dutch banks. Here a role is played by the fact that telecoms companies have paid enormous amounts for the purchase of UMTS licences. Much capital has also been invested in mergers and takeovers in the telecoms sector. A major share of this investment is financed with bank credit. The need to refinance these bank debts and to undertake additional future investment for the development and implementation of new technologies will generate a further need for capital among telecoms companies. In the course of 2000, their risk profile worsened, leading to downward adjustments of both their credit ratings by rating agencies, and their share prices. Investors were notably put off by expectations that the period until the UMTS investment pays off may turn out to be considerably longer than originally anticipated. This deteriorated risk profile makes it more difficult for telecoms companies to raise new funds in the capital markets, for instance, by issuing new shares. Some of these firms will therefore have to resort to banks again, which often form syndicates to spread the risks. An inventory made by the Bank shows that the Dutch banks’ exposures to the telecoms sector may be termed modest compared to those of banks in Anglo-Saxon countries.

The declining growth expectations in the US and the turnaround in stock exchange sentiments in respect of the ICT sector led to a less optimistic financial climate, where spreads began to rise. At end-2000, the financial world was confronted with the threat of a financial crisis in both Turkey and Argentina. Though Argentina has meanwhile landed in calmer waters, the financial crisis in Turkey persists. Both countries have vast foreign debts. The ensuing debt-servicing obligations were exacerbated by rising spreads caused by the declining confidence of shareholders and investors. Short-term debts which exceed the reserves constitute the second vulnerability which these countries have in common. This factor makes that in the event of turbulence, investors soon lose confidence in the country concerned. The third circumstance shared by Turkey and Argentina was their inflexible exchange rate arrangements. In both countries, the rigid monetary system has contributed to a reduction of inflation, but has at the same time brought about a substantial real appreciation of the exchange rate. When at end-February, Turkey decided to refrain from further defence of its currency, the lira depreciated sharply. The confidence crisis in
Turkey was largely connected with the vulnerability of its banking sector. Calculations made by the Bank show that compared to the balance sheet total of the Dutch banking system as a whole, the financial risks attending exposures to Turkey and Argentina are relatively limited. It is hardly surprising that Dutch banks with a Turkish background account for a large proportion of the exposures to Turkey.

Study of selection criteria in respect of collective investment schemes
Negative stock exchange developments will most likely also affect the results of the Dutch collective investment schemes, many of which are incidentally managed by banks. Some time ago, the Bank commissioned an external research agency to hold a survey among investors investing in collective investment schemes, in order to gain greater insight into the factors underlying the choice of a specific scheme. The results show that the reliability of the management company and the return achieved or expected are by far the main selection criteria. The main sources of information cited were articles in magazines (including performance listings), brochures and advertisements. Annual and semi-annual accounts are cited as sources of information by 21% of the respondents, and the official prospectus only by 15% (Table 1). Given the fact that information which is not statutorily required is used as a source more often than obligatory information, adequate guidelines for advertising and compliance with these guidelines prove to be of major importance. In addition, it is important that the results of collective investment schemes can be compared. The Bank therefore ensures that collective investment schemes provide investors with information in a proper manner. This goes not just for obligatory publications – (semi-annual or) annual accounts and the prospectus – but also for advertisements. Comparing the various collective investment schemes and drawing up performance listings are, however, the province of external parties.

(I)n(ter)national consultations on banking supervision
Institutional set-up of supervision in the Netherlands and Germany
The progressing, rapid technological development and the resulting trends in the financial sector, such as internationalisation and conglomerisation, compel supervisors to react adequately to new developments. They must recognise the need for adjustments of rules and regulations as well as of supervisory practices in time, without policy becoming overly ad hoc in nature or unduly detailed. It must be remembered, though, that the optimum supervisory structure may differ from country to country, just as financial structures show major national features. In this context, it is interesting to note the recent announcement by the German Minister of Finance that he intends to submit a Bill to Parliament providing that supervision on banks, insurance companies and securities firms is to be combined. In Germany, banking supervision is currently exercised by the Bundesanstalt für das Kreditwesen and the Bundesbank. Now that financial conglomerates are gaining in importance, it was felt that an adjustment of the present structure was called for.

In the Netherlands, an institutional response has already been found to the increasing intermingling of different types of financial institutions. This has to do

<table>
<thead>
<tr>
<th>Table 1 Sources of information favoured by Dutch investors</th>
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<tr>
<td><strong>Which sources of information underlie your investment decisions in respect of collective investment schemes?</strong></td>
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<tr>
<td>Articles in newspapers and magazines</td>
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<tr>
<td>Brochures and advertisements</td>
</tr>
<tr>
<td>Performance listings in newspapers and magazines</td>
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<tr>
<td>Advisors at financial institutions</td>
</tr>
<tr>
<td>Annual and semi-annual reports</td>
</tr>
<tr>
<td>Official prospectus</td>
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<tr>
<td>Advice given by family, friends and acquaintances</td>
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<tr>
<td>Other</td>
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¹ It was possible to give more than one answer, so that the cumulative percentage exceeds 100%.
with the fact that these complex financial institutions have existed here longer than in for instance Germany. The Bank has been involved in intensive cooperation with the Pension and Insurance Board since the early 1990s on the basis of arrangements laid down in what is known as the Protocol. There has also been much cooperation with the Securities Board of the Netherlands. In the summer of 1999, cooperation between the Dutch financial supervisors was intensified further with the establishment of the Council of Financial Supervisors. Now that the Council has been in operation for over one-and-a-half years, it is possible to conclude that this institutional framework is highly effective. The main advantage is that for sectoral issues it is able to follow a sector-specific, specialised approach, supplemented, where necessary, with a single policy for subjects which are common to all financial sectors.

**Council of Financial Supervisors – recent activities**

Over the past six months, the Council has again been engaged in drawing up policies on several major non-sector-specific issues, such as the model regulations for boosting the reliability of lower management and for dealing with incidents. The former is intended to further operational integrity by maintaining the reliability of persons with a function which could jeopardise that integrity. Take, for instance, persons who have management functions just below the echelon involved in (daily) policymaking. Under supervisory legislation, the latter are already checked for reliability. Functions of key officers such as the compliance officer are also denoted as integrity-sensitive. This cooperation within the Council results in like-minded policies by the three financial supervisors concerned, on the one hand, while preventing persons whose integrity is no longer/not above reproach, from being able to take up an integrity-sensitive function elsewhere within the financial sector, on the other. The second model regulation (on how to deal with incidents) seeks to stimulate sound and honest operational management by financial institutions. Institutions are required to record so-called ‘operational incidents’ – depending on the circumstances – report them to the supervisory authorities. Cases in point are (tax) fraud, money laundering and insider trading.

**New guideline on private portfolio investment transactions: the Insider regulation**

Next to the tripartite cooperation within the Council, there may also be policy issues which are of importance for only two out of the three supervisors represented. Bilateral cooperative arrangements can then be made. For instance, the Bank recently drew up a new guideline on private portfolio investment transactions in conjunction with the Securities Board of the Netherlands, viz. the Insider regulation. This guideline became effective on 1 February 2001 and contains rules for the private portfolio investment transactions of staff members of banks and securities firms. The rules apply notably to those who, through their function, have the disposal of market-sensitive information. The objective is to prevent staff of credit institutions or securities firms from using such confidential information for their own portfolio investment purposes. To this end, general standards have been drawn up for all staff. Furthermore, the guideline speaks of the wide concept of ‘portfolio investment transactions’ which includes not just securities transactions, but investments in for instance real estate, foreign currency or precious metals as well. More specifically, the guideline provides standards for ‘insiders’ affecting private securities transactions. These are staff to whom insider information relating to securities is available on account of their function or position. Staff who are (also) insiders, are subject to a stricter regime when it comes to making private securities transactions than non-insider staff. In principle, insiders are, for instance, required to have their private portfolio investment transactions effected by the institution where they are employed and must report such transactions to that institution’s compliance officer. The guideline contains minimum requirements and institutions are required to translate them into an insider regulation of their own, which may include further requirements.

**International consultations on banking supervision**

With changes within the financial system being more and more international in nature, supervisors must increasingly look beyond their national borders. Supervisors have reacted to this development by reconciling their policies internationally on an increasing scale. A recent case in point is the second consultation document on the revision of the Basle Capital Accord. As a result of these plans, banking supervision is becoming more risk-oriented, and more qualitative in nature. The content and characteristics of this draft Accord are discussed in detail elsewhere in this Quarterly Bulletin.

The supervisors cooperating in the Basel Committee have also closely monitored the way credit institutions’ activities and risk profiles have changed as a consequence of electronic banking. In 1999, the Electronic Banking Group (ebg) was set up, with the task to make
recommendations about the ways in which banks can improve their risk management in respect of e-banking. In December 2000, the ebg presented a report, ‘Risk Management Principles for Electronic Banking’, to the Basel Committee. The report identifies 14 risk management principles which apply specifically to e-banking. The principles are distinguished by management oversight, security and reputational issues. In January and February 2001, the report was discussed at the national level for the first time. The intention is that, once the Basel Committee has assessed and processed the banks’ comments, the principles be published on the Committee’s Website. The definitive risk management principles can subsequently be used by the national supervisory authorities as a foundation for their own rules and regulations. For the Netherlands situation, this means that the Bank will determine to what extent these international rules on e-banking need to be supplemented and/or explained within the current rules on organisation and management.

At end-2000, agreement was reached with the banks on these rules on organisation and management. They provide a wide and general framework for the internal organisation of banks and risk management in their operational processes. The rules first deal with a number of general matters, such as the organisational structure, the internal supply of information and the role and tasks of a bank’s board of management and supervisory board. After that, a large number of more specific areas are addressed, such as the management of various types of risks, relationships with customers, integrity and information technology. The new regulation was drawn up against the background of societal developments with regard to corporate governance, compliance and integrity, and replaces a number of existing sub-rules, such as the regulation on the administrative organisation of credit institutions. The regulation is expected to enter into force as from 1 April 2001; it gives the banks a transitional period of one year during which to adjust their organisation and management to the new obligations.
Current developments in payments and securities transactions

Last year for the guilder

The Dutch guilder loses its status as legal tender on Monday 28 January 2002, ending an almost 500-year history of paying in guilders in the Netherlands. The guilder’s last year is dominated by preparations for the euro changeover. Since 1 January 1999 the euro has been used as a means of exchange and settlement in non-cash payments by banks and large enterprises and on the European financial markets. This has contributed to the steady integration of the European financial markets, paving the way for the cross-border stock exchange merger Euronext. The Bank’s own payment system too has worked successfully in euro for over two years, as have those of the other European central banks. The euro will be introduced for domestic payments by the commercial sector and consumers on 1 January 2002. At that stage, smart cards may have gained popularity among Dutch consumers thanks to several initiatives to promote their use. That could simplify the changeover of notes and coins. But plenty of work still needs to be done before everyone in the Netherlands can use euro for both cash and non-cash transactions.

Dutch changeover plans in an international context

To ensure that the euro introduction proceeds as smoothly as possible, the euro area countries recently drew up changeover plans which have been further developed as 6-day approaches. A comparison of the scenarios for the introduction of the euro in the various Member States shows that the period when the national currency and the euro are both legal tender is the shortest in the Netherlands, namely to 28 January 2002. Although in Germany the d-Mark ceases to be legal tender as early as 1 January 2002, German retailers have promised to accept the d-Mark up to 28 February 2002. As regards the frontloading of banks and retailers with euro notes and coins as permitted by the ecb, the Netherlands has the latest starting date: 1 December for banks and for the retailers that use a security transport service. Small retailers may collect their initial reserves of euro notes from their own bank from mid-December onwards. This means that these reserves need only be stored for a limited period. The Netherlands is also the only country with a fine-distribution network for the coins to retailers as described in more detail below. However, no notes and coins may be delivered to retailers outside of the euro area before 1 January 2002.

Most countries intend to make euro coins available to the public in the second half of December this year. The Netherlands is so far the only country to offer a set of coins free of charge. An agreement was made with the Ministry of Finance that the Bank would look after the production of these free euro kits and set up a distribution system. The value of the euro kits, which contain one of each of the eight coins, is eur 3.88 (nlg 8.55). Every resident in the Netherlands above the age of six shall receive a voucher for collecting the set of coins along with an informative brochure on the euro introduction and the security features of the new notes and coins. As of 1 January 2002, all atm’s in the Netherlands will dispense euro notes only. The retailers’ need for change in euro will be restricted by bringing more notes of lower denominations into circulation at the time of the cash changeover. In the Netherlands, Germany, Greece and Portugal, notes of 5, 10, 20 and 50 euro shall be dispensed via atm’s. In other countries, only the higher denominations will be available through atm’s. Moreover, in most other countries the adjustment of atm’s to euro will not be completed until the first two weeks of 2002.

Cash changeover in the Netherlands

A vital factor in the Dutch changeover scenario is the rapid, and increasingly widespread, use of the euro by the public after 1 January 2002. This will restrict the reserves of euro change that the retailers need to maintain and will simplify payment. In view of this, sets of euro coins can be bought from banks, department stores and large supermarkets as of 17 December 2001. These so-called consumer packs shall cost nlg 25 and consist of 32 coins. In addition, the public will be asked to keep the guilder transactions balances as low as possible at the end of 2001. This autumn the banks, as part of a ‘National Savings Week’ will encourage the public to empty any guilder savings tubes and other hoards of coins. The banks will also mount collection campaigns for coins remaining after the cash changeover. It should be noted that Dutch people can still change their guilder coins at banks (up to 31 December 2002) and at the Nederlandsche Bank (up to 1 January 2007). Nonetheless, all is geared to withdrawing guilders from circulation as quickly as possible and to using the euro for payments. In the interests of a smooth and swift introduction, it is essential that all parties which play a central part in the changeover are fully ready. Individual market participants thus need to
keep themselves informed of the agreed changeover plans. The Bank and the National Forum for the introduction of the euro (nF€) intend to make every effort to clear up any misunderstandings via a good publicity campaign and consultations, and to assist enterprises in making a well-prepared start to the year 2002. To this end, the nF€ has developed brochures of pilot studies for ten lines of business, giving enterprises a step-by-step account of the aspects of business operations affected by the introduction of the euro.

Production of euro banknotes and coins
The production volume of euro banknotes is based on the current circulation of the national currencies. In order to replace the guilder circulation and to build up logistical reserves, the Bank has ordered the production of 65 million euro banknotes. The amount required for initial distribution will be ready by September 2001 at the latest. At end-January 2001, 120 million euro banknotes were completely ready for distribution, having passed through all the production processes and checks. Of the 2.8 billion Dutch euro coins minted under the auspices of the Ministry of Finance, 70% is ready. Stringent agreements were made on the technical specifications to ensure that the euro coins from the various countries could be mutually exchanged and accepted by all coin machines. The ecb monitors the quality testing of the coins and banknotes. The aspired quality control ensures that both the visual and the technical (machine-readable) features of all the euro banknotes issued in the euro area are identical. Tests since carried out at the ecb and the Royal Dutch Mint by coin machine manufacturers have shown that both the euro banknotes and the euro coins comfortably meet the requirements.

Distribution of euro banknotes and coins
The rapid changeover scenario requires that retailers receive enough euro in time to return change. The basic principle of the distribution process is that the security transport companies continue to serve their present clients (banks and large shops etc). The estimated 200,000 or more retail outlets which do not yet use a security transport service for coin transport can, in the period from 27 December 2001 to mid-February 2002, use a fine-distribution system designed specifically for this purpose. This system provides for the free door-to-door delivery of standard packages of euro coins. Retailers should place the first order of euro coins at their own bank while subsequent orders can be made through a call centre, specially set up for this purpose.

Return of guilder banknotes and coins
During the transitional phase when the guilder and the euro are both in circulation as legal tender, guilder banknotes and coins will have to be withdrawn. Commercial banks and retailers can receive compensation for returning guilder coins. The coins must be counted and sorted per denomination and submitted in one of the prescribed forms of packaging. The compensation for the returned coins amounts to €1.11 for a standard bag. The bags for the higher denominations contain less coins than those for the lower. There are 200 coins to a bag for five guilder and two-and-a-half guilder coins, for guilders 500, for 25-cent and 5-cent pieces 800, and for ten-cent pieces 1,000. The banks have also offered to waive the charges for lodging guilder banknotes for small and medium-sized enterprises, which do not generally use secured transport.

The non-cash changeover
To enable non-cash payments in euro too, many administrations and systems of banks and enterprises still need to be adapted. For a smooth and rapid transition, it is imperative that these are ready in time. The government determined a changeover scenario as early as June 2000, with the parties involved agreeing to tackle the preparations quickly and energetically. But notably small and medium-sized enterprises, and local authorities, are lagging behind in their preparations. Many enterprises even indicated at the end of last year that they had either not drawn up a plan of action at all or had just barely begun to do so. The fact that many are behind schedule is reflected in orders for the necessary adjustments to Pos terminals: 157,000 Pos terminals

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The introduction of the euro is given in a separate article in this issue. The preparations by the banking sector for the changeover are on at least the same scale as the activities involved in the millennium date change, but with significantly more far-reaching and complex effects on normal business operations. A further complication is that the ‘normal business operations’ of many banks are already subject to change due to mergers, reorganisations and external developments. With the help of well-thought-out and timely project planning, a vigorous approach to getting tasks done, internal deadlines which allow for unexpected delays and the experience gained during the introduction of the non-cash euro on 1 January and the millennium date change, banks will, as far as can now be judged, be able to complete their preparations in time. Whereas in early 2000 there were some indications that the scale and complexity of the changeover was being underestimated, these had disappeared at the start of 2001 and the banks are well on schedule. More detailed information on the preparations by the banking sector for the introduction of the euro is given in a separate article in this Quarterly Bulletin.

The above shows that the Bank and the institutions involved are now working hard on the various projects that arise from the changeover scenario. As the guilder’s last year proceeds, attention will increasingly shift to the finer organisational details of the introduction and the development of emergency scenarios. The safety aspects of the security transport, fine-distribution and the facilities for the public are the main terms of reference.

Smart cards popular for euro payments?

Much still needs to be done before pIN cards and smart cards can be used to make payments in euro. In the context of the cash changeover, it is extremely important that the current pIN terminals are adapted for the euro in time. Indeed, the Bank welcomes electronic payment not only from the point of view of greater efficiency and security, but also as an aid in efforts to make a flawless transition to the euro. In 2002, two birds can be killed with one stone. Widespread use of pIN and smart cards reduces the need for banknotes and coins and makes for safer, quicker and notably exact payment. Less money in cash registers and purses at the start of 2002 has the extra advantage that far less coins and banknotes need to be exchanged. While pIN cards have already been very popular for some time, smart cards are a different story. However, in view of a number of recent initiatives, this seems set to change.

Smart cards on the rise?

Using the growth of electronic payments in 2000 as a yardstick, the Dutch paid more efficiently for their purchases in shops, restaurants etc. than in 1999. pIN card payments rose by nearly 15% to over 800 million transactions, equal to more than 719 billion in turnover on the retailers’ transaction accounts. The use of cheques continued to decline in 2000 to around 13 million transactions, half that of 1999. In 2000 there was no evidence of the mass use of smart cards (no more than an estimated several million transactions). Nonetheless, the growth in the use of smart cards in some sectors is now considerable. In the catering industry for example, the number of smart card payments in parking meters approximately doubled to 2.5 million transactions. Similarly, the public transport sector took in twice as many smart card payments, notably in Zeeland and the south-east of the Netherlands.

The infrastructure is prepared for further growth. More than 20 million bank cards have by now been equipped with a chip and 160,000 pINs terminals are fitted for payments with smart cards issued by banks. Around three-quarter of these are combi-terminals which can handle both pIN and smart card payments. The remainder – mainly telephone boxes and vending machines – are only suitable for smart cards.

Smart cards are particularly suitable for payments where the inconvenience (lack of suitable change) of paying in coins is most sorely felt, such as parking meters and vending machines for soft drinks and confectionery. Their application in canteens, libraries and public transport can also make things easier for the payor and the payee. Initiatives were recently launched to promote the use of smart cards in parking meters;
there are more than 13,000 in the Netherlands into which over 700 million guilders in cash is fed every year. Most of the revenue is collected in the larger cities, but they also face the highest costs in the form of repairs and loss of income through theft and vandalism. Adapting for the euro brings extra costs this year. Many municipalities find that this is the perfect moment to start collecting parking fees electronically and to do away with cash payment as of the year 2002. To facilitate this, a more specific statutory regulation is in preparation, with the precondition that sufficient sales points are in place where the public can use cash to buy a smart card that is not linked to any bank account. Brought onto the market by the banks, this card is not only suitable for parking meters but also for more general use by consumers who do not have a (Dutch) current account, such as tourists.

Trials with a so-called *tripperpas* recently got underway in Groningen. Instead of validating bus and tram cards, passengers register their journeys by swiping their passes along an electronic eye as they get on and off. The total amount owed is collected periodically via a continuous direct debit mandate. Separate cards are now being used but they can be integrated into bank cards at a later stage. In 2002 trials will be held with a national smart card for public transport by bus and train which, if the trials go well, could eventually replace the current national bus, train and tram cards. This application too could (in time) be integrated into the smart cards issued by banks. The successful launch of the banks’ smart cards in public transport is essential to create the basis for such an extensive use of smart cards as to have the desired effect of improving the efficiency of retail payments throughout society.

**Developments in large-value interbank payments**

Whereas consumers and enterprises will not pay each other in euro until next year, banks have been doing so since 1 January 1999. These payments are concentrated in the Bank’s payment system: *TOP*. This is a *Real Time Gross Settlement system* (*RTGS*), meaning that payments are settled immediately on a one-by-one basis, to the extent that the paying bank’s cover allows. Banks choose to pay each other through the central bank as these payments are ‘hard’: a payment is irrevocable and guaranteed. Domestic and cross-border interbank payments are settled in *TOP*. We refer to large-value payments, meaning large-value, generally urgent, payments between parties in the financial markets. The turnover in *TOP* in 2000 came to over EUR 18,000 billion, or an average EUR 73 billion per working day. Cross-border payments are made through the *TARGET*-system of the European System of Central Banks, consisting of the 15 linked systems of the central banks of the European Union and that of the ECB. The launch of *TARGET* has made it easier and cheaper to pay directly to foreign (or rather, EU-based) banks, so that banks make less use of correspondent banks. In terms of turnover, *TARGET*-transactions grew by 23% in 2000 to more than EUR 9,800 billion.

**Product improvements**

The *TOP*-system is regularly adjusted to improve existing facilities and to introduce new functions. The Bank has for example chosen to use *SWIFT* as the main means of communication with *TOP* participants. *SWIFT* is an international banking data communication network which has greatly advanced the standardisation of payment messages. By using electronic communication and global standards, considerable efficiency gains can be obtained in the interbank settlement process.

The options for communicating with TOP via SWIFT have been gradually extended over the last two years, leading to a surge in the number of SWIFT messages. Up to 1 January 1999, the Bank processed 700 messages a day. The arrival of TARGET, for which communication also runs through SWIFT, brought a sharp rise, with messages now already amounting to more than 32,000 a day on average. In addition, a new SWIFT message type was introduced in November 2000 which better facilitates the automatic processing of orders in the banks’ own systems (the principle of Straight-Through Processing®), which has furthered the efficiency of payments.

Besides via SWIFT, banks can also deliver their payment orders to the Bank via the so-called *TOP* Endstation (*TES*). The *TES* is a terminal which has been in use for many years for delivering payment orders and retrieving information on balances and accounts. The *TES* has gradually reached the end of its life span. Moreover, *TES* is no longer fully compatible with the advanced technological developments in international payments. It was hence decided to replace *TES* this year. The payment function of *TES* shall be fully replaced by the SWIFT software. This will achieve a further standardisation, which will advance the efficiency of interbank payments. The Bank supports participants in making the transition to the SWIFT network and has also enabled a few non-financial institutions (such as the State Treasury) to use SWIFT. The *TES* information retrieval function is replaced by *TOP*View, a web application.
designed by the Bank which allows participants to check their balance and other details of their account via a secure internet connection. View will be implemented for all participants between April 2001 and 1 January 2002.

**Euronext**

Like large-value payments, securities transactions with Economic and Monetary Union (EMU) have been conducted in euro since 1 January 1999. Within Europe, there is a trend for consolidation, as reflected in the merger, announced on 13 March 2000, of ParisBourse SA, Amsterdam Exchanges NV and Brussels Exchanges to form the first multinational European exchange, Euronext. The merger between the national exchanges was effected on 22 September 2000, after the Minister of Finance had recognised Euronext NV and Euronext Amsterdam NV as a stock exchange.

The objective of Euronext is to offer its customers efficient trading and cheap straight-through processing. To bring about this, the exchanges will merge in phases to form a single platform for trading, clearing and settlement. Trading is expected to be integrated by this summer, clearing this autumn and settlement in 2003. Euronext operates within three different jurisdictions and the local authorisations of the exchanges remain valid. Euronext is a holding company established in the Netherlands; it comes under the Dutch rules applicable to statutory two-tier entities.

**Consequences for services provided by Bank**

To promote the smooth functioning of payments and securities transactions the Bank, partly at the request of market participants, has begun to provide more and more services to the stock exchange organisations and the participating clearing members (banks). These services relate to the settlement of transactions, both on and off the stock exchange. The Bank carries out the cash settlement for the trade-for-trade facility with the Netherlands Central Securities Depository which provides the basis for the settlement of real time securities transactions on an order-by-order basis with payment in (Delivery Versus Payment). The cash settlement for the clearing of trades on the securities and options exchange via Clearnet branch Amsterdam (previously aex Securities Clearing and aex Options Clearing) is also conducted in the Bank’s system. Besides this settlement bank function, the Bank plays a role in managing the collateral which clearing members must put up for the clearing organisation. This allows the clearing members to use their pool of collateral at the Bank more efficiently. The Bank has entered into a special liquidity arrangement with Euronext Amsterdam Stock Clearing so that the settlement process is guaranteed in case a clearing member should default. The integration of settlement processes as a result of the stock exchange merger will affect the Bank’s services to the banks.

Following the merger of the stock exchanges in September 2000, the legal integration of the securities and options clearing of Euronext Amsterdam and Clearnet SA, Amsterdam Exchanges NV and Brussels Exchanges to form the first multinational European exchange, Euronext. The merger between the national exchanges was effected on 22 September 2000, after the Minister of Finance had recognised Euronext NV and Euronext Amsterdam NV as a stock exchange.

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**Consequences for oversight**

Under one of the provisions of the stock exchange authorisation granted to Euronext Amsterdam NV and Euronext NV by the Minister of Finance, the joint supervisors – the Nederlandsche Bank and the Securities Board of the Netherlands – must establish that trans-
actions conducted through the Dutch stock exchanges must be settled adequately through the relevant clearing and settlement systems. The exercise of this oversight is given shape in the oversight framework Clearing and Settlement Euronext (cse). Within this oversight framework, proposed changes in the field of clearing and settlement must be submitted to the Dutch overseer (the Bank and the Securities Board). The centralisation of the clearing activities is one such proposed change. From the perspective of oversight it was established whether the new central counterparty function, which Clearnet is to fulfil as of 1 February, meets the requirements of legal sustainability, risk management, operational reliability and transparency of the possible risks. In consultation with the Securities Board and the relevant supervisory authorities in France and Belgium, the Nederlandsche Bank has recently made a close assessment of the transfer.

The concentration of clearing activities and their cross-border nature place heavy demands on oversight, since the continuity of the system also needs to be safeguarded in different countries. Coordinated cross-border supervision and oversight is hence of great importance. To this end, the consultations between the supervisory authorities and overseers involved have been further defined in a Memorandum of Understanding. The assumption in this Memorandum is that the supervisors concerned with Euronext should have equal standing, reflecting the existing institutional frameworks in the three countries. It also acknowledges the need to maintain a clear and unambiguous line of communication with Euronext. The main objective of cooperation is the adequate control of the risks inherent in the clearing activities of Clearnet, such as counterparty risk, market risk and systemic risk and the operational and legal risks. The cooperation is based on the mutual recognition of the national jurisdictions, while at the same time taking account of the cross-border dimension of the activities and structure of the Euronext Group. For example the information requirements imposed on Euronext Group in the context of supervision and oversight are to be streamlined and coordinated by a specially established Coordinating Committee, comprising representatives from all of the supervisors involved in Euronext. This shall promote more efficient supervision. The oversight of the Euronext clearing house and clearing systems will come under the committee’s remit. The committee shall also set down and elaborate on joint criteria for the assessments and admission of clearing members to the tasks.

Principles and recommendations for payment and securities systems

At the beginning of January, the Bank for International Settlements published two reports containing core principles for the structure of settlement systems for payments and securities transactions. The reports were prompted by the focus on financial stability following on the financial crises in the late 1990s.

The first report, Core principles for systemically important payment systems was drawn up by the Committee on Payment and Settlement Systems (cpss). This report sets out ten core principles for the design of payment systems which are essential to the proper functioning of an economy: the so-termed systemically important payment systems. The standards relate to measures to

Box Core principles for systemically important payment systems

These core principles were developed to improve the security and efficiency of systemically important payment systems. Central banks are responsible for overseeing their application.

The principles state – here in the form of bullet points – that a system should

- have a well-founded legal basis under all relevant jurisdictions;
- give a clear insight into the financial risks run by participants;
- have clearly defined procedures for the management of credit risks and liquidity risks;
- provide final settlement on the day of value, preferably several times a day;
- where multilateral netting takes place, be capable of completing daily settlements in the event the participant with the largest settlement obligation is unable to settle;
- preferably settle with assets which are a claim on the central bank;
- have a high degree of security and operational reliability;
- offer a practical and efficient means of payment;
- have objective and publicly disclosed criteria for participation;
- contain effective, accountable and transparent governance arrangements.
counter risks, admission requirements, efficiency and governance (see Box). Central to the measures to counter risks is the principle that transactions in systemically important payment systems should be settled using central bank money. The report draws extensively on the Lamfalussy standards which were laid down in the early 1990s, especially in respect of risk management of netting systems. These standards form an integral part of the core principles. The report consists of two parts: the first sets out the core principles, describing each in brief. The second gives additional background information on the various principles in the hope of leaving no room for misinterpretation as to their application. Along with the actual core principles, the responsibilities of the central bank in applying them are listed in a separate section.

In addition a consultative report Recommendations for Securities Settlement Systems was published containing core principles for securities settlement systems. This report was drawn up by a joint Task Force created by the CPSS and the International Organisation of Securities Committees (IOSCO). The report contains 18 recommendations for the settlement of securities trades, with the principles for payment systems forming the primary point of departure as regards the cash leg. The report is still at the draft stage. Interested parties are invited to submit their comments on it in the first quarter of 2001 and the Task Force will continue to develop the final recommendations. The recommendations address similar points as the Core Principles for payments systems, bearing in mind that some aspects of securities transactions do not arise in the context of payments. The link between the completion of a securities trade and its settlement is also under consideration. One of the recommendations is that trades should be matched as soon as possible to avoid the emergence of misunderstandings between the parties, which could entail liquidity risks, on the day of settlement. The report also reviews the issue of safe custody in relation to securities transactions. Another important point is the nature of the assets used to settle the cash leg of securities transactions. In line with the report on payments systems, the draft text expresses an implicit preference for settlement in central bank money where possible. The Bank is in favour of settlement in central bank money, mainly with a view to risk mitigation, and, as mentioned above, offers this service to Dutch banks.
The banking industry’s preparations for the second phase of the euro introduction on 1 January 2002 are in full swing. Key priorities are the adaptation of the bank’s core IT systems (insofar as not already done when the non-cash euro was introduced on 1 January 1999), the introduction of the euro into the funds transfer system for retail payments and the exchange of guilders money for euro notes and coins. All in all, after the introduction of the non-cash euro on 1 January 1999 and the millennium efforts, this is another tall order for the banks, Interpay, security transport firms and the Nederlandsche Bank. With nine months to go until v-day the present article outlines how the Nederlandsche Bank is closely monitoring the progress and status of the banking sector’s preparations for the euro. The Bank concludes that the preparations of the banking sector are on schedule. Which is just as well, as timely and adequate preparations are a crucial precondition for ensuring that the introduction of the euro (in both non-cash and cash form) is executed as smoothly and safely as possible for society at large.

Introduction

With only nine months to go, the preparations of the banking industry for the second phase of the euro introduction on 1 January 2002 have reached a crucial phase. The financial markets, of course, already switched to the non-cash euro on 1 January 1999. The second phase concerns the full introduction of the euro into the economy as a whole. To ensure the successful completion of this unique and massive project, it is necessary for the banking industry, retail sector, businesses, government agencies and non-profit organisations as well as the public to do exactly what is expected of them. Only then can the changeover to the euro take place as safely and efficiently as possible.

In the spring of 2000 the banks agreed that, as with the introduction of the non-cash euro on 1 January 1999 and the millennium transition, the Nederlandsche Bank would actively monitor and, wherever necessary, co-ordinate the preparations of the financial core infrastructure in the second phase of the euro changeover. In this context the ETF (Euro Second Phase) Project was set up to give the Bank’s staff an opportunity to periodically discuss the progress and status of the euro preparations with representatives of the financial core infrastructure. The financial core infrastructure is defined in this context as the ten largest banks in terms of retail payments, Interpay (the clearing house that handles interbank funds transfers in the Netherlands) and the Nederlandsche Bank itself. The aim of the ETF exercise is to make sure that the core banking sector will be ready in time for the launch of the euro on 1 January 2002 and to identify any bottlenecks at an early stage. In concrete terms, attention is focused on the following banking activities, which all require system adjustments:

- The adoption of the euro for retail funds transfers. This involves the euro changeover of standard non-cash products such as optically readable transfer forms, giro collection forms, cash dispensers and electronic point-of-sale payments (debit card, e-purse and credit card payments).
- The adaptation of administrative core processes and systems to support the changeover of the basic accounting systems of banks (e.g. ledger and customer accounts) to the euro.
- The exchange of guilders for euro notes and coins. This exercise is being prepared along the lines of the scenario agreed in April last year in the ETF (National Forum for the launch of the euro). In the Netherlands the BEO (Euro Changeover Bureau) based at the Nederlandsche Bank serves as the control room for the logistical preparation and implementation of the euro changeover.

Adaptations to the banks’ systems

At many banks 1 January 2001 was an important date. It was the date when the status of the system adaptations and tests were to be reported to the internal euro project bureaux. The ETF interviews show that the banks and Interpay are engaged in intensive efforts to implement the required system adaptations and that the euro is invariably a high priority for the IT departments. Obviously, many systems were already equipped to process guilders and euro (large-value interbank payments, treasury, securities) when the non-cash euro was introduced on 1 January 1999. However, it turns out that the second phase of the euro introduction on 1 January 2002 is compelling the banks to find a definitive solution for incorporating the euro into the systems as the central currency (ledger and current account administration, mortgages, consumer loans, savings products, funds transfers and office cash systems). As a consequence, apart from finding fundamental euro solutions for core systems, the banks are also having to make a great many adjustments to subsystems.

Judging by the current progress the financial core infrastructure is expected to have its business-critical systems ready for the conversion to the euro by 1 July.
2001. It should be noted, however, that some adjustments will still be necessary in other systems. This means that not all banks will be fully euro-compliant on that date. In addition, several banks will still need to carry out essential testing activities, such as end-to-end testing, after 1 July 2001.

The banks and Interpay recognise that the elimination of the guilder from systems after 1 January 2002 requires their closest attention and may pose risks in terms of disruption of business processes. It is too early at the present stage to draw up scenarios for this (most institutions plan to address this issue after the summer).

Adaptations to the interbank systems

In addition to the systems and products of individual banks, interbank systems and products must also be adapted to the euro. In this case, too, the deadline agreed between the banks is 1 July 2001. Interpay occupies a central position in the interbank infrastructure, particularly in relation to the processing of non-cash retail payments such as direct debits, point-of-sale (POS) terminal payments, funds transfer forms, salary payments, giro collection forms and the settlement of cash dispense transactions performed by non-customers. On 12 February 2001 the changeover of the clearing data of Interpay (bulk and telegiro) for settlement in the POS terminals of the Nederlandsche Bank was successfully effected. The interbank euro testing process for POS terminals and non-customer use of cash dispensers is to take place over the coming months. The system adjustments at Interpay for processing euro giro collection forms will be completed on 1 April 2001. According to the plan, market players will perform external user tests at Interpay from 1 July to check the processing of euro giro collection forms (the ordering process at printers will start in March). These tests will focus on the readability of the part of the giro collection form that is printed by 20,000 different firms. The preparations at Interpay for these tests are on schedule.

Apart from a technical adjustment at the ‘back’, the cash dispensers must also undergo a physical adaptation at the ‘front’. The cash cassettes, after all, have to be adjusted to the dimensions of the euro notes. Banks can either carry out this physical adaptation themselves or ask the suppliers or re-fillers of the cash cassettes to do the job. All orders have already been placed.

The responsibility for converting the POS terminals rests with the retailers and formally falls outside the responsibility of the banks and Interpay. The POS machines play an important supporting role in the conversion operation and can also offer an alternative if there is any shortage of euro notes and coins. The account managers at banks and Interpay will again contact retailers to stress the importance of converting their POS terminals in good time. Any machines that are not adapted will become completely useless for the processing of debit card or e-purse payments from the very first day, i.e. 1 January 2002.

Conversion strategy

Here conversion refers to the one-off guilder-to-euro conversion of data (such as balances) in automated systems. With most systems this can be done separately from the adjustment of the systems themselves. As with system adjustments, procedures and programmes are written and risk analyses are made for the conversions. Prior testing also takes place in the form of a trial conversion.

Most of the major banks have opted for a conversion strategy where the ‘mass’ conversion of customer accounts (e.g. savings accounts, employee savings accounts, credit accounts and – at the end of the process – current accounts) from guilders to euro will be effected in phases, starting from the autumn of 2001. In addition, from a certain date products will exclusively be offered in euro (though the guilder amount will also be stated to help customers). For some time now, all banks have been familiarising customers with the euro by providing information on bank statements in euro as well as guilders; this mostly concerns the account balance, but one or two banks have recently started to provide dual-currency information for each account movement. Particularly in this latter case, the visible effect of conversion will be minimal. Some banks, incidentally, have already started to change customer accounts over to the euro. Owing to the many millions of accounts held at each major bank, a big bang approach is impossible and would also involve significant risks (partly due to the processing time that the IT systems require).

Most of the smaller banks, however, have opted for a big bang strategy and will implement the conversion during the four and a half days of the long conversion weekend (Friday evening 28 December 2001 to Tuesday 1 January 2002). Friday 28 December is therefore the last working day of 2001 on which funds transfers will be processed. The conversion will also place a heavy burden on the smaller banks. After all, though they have fewer accounts to convert, their systems also have...
Preparation for the changeover of notes and coins

Interviews that the Bank has conducted clearly show that in the past months the banks have been making very thorough preparations for the changeover of notes and coins. In addition, a number of banks have switched over to more centralised control and co-ordination of the notes and coins process, while also providing the Board of Management or Executive Board with more regular information. At many banks, however, this approach must still be translated into more complete and more detailed project planning and scheduling. In general it seems fair to say that a lot of work remains to be done, in terms of both planning and operational preparations, before the banks will be ready for the changeover of notes and coins.

One important success factor for a rapid, smooth and safe notes-and-coins changeover is good transport planning between the banks and the security transport companies. All banks with whom talks have been conducted indicate that they have had intensive contact about this with their security transport firms. All parties interviewed are fully aware of the arrangements made for the beo’s Ordering, Depositing and Entry Project (administrative processing of security transports). The interviewed banks are confident that their organisations can meet the deadlines.

Another crucial project for a successful notes-and-coins changeover is the fine distribution project (point-of-sale institutions that are not customers of security transport firms will be supplied free of charge, while the guilder coins will be simultaneously removed). The major banks are intensively involved in the preparations of this project and claim that they are fully aware of and capable of meeting the beo arrangements. The smaller banks were found to have an information backlog in relation to the fine distribution and their preparations are consequently lagging behind those of the major banks. In the case of smaller banks the fine distribution system can be said to be less relevant in view of the nature of their customers. For other smaller banks, however, it is definitely important to make sure that their corporate point-of-sale clients participate in the fine distribution.

During the conversion of notes and coins, the banks will be confronted with a much larger number of customers at the counter; not only personal customers but also, despite the system of fine distribution and extra security transports, many business customers. All banks indicate that manuals still have to be drawn up, outlining for each branch what activities and adjustments must be made to the branch and the customer service counter. The major banks claim that these manuals will be ready towards the end of the first half of 2001. A more detailed elaboration at instruction level will then still have to take place. It should be noted, however, that a great deal of fact-finding has already been done at the branches. For instance, virtually every bank indicates that it has mapped out the expected cash flows per branch and checked whether the safe-deposit capacity will be adequate and – if not – how this can be resolved (e.g. installing extra safe-deposit boxes).

On the subject of bottlenecks the banks sketch a diverse picture. Uncertainty about the public’s behaviour (the possibility of mass visits to the branches to exchange cash) and about the behaviour of the point-of-sale institutions (the risks of visiting branches rather than using fine distribution as well as the failure to have all pos terminals euro-compliant in time) is mentioned several times. According to the banks, massive euro information campaigns aimed at the public and point-of-sale institutions are essential. In the opinion of several banks, the nfe campaigns should be stepped up. Through their account management, incidentally, the banks will find out whether businesses are responding adequately to the various information campaigns. In addition, they will also look at each specific customer group to see whether there are any companies that may give rise to problems if their euro preparations prove insufficient.

Communication

To ensure that the second phase of the euro introduction proceeds as smoothly as possible, it is absolutely vital that businesses, government agencies, organisations and the public are properly informed about the pending euro changeover and also know what role they are expected to fulfil. For this reason, the information campaign is of great importance and will partly determine the progress of the changeover of the funds transfer system for retail payments and the exchange of guilder notes and coins for euro notes and coins.

While the emphasis in the current phase of the nfe euro campaign is on building up general knowledge of
the euro (value, conversion, length of dual period, etc.), the focus will shift to influencing behaviour after the summer holidays. The question is: how can the banks best link up with these efforts? The banks have their own responsibility towards their clients. When the non-cash euro was launched, they provided information through account managers as well as mailings, folders, etc. At this stage, too, a lot has been done in the way of communication and the feasibility of a joint folder on the non-cash euro (in addition to the nfv/bo brochure on the notes-and-coins changeover which is to be distributed before the summer) is being studied in the context of the nvb (Netherlands’ Bankers Association). The banks and Interpay have indicated their communication plans will be based on general information from the nfv while the bo information will be used as a guideline for their communications on the notes-and-coins process.

Various banks have already informed their clients in the autumn of 2000 about the conversion process for the various banking products. Other banks still have to work this out. It was found that the communication plans still need to be elaborated in full detail and that the communication messages also still have to be given shape. As far as the introduction of euro notes and coins is concerned, it is important not to elaborate the communication plans until the scenario has been detailed (e.g. the distribution of consumer packages and eurokits).

One separate process concerns the communication plan of Interpay. This overarching euro plan outlines the distribution of tasks between Interpay and banks, indicating what Interpay must communicate and what the banks must communicate. The plan is currently being worked out further, after which banks will be provided with additional information for their own communication plans.

Apart from the concrete implementation of communication plans it is important that the banks also give these an immediate follow-up to find out whether the communicated information is being adequately taken up by the business community, government agencies, non-profit organisations, associations and the public. The account management could possibly play a more active role in this respect. Furthermore, it is important to give visible follow-up to aspects that have a direct impact on the functioning of the payments system. The Interpay reports play a crucial role in this respect. Since as early as last year, for instance, Interpay has been keeping track of the number of orders for making pos terminals euro-compliant. On 1 March Interpay started making an inventory of bank clients who still work with outdated funds transfer file formats.

Conclusions

On the basis of the interviews with the institutions which form the financial core infrastructure, the following conclusions may be drawn:

● The financial core infrastructure is engaged in intensive and thorough efforts to implement the remaining system adjustments and to write conversion software for the definitive transition to the euro. It is to be expected that the banks and Interpay will have completed the adjustment and testing of business-critical core systems for the conversion to the euro (funds transfers and notes and coins) by 1 July 2001. Next the banks will focus on introducing scenarios in their organisation and drawing up back-up and emergency plans.

● The adjustments to the interbank infrastructure (the Interpay domain) are also expected to be completed by the interbank deadline of 1 July 2001 without any problems.

● The banks have opted for a step-by-step and product-by-product conversion strategy for their customers, the main purpose being to minimise risks and to promote the euro dynamics. Though customer conversion has already started at some of the major banks, most bank accounts (savings, mortgages, loans, payments) will be converted from the autumn and during the year-end long weekend. In addition, from a certain date, customers will be exclusively offered euro products when they open an account.

● The last working day of 2001 on which funds transfers can be effected by the banks and Interpay is Friday, 28 December (on Monday, 31 December the bank branches will be open for cash transactions).

● Both cash dispensers and point-of-sale (pos) terminals play an important role in the conversion scenario. The interbank testing of non-cash euro settlement will start from March. The banks have placed orders or made arrangements for the physical adjustment of the cash dispensers. This will be followed by the interbank testing of pos terminals.

● In the past months the banks have made substantial progress in the strategic detailing of the conversion scenario for euro notes and coins. It is crucial in this context that all banks now have an accurate idea of the flows of notes and coins and in many cases have reached an advanced stage of transport planning in consultation with the security transport companies. Nevertheless a lot remains to be done in the coming months to work out the euro notes and coin projects in greater detail. This is also the reason why various banks will come up with additional conversion plans in September, providing more detailed information on e.g. branch network arrangements and the training of counter staff.
To ensure that the transition to the euro takes place as smoothly as possible, it is extremely important that the communication plans of banks and Interpay are closely fine-tuned with the information plans of the NFF and with the BEO information. In this way, companies, institutions and consumers can prepare themselves as adequately as possible for the arrival of euro notes and coins and the changeover of the funds transfers for retail payments to the euro. Immediately after the summer holidays the emphasis must shift from general information on the euro to information designed to influence behaviour.
Articles
Economic convergence and monetary policy in accession countries

The European Union is preparing for its fifth enlargement, by a total of thirteen countries in Central and Eastern Europe and in the Mediterranean. This enlargement was induced by the collapse of the Soviet bloc and the fall of the Berlin Wall. Most accession countries are small, open economies engaged in a process of catching-up vis-à-vis the EU, a circumstance which makes specific demands on their monetary policies. This article shows that the accession countries differ materially from the EU Member States in several respects. It is concluded that these countries have various options for their monetary policies in the run-up to accession.
Introduction

Within the context of the EU’s current enlargement process, accession negotiations are underway with the following twelve countries: Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Slovenia. Turkey is the thirteenth candidate, but the conditions for starting negotiations have yet to be fulfilled. The overwhelming majority of the accession countries find themselves in a transition process from a centrally planned system to a market economy. Given the specific economic problems attending such a switch, this article focuses notably on the ten Central and Eastern European accession countries. Cyprus and Malta, which have longer experience of a market economy, and whose economies are fairly sound, are dealt with only in passing. This article presents an overview of the progress made in the process of transition and accession. It also goes into the potential role of monetary and exchange rate policy in the run-up to EU accession.

Economic background: progress made with transition

In 2000, for the first time since the transition process began, all accession countries recorded positive real GDP growth. While in the aftermath of the Russian, Asian and Balkan crises of 1998 and 1999, GDP growth had still averaged around 2.5%, it accelerated to an average of 4.2% in 2000 (Table 1). This cyclical upturn was notably accounted for by exports to the EU, but domestic demand also picked up. The latter seems to have benefited from an accommodating macro-economic policy stance and various structural reforms. Consequent on this cyclical recovery, but even more so the rise in energy prices and the appreciation of the dollar, the gradual decline in inflation in recent years was interrupted in 2000. As a result, the average consumer price rise came out at around 12.5%, as compared with 11.5% in 1999. For 2001 and 2002, international institutions expect GDP to show an average growth rate similar to that of the past year, while inflation may decline slightly again.

This overall picture masks major national differences. Whereas Hungary, Poland and Slovenia recorded relatively high and stable GDP growth rates in 1999 and 2000, the Czech Republic is embarking on a cautious economic recovery, following a prolonged and deep recession. Lithuania, too, which underwent a major economic slump after trade with Russia had largely collapsed in 1998, saw a cyclical upturn in 2000. Where inflation is concerned, the differences are even more pronounced. At the upper extreme there is Romania, with a very high inflation rate due to a lack of financial discipline within state-owned enterprises and a persistently high rise in wage costs. In Poland, the disappointing harvest of 2000 constitutes an additional explanatory factor for the rise in inflation on 1999 (in addition to the rise in world market prices for energy). Lithuania finds itself at the lower end of the spectrum, with price rises which have been influenced materially downwards since 1999 thanks to the appreciation of the Lithuanian litas, pegged as it is to the American dollar.

The transition from a centrally planned to a market economy has entailed major shocks to the economic activity of the countries concerned. After ten years of transition, only Poland, Slovenia, Slovakia and Hungary have either fully recovered or surpassed their pre-1990s production levels. This is shown in Chart 1, which presents the development of real GDP in the accession countries and the euro area against the reference year 1989. Only Poland’s cumulative GDP growth surpasses that of the euro area. If the four countries mentioned are disregarded, the production levels of the accession countries come out at around three-quarters of their 1989 levels. On average, they saw a 30% drop in economic activity, the turning point in the slump.

<table>
<thead>
<tr>
<th>Table 1 Growth and inflation in accession countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP growth</td>
</tr>
<tr>
<td>1999</td>
</tr>
<tr>
<td>Poland</td>
</tr>
<tr>
<td>Czech Republic</td>
</tr>
<tr>
<td>Hungary</td>
</tr>
<tr>
<td>Slovakia</td>
</tr>
<tr>
<td>Slovenia</td>
</tr>
<tr>
<td>Estonia</td>
</tr>
<tr>
<td>Latvia</td>
</tr>
<tr>
<td>Lithuania</td>
</tr>
<tr>
<td>Romania</td>
</tr>
<tr>
<td>Bulgaria</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

taking place in most countries around 1994. A clear distinction can be made between the five Central European countries and the other accession countries, because the latter saw a much deeper slump.

The progress made with structural reforms in the former centrally planned economies can be measured by transition-indicators drawn up by the European Bank for Reconstruction and Development (EBRD). For various dimensions of the transition process, these indicators, published annually, present an estimation of the extent to which the country concerned is approaching the functioning of a market economy. The scores allotted range from 1, i.e. completely centrally planned, to 4+ (or 4.3) when performance compares with that of a developed market economy. Table 2 shows that the accession countries still differ materially from the EU in a structural sense. An overall indicator for the development of an economy and the quality of economic institutions is per capita GDP. Per capita GDP for all these countries is still well below the EU level. This means that price levels are still relatively low, even though most prices have meanwhile been liberalised, suggesting that inflation may rise considerably over the next few years when prices converge to EU levels. Measured by the unweighted average of the transition indices of the EBRD, the five Central European economies have progressed the most, while the Baltic states (with the exception of Estonia) take a middle position and the accession countries in south east Europe clearly lag behind. Viewed by policy area, the greatest progress has generally been made with (trade) liberalisation and the privatisation of notably small enterprises. In the accession countries, Romania and Bulgaria apart, there are for instance no longer any small state-owned enterprises. On the other hand, a major effort is still needed in respect of reforms in the financial sector and the development of a competition policy. Where the latter is concerned, Poland, the Czech Republic, Slovakia and

Table 2  Structural indicators for accession countries
(1999)

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP per capita</th>
<th>Consumer price level</th>
<th>EBRD transition index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>37</td>
<td>40</td>
<td>3.4</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>59</td>
<td>33</td>
<td>3.4</td>
</tr>
<tr>
<td>Hungary</td>
<td>51</td>
<td>36</td>
<td>3.6</td>
</tr>
<tr>
<td>Slovakia</td>
<td>49</td>
<td>29</td>
<td>3.3</td>
</tr>
<tr>
<td>Slovenia</td>
<td>71</td>
<td>55</td>
<td>3.3</td>
</tr>
<tr>
<td>Estonia</td>
<td>36</td>
<td>38</td>
<td>3.5</td>
</tr>
<tr>
<td>Latvia</td>
<td>27</td>
<td>36</td>
<td>3.0</td>
</tr>
<tr>
<td>Lithuania</td>
<td>29</td>
<td>37</td>
<td>3.3</td>
</tr>
<tr>
<td>Romania</td>
<td>27</td>
<td>22</td>
<td>2.9</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>22</td>
<td>25</td>
<td>3.0</td>
</tr>
<tr>
<td>EU</td>
<td>100</td>
<td>100</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

1 On the basis of purchasing power parities.
2 Nederlandsche Bank’s calculation of unweighted average EBRD transition indicators.
3 = centrally planned economy; 4+/4.3 = market economy.
Hungary have advanced the furthest, although here too improvements are in order when it comes to, for instance, the implementation of legislation countering the abuse of market powers.

Institutional background: accession process

The accession process is made up of three separate stages: accession to the EU, membership of eur-mi-ii and finally the changeover to the euro. It is only the third step which makes newcomers full-fledged members of eur-mu. During the European Council of Copenhagen in 1993, the general criteria for the first stage, accession to the EU, were formally laid down. The accession countries must meet three requirements. To begin with, they must have stable institutions guaranteeing democracy, the rule of law, human rights and respect for and protection of minorities. Secondly, they must have a functioning market economy as well as the capacity to cope with the competitive pressure and market forces within the EU. Finally, the accession countries must be able to take on the obligations of EU membership, including adherence to the aims of political unification and eur-mu. In other words, they must adopt the Acquis communautaire, i.e. the entirety of legislation, rules and regulations, jurisprudence and other arrangement in force within the EU. When acceding to the EU, the new Member States will be given the status of Member States with a derogation for Stage Three of eur-mu, which means that they cannot change over to the euro forthwith. In the longer term, they are, however, obliged to do so. This means that they cannot resort to an ‘opt-out’ with regard to the changeover of the euro, as the United Kingdom and Denmark have done.

Following accession to the EU, a new Member State must consider the exchange rate policy as a matter of common concern. This means that they must endeavour to prevent major exchange rate fluctuations. Prior to changeover to the euro, new Member States are expected to join eur-mi-ii for at least two years. This mechanism offers accession countries the necessary flexibility via the broad fluctuation margins and the possibility of central rate adjustment. Exchange rate flexibility is desirable for accession countries, as they will be better able to absorb their mostly strong capital inflows (see below). As, following their accession to the EU, new Member States take part in the process of economic policy coordination within the EU, they are encouraged to pursue a national economic policy that underpins a stable exchange rate.

EU Member States can join Stage Three of eur-mu (the changeover to the euro) as soon as they meet the Maastricht Treaty convergence criteria, including membership of eur-mi-ii. Under the Treaty, they must have achieved sustainable convergence; in other words, the criteria will be interpreted as strictly as they were for the current participants. In this context, a major role is played by the criterion on price stability, which means that inflation in the accession countries must approach that in the euro area. One could say that this criterion is an implicit test of the extent of structural convergence achieved. While they are catching up with the EU, the accession countries will have relatively high inflation as price levels converge towards those in the EU and the rates of productivity growth among sectors diverge, as explained in more detail below. The challenge facing the governments of the accession countries is the sustainable reduction of inflation. In concrete terms, this process can be enhanced by promoting sound competitive pressures and countering the abuse of monopoly powers.

The progress made by the accession countries with regard to the Copenhagen criteria is assessed by the European Commission in their annual Regular Reports on Progress towards Accession, published in November. The Commission’s latest assessment round shows that nearly all accession countries now meet the first economic sub-criterion, the existence of a functioning market economy (Table 3). Apart from the six countries which already met that criterion in 1999, the Commission now also considers Lithuania and Slovakia to have a functioning market economy. In both these countries, discernible progress has been made with privatization, notably within the utilities and banking sectors.

Major changes were also recorded where the second economic sub-criterion is concerned: the ability to cope with competition and market forces within the EU. On the basis of the formulation of the Commission’s conclusions, the accession countries can be divided into several categories, with Estonia, Hungary and Poland taking a leading position after Malta and Cyprus, which already meet the criterion (Table 4). On the assumption that these countries will continue their current reform policies, they will meet the criterion ‘in the near term’. One of the foci of attention in all three countries is financial sector legislation and especially its implementation. Though placed in the same category by the Commission, the Czech Republic and Slovenia are required to make an extra reform effort in the shape of further privatization and the restructuring of state-
Table 3  Presence of a functioning market economy

<table>
<thead>
<tr>
<th>1999</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Poland</td>
<td>Estonia</td>
</tr>
<tr>
<td>Hungary</td>
<td>Hungary</td>
</tr>
<tr>
<td>Estonia</td>
<td>Poland</td>
</tr>
<tr>
<td>Slovenia</td>
<td>Czech Republic</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Slovenia</td>
</tr>
<tr>
<td>Latvia</td>
<td>Latvia</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Slovakia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slovakia</td>
<td>Bulgaria</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Romania</td>
</tr>
</tbody>
</table>

Source: EC Regular Reports 2000.

Economic convergence and monetary policy in accession countries

Table 4  Capability to cope with competition and market forces within the EU

<table>
<thead>
<tr>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘right now’</td>
</tr>
<tr>
<td>Malta, Cyprus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>‘in the near term’?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estonia, Hungary, Poland</td>
</tr>
<tr>
<td>‘if they maintain the current reform path’</td>
</tr>
<tr>
<td>Czech Republic, Slovenia</td>
</tr>
<tr>
<td>‘if they complete and implement remaining reforms’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>‘in the medium term’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latvia, Lithuania, Slovakia</td>
</tr>
<tr>
<td>‘if they implement current structural reform programmes and undertake further reforms’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
</tr>
<tr>
<td>‘but made further progress’</td>
</tr>
<tr>
<td>Romania</td>
</tr>
<tr>
<td>‘but made limited progress’</td>
</tr>
</tbody>
</table>

Source: EC Regular Reports 2000.
reopened in connection with the new central bank act, which imposes restrictions on the central bank's independence.

All in all, the progress made towards accession to the EU seems to have picked up again in 2000, following some stagnation in 1998 and 1999. In line with this development, the tone of the Commission's *Regular Reports* was more positive than in 1999. However, it must be noted that the interpretation of the progress made with the Copenhagen criteria is not always easy, because structural changes in an economy usually cannot be measured in any direct manner. For instance, it is not always clear why the Commission feels that a country meets the criteria in a certain year, when it failed to do so the year before. The more positive assessment of the Commission notwithstanding, the accession countries still have a considerable policy effort to make over the next few years. Apart from the negotiations about the more sensitive Chapters from the *Acquis*, their main challenge lies in the structural area. This is illustrated below on the basis of price determination.

**Price determination in transition countries**

The price determination of goods and services in transition economies differs from that within the EU on a number of major points. Consequently the accession countries still have widely differing price structures. It was pointed out earlier that the overall consumer price level in the accession countries is still low compared with the EU. Chart 2 shows that in Poland, the prices of services in particular are still well below the German level. This is a legacy from the centrally planned economy, when prices did not reflect supply and demand conditions. It must be remembered that prices were determined by the state, and that fluctuations in supply and demand played but a subordinate role. Whereas the prices of internationally traded goods usually rose towards international levels at an early stage of the transition process, prices for more domestically-oriented services caught up much more gradually. The analysis of price movements in the services sector should distinguish between market-determined prices, on the one hand, and administered prices, on the other.

In the market sector, prices are influenced upwards by what is known as the Balassa-Samuelson effect. It ensues from the fact that the growth of productivity in the domestically-oriented sector of the economy (which is roughly equivalent to the services sector) lags behind that in the open sector (the goods sector), whereas wages in the two sectors rise in tandem. The higher productivity growth in the open sector generates higher wage rises throughout the economy, so that unit labour costs and prices in the services sector rise relatively strongly. The greater the difference in pro-

---

**Chart 2 Price level for selected goods and services in Poland**

Percentages of price level in Germany

<table>
<thead>
<tr>
<th>Category</th>
<th>1995</th>
<th>1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational equipment and repairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal transport equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household equipment and operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clothing and footwear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel and power</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchased transport services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational and cultural services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical and health care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross rents</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Eurostat.

---
ductivity growth between the two sectors, the greater the upward influence on inflation ensuing from the Balassa-Samuelson effect. As the accession countries are undergoing a catching-up process in terms of economic growth and hence productivity, this mechanism probably plays a major role in the rise in the prices of services in the market sector. Quantitative estimations often show that, on account of the Balassa-Samuelson effect alone, inflation in accession countries may be 2-4 percentage points higher than in the EU.4

The second effect is that inflation in the transition countries is being influenced upwards by the gradual liberalisation or the policy-induced rise in administered prices. Compared with the EU, the share of administered prices in the CPI basket is still fairly high. According to the EBRD, the share of this component in the CPI basket ranges from 9% in Poland to nearly 26% in Estonia.5 The prices involved are often those for necessities such as rents, energy and transportation services. These prices are often kept artificially low by the government or raised only in stages. As these services will inevitably have to become more cost-effective in the future, they constitute a formidable source of potential price rises. Their impact on inflation differs materially from country to country and depends on the share of administered prices in the consumer price index, on the level of administered prices and on the price liberalisation policy pursued.

Which monetary strategy to be pursued by accession countries?

It is clear from the above that the accession countries will be facing price rises which are well above the EU average for a long time to come. In addition, these countries’ economic growth is still being influenced by changes consequent on the transition process. Empirical research shows that GDP growth and inflation in a number of accession countries do not yet have a high correlation with those in Germany.6 Notably in the Czech Republic there was virtually no correlation with GDP growth in Germany in the period considered (1993-99), while for Romania, the correlation was even negative. Where the Czech Republic is concerned, this low correlation can be attributed in part to the recession in 1997 and 1998, whose roots lay in excessive wage rises consequent on weak corporate governance, an imprudent lending policy on the part of banks, and a productivity growth which lagged behind the real appreciation. With a current account deficit which was rising rapidly, the Czech economy became vulnerable to changes in sentiments in the financial markets. In the spring of 1997 this resulted in a currency crisis and monetary policy consequently had to be tightened. This shows that accession countries are sensitive to asymmetric shocks which ultimately ensue from the transition process. So long as its economic development is dominated by structural changes, it will be difficult for a transition country to become part of an optimum currency area with the EU. Monetary policy, and more specifically exchange rate policy, must make allowance for this by maintaining the exchange rate as an instrument of adjustment. This is explained in detail below.

Exchange rate policy

The choice of a monetary strategy hinges on the choice between a flexible and a fixed exchange rate. The choice of the optimum exchange rate regime depends on the nature of the shocks to which an economy is exposed, as well as on the institutional and structural characteristics which are intended to absorb these shocks. Generally speaking, exchange rate pegging will be more attractive for a small open economy than for a larger one. However, successful exchange rate pegging is conditional upon the economic structure, measured by, for instance, the shares of various sectors in the total value added. If these are more or less in accordance with those in the anchor country, this will reduce the probability of asymmetric shocks. Further requirements are a flexible labour market and well-functioning product markets, so that asymmetric shocks can be absorbed by wages and prices.

As can be seen in Table 5, the accession countries’ exchange rate regimes and monetary policy strategies diverge considerably. The exchange rate regimes vary from completely fixed regimes to highly flexible arrangements. Poland’s flexible exchange rate regime reflects its relatively large economy and limited openness. Many smaller economies have opted for a more fixed exchange rate regime, while three countries, i.e. Estonia, Lithuania and Bulgaria have an extreme form of pegging, viz. currency boards. Under a currency board, the domestic money supply is covered by reserves and the exchange rate is pegged to an anchor currency by law. Monetary sovereignty is given up completely because the money supply must be covered by reserves at all times, and there is thus no way of controlling interest rates. Whereas Bulgaria’s currency board was established specifically as an instrument of stabilisation following a period of hyperinflation ending in 1997, the currency board in Estonia has devel-
Economic convergence and monetary policy in accession countries

Table 5  Monetary strategies and structural economic characteristics in accession countries

<table>
<thead>
<tr>
<th>Monetary strategy and exchange rate regime</th>
<th>Poland</th>
<th>Czech Republic</th>
<th>Hungary</th>
<th>Slovakia</th>
<th>Slovenia</th>
<th>Estonia</th>
<th>Latvia</th>
<th>Lithuania</th>
<th>Romania</th>
<th>Bulgaria</th>
<th>eu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary strategy</td>
<td>direct inflation targeting</td>
<td>direct inflation targeting</td>
<td>exchange rate peg</td>
<td>monetarist targeting</td>
<td>eclectic</td>
<td>exchange rate peg</td>
<td>exchange rate peg</td>
<td>eclectic</td>
<td>exchange rate peg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exchange rate regime</td>
<td>relatively flexible</td>
<td>relatively flexible</td>
<td>crawling peg narrow band</td>
<td>managed float</td>
<td>managed float</td>
<td>currency board eur</td>
<td>sdr peg</td>
<td>currency board usd</td>
<td>managed float</td>
<td>currency board eur</td>
<td></td>
</tr>
</tbody>
</table>

Economy’s size and openness

| Population (percentage of eu) | 10.3 | 2.7 | 2.7 | 0.5 | 1.4 | 0.4 | 0.6 | 1.0 | 6.0 | 2.2 | 100 |
| GDP (percentage of eu)        | 1.8 | 0.6 | 0.6 | 0.3 | 0.2 | 0.1 | 0.1 | 0.4 | 0.1 | 0.1 | 100 |
| Imports and exports (percentage of GDP) | 47 | 106 | 106 | 89 | 141 | 158 | 82 | 88 | 47 | 77 | 171 |
| Exports to EU (percentage of total) | 71 | 69 | 76 | 59 | 66 | 63 | 63 | 50 | 66 | 54 | — |
| Imports from EU (percentage of total) | 65 | 64 | 64 | 52 | 64 | 58 | 54 | 47 | 61 | 50 | — |

Similarities with euro area

<table>
<thead>
<tr>
<th>Shares in GDP</th>
<th>Agriculture</th>
<th>Industry (including construction)</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>5</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Industry</td>
<td>32</td>
<td>39</td>
<td>34</td>
</tr>
<tr>
<td>Services</td>
<td>62</td>
<td>57</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: imf and World Bank.
1 Relates to the eu’s external trade. Source: ecb.

oped into a cornerstone of economic policy since 1992. Hungary opted for an intermediate form, with the exchange rate gradually depreciating against the currencies of trading partners within the framework of its crawling peg policy.

Next to these general considerations, the accession countries are being confronted in the transition process with a number of specific challenges which are relevant to their choice of exchange rate regime. To begin with, the accession countries are relatively sensitive to speculative attacks on their currency, because of usually vast capital flows to these countries. A sudden change in sentiment in the financial markets, owing to doubts about consistency with domestic economic policy, but triggered by external factors too, may seriously put the currencies of the accession countries under pressure.

Estonia is the only accession country to have fully liberalised capital movements, while Poland, the Czech Republic and Hungary have also considerably mitigated their restrictions on (notably outgoing) capital, in connection with their membership of the oecd. In spite of possible derogations with regard to (components of) capital movements upon their accession to the eu, most advanced accession countries already have largely liberalised their capital accounts, which may hamper continued pegging. One exception is Estonia, which has succeeded in maintaining a currency board in combination with completely liberalised capital movements. Over the past few years, this country has benefited from the strong growth of productivity, especially in sectors with major inflows of direct investment from the eu. These sectors constitute the motor behind the favourable development of exports. Nevertheless, Estonia still has a lot of catching up to do, witness the still relatively low gdp per capita, also in comparison to, for instance, the Central European accession countries.

The second factor affecting the choice of exchange rate regime in the accession countries has to do with the
phenomenon that an economic catching-up exercise is usually attended by a real appreciation of the currency. Such a real appreciation can take the form of a rise in the general price level or of a nominal appreciation or both. In the case of a currency peg, real appreciation is only possible via overall price rises as the exchange rate is fixed. Pegging can consequently entail higher inflation than in the anchor country. A flexible exchange rate, on the other hand, can function as a ‘valve’, through which upward pressure on the price level can escape.

Thirdly, in choosing their strategy the accession countries need to make allowance for the requirements for EU membership described earlier in this article. On this point, the euro council (made up of the European Ministers of Finance) issued a statement in November 2000. The EU does not impose any requirements on monetary strategy prior to accession. After joining, however, exchange rate policy becomes a matter of common concern, which means that excessive exchange rate fluctuations and devaluations must be avoided. In addition, fully flexible regimes, crawling pegs and pegging to currencies other than the euro are not considered consistent with participation in EMU. Euro-based currency boards can in principle be compatible with EMU. However, there will have to be assessed on a case-by-case basis. As currency boards do not allow of exchange rate adjustments, this extreme case of pegging makes high demands on the flexibility of the economy. This goes even more for euroisation: the unilateral introduction of the euro. This would in principle be against the economic rationale of the accession process. Although the accession countries must ultimately pursue a fixed exchange rate policy, it is hard to determine at what exchange rate level the currencies of transition countries should be linked to the euro. There is consequently much to be said for allowing the market sufficient time, during the run-up to accession, to give an indication of a sustainable exchange rate for linking.

Maintaining some exchange rate flexibility is desirable in order to reduce vulnerability to potential disturbances from capital flows, and in order to absorb real appreciations. These factors do not lose their relevance once countries have joined the EU. The EMU crises of 1992 and 1993 showed the risks of premature pegging in combination with insufficient flexibility.

**Monetary strategies with a flexible exchange rate**

Next to exchange rate pegging, the most prevalent monetary strategies involve an eclectic strategy, monetary targeting, and a direct inflation strategy. An eclectic strategy such as that conducted by the Federal Reserve System (the American system of central banks), entails that the central bank does not wield an explicit intermediary target variable at which policy is directed. In accession countries, this strategy has its practical drawbacks, because their central banks are usually relatively young institutions still in the process of building up credibility where the fight against inflation is concerned. In accession countries, monetary targeting is also up against numerous practical problems because as a result of the major changes in the financial sector, demand for money is instable and the central bank’s ways of controlling the money supply tend to be thwarted by vast capital inflows.

In recent years, an increasing number of central banks, in both developed market economies and emerging markets, have switched to direct inflation targeting. This means that the central bank’s inflation forecasts in fact function as intermediary target variables for monetary policy. Of the accession countries, the Czech Republic and Poland have been pursuing such a policy since January 1998 and April 2000, respectively. For direct inflation targeting to be effective and credible, several conditions must be met. To begin with, the central bank must be able to pursue an independent interest rate policy. This means that it must not only be able to take independent decisions about the interest rate instrument, but also that its policy should not be dominated by fiscal policy. Therefore, a well-developed market for government debt is necessary. An independent central bank cannot do without a large measure of transparency and accountability if it wishes the target pursued to be credible. If the inflation target is not achieved, this must be communicated and explained to the public well in time, so that it does harm the central bank’s credibility. Another condition for successful direct inflation targeting is the existence of public consensus on the importance of low inflation. If the public is not convinced that policy is directed exclusively at an inflation target, and believe that other objectives are also being pursued, credibility suffers. Finally, the central bank must be capable of making accurate inflation forecasts, and have sufficient insight into the transmission process from policy instruments to inflation. This poses a problem for transition countries, for instance, because of the extensive structural changes and the usually brief time series of economic variables. Moreover, governments sometimes influence inflation via administered price adjustments, which cannot always be forecast properly.
In transition countries, the conditions to be met by direct inflation targeting are fulfilled only partially, although the institutional circumstances have improved. It is plausible that such a strategy will gain in efficacy as the accession countries develop further.

Given the major differences between the economies in question, it is impossible to give a general recommendation on the optimum monetary regime. This choice depends on the country-specific characteristics of the accession countries, such as the size of the economy, its openness, the flexibility of wages and prices and the measure of structural convergence towards the eu.

Conclusion

Having been delayed somewhat by the Russian and Balkan crises, the accession process has gained momentum again, in terms of both the structural progress made by the accession countries and the course of the negotiations with the eu. Various economic-structure indicators show that the accession countries still have a long way to go before they have achieved sustainable economic convergence towards the eu. So long as economic developments are influenced by structural changes stemming from the transition process, the accession countries will remain sensitive to asymmetric shocks. When it comes to choosing their monetary policy in the run-up to accession, the accession countries have several options, the optimum strategy depending on the specific features of their economies. In the run-up to the ultimate goal of adoption of the euro, they should in any case retain sufficient flexibility in their policy instruments. This will allow them to cope with asymmetric shocks, as well as with the process of real appreciation and strong capital inflows.

1 For a detailed description of the scores and methodology, see European Bank for Reconstruction and Development, Transition Report, 2000.
2 To be found on the Internet under http://europa.eu.int/comm/enlargement/report_II_00/index.htm.
5 See European Bank for Reconstruction and Development, op.cit. The figures mentioned relate to 1999.
Towards a new Basel Capital Accord

Extended proposals for a new Basel Capital Accord have been on the table since mid-January. This Accord determines banks’ minimum solvency requirements and better reflects the risks run by banks than the 1988 Accord which it supersedes, it can be more flexibly adjusted to new financial products and is more attuned to market practice. The Accord is innovative in that banks may use their internal ratings for calculating the minimum capital buffer required to cover credit and operational risk and may choose between simpler and more advanced methods. Potential risk-mitigating products, such as collateral, guarantees and credit derivatives can also lead to a reduction of the capital requirements. The supervisory review process shall monitor whether banks have a system for assessing their risk profile and strategy and whether they hold a corresponding amount of capital above the minimum requirements. Finally, the Accord aims to foster market discipline by ensuring that market players receive adequate and timely information from the banks. All in all, this new Capital Accord will further the financial soundness of individual banks and so contribute to the stability of the financial system as a whole.
Introduction

Banking supervision is primarily based on agreements made by the Basel Committee. This committee of supervisors from the G10 countries, including the Netherlands, was set up in 1974 in reaction to the Herstatt crisis in international payments and to the increasing internationalisation of banks. 1988 saw the conclusion of the so-called Basel Capital Accord, a worldwide standard for minimum capital or solvency requirements – i.e. a compulsory buffer of own funds – for banks’ credit risk. Next to fraud and mismanagement, credit or counterparty risk is the main risk to banks’ continuity. This standard represented a breakthrough in the international harmonisation of supervisory rules in respect of internationally active banks and has since been applied to both large and small banks in virtually all developed countries. Throughout the world, the Capital Accord brought about a major improvement of the solvency and so of the financial soundness of the banking system. This is illustrated in Chart 1 which shows the solvency of the major banks in a number of countries with a large financial sector over the past five years. The uniform rules have also greatly contributed to smoothing uneven competitive conditions between countries arising from differences in capital requirements.

The banking supervisors in the G10 countries published an extensive document in mid-January: the second consultative paper on the replacement of the by now heavily criticised 1988 Capital Accord. A few weeks later, the European Commission presented a proposal for new directives for the implementation of the new Accord in the EU. A distinctive feature of this new legislation is the express effort to keep in line with the concepts and methods of modern risk management, as encountered in a group of best practice banks. This is a further step towards the ideal situation in theoretical and practical terms, where legislation dovetails with practice in the banking system making for lower implementation and maintenance costs. This move towards efficiency is underlined by the Committee’s decision to taken an evolutionary approach: the consultative document for credit and operational risk introduces a choice between simpler or more advanced methods of determining capital requirements. The differences between banks are thus taken into account. Moreover, by setting lower capital requirements for banks which apply more sophisticated methods, the Accord gives banks an incentive to improve their risk management.

Banks have up to the end of May 2001 to react to the proposals. Although a definite accord could be concluded this year, it will still take until 2004 before the new regime comes into effect because of the requisite implementation phase and because the Accord will first have to be incorporated in national and EU legislation. However, the banks can already start to make preparations and build up the necessary experience.

This article next deals with the criticism of the existing Capital Accord and goes on to briefly explain the major components of the new Capital Accord. It then looks at the treatment of credit risk, the main form of risk for most banks.

Criticism

Although the merits of the former Capital Accord in promoting adequate solvency and a level playing field are generally acknowledged, mounting criticism has

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**Chart 1: Solvency of major banks in a number of countries**

Per cent; weighted averages; end-of-year figures

Netherlands | Germany | United Kingdom | France
---|---|---|---
Switzerland | United States | Japan

Source: Fitch IBCA and banks’ own statements.
Explanatory note: For each country, the five largest banks were selected on the basis of their end-of-year balance sheet total and on their listing in the top 50 of The Banker. In the Netherlands these banks are ABN AMRO, Rabobank and ING Bank.

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48 DNB / Quarterly Bulletin March 2001
been voiced in recent years. Under this Accord, loans are classified and, depending on the estimated degree of risk, given risk weights of 100, 50, 20 or 0 %. A capital requirement of 8% applies to these risk-weighted assets, the underlying assumption being that this capital is also sufficient to cover interest rate risk and other risks such as operational risk. The main objections are that the breakdown into risk classes is too indiscriminate and that the attendant risk weights do not reflect the actual risk accurately or are even quite arbitrary. For example loans to all enterprises are put in the same category and given a risk weight of 100%, regardless of the creditworthiness of the enterprises involved. Moreover, under pressure from increasing competition from financial institutions which are not subject to capital requirements such as pension funds, banks have become increasingly sensitive to capital requirements since capital or own funds is an expensive method of financing. As the risk premium in the interest on loans to enterprises of good repute – on account of the aforementioned competitiveness – is too low in the light of the solvency requirements, banks are either discarding these loans or taking them off the balance sheet by transferring them to separate institutions, known as special purpose vehicles. This process is termed securitisation. Loans to enterprises of less standing yield higher risk premiums and can remain on the balance sheet as before. The insufficiently precise regulations in the existing Accord stimulated a shift to a more risky credit portfolio while the capital buffer remained unchanged. Another shortcoming of the existing Accord is that it is too inflexible to accommodate financial innovations. This has the unwanted effect of curtailing the use of new potentially risk-mitigating products such as credit derivatives. Other criticism refers to the limited degree to which supervision uses the disciplinary effect of the market mechanism.

A new Capital Accord

As in the current Accord, the basic principle is that the solvency of internationally active banks should be monitored on a consolidated basis, i.e. including all foreign branches. A new feature is that banks’ holding companies must now be included (this has so far not been the case in the United States for example). Consolidation prevents the capital of subsidiaries from being counted twice. Nonetheless, the revised Accord asks supervisors to check whether banks which form part of a group also hold enough capital individually in order to guarantee that the capital buffer is actually potentially available for the deposit holders involved. Although internationally active banks were the focus of the Basel Committee’s approach, much attention was devoted to the position of smaller banks. Where possible, the requirements set for the application of more advanced methods have been worded in such a way that they can be met by at least some of the smaller banks. This promotes a level playing field for all banks and avoids harming small banks’ competitiveness.

With a view to the increasing complexity of banks and the rapid changes in financial products, the Basel Committee explored supplementary and more flexible instruments for banking supervision (Table 1). These were ranged under three pillars which shall be dealt with in turn: refined minimum capital requirements, the supervisory review and the reinforcement of market discipline.

Minimum capital requirements

For the determination of the minimum capital requirements for credit risk, three methods of calculation have been proposed which differ in the extent to which they are based on the banks’ internal estimates. In ascending order of complexity, there are three approaches: (i) the new standardised approach with fixed risk weights, similar to those in the present Accord but considerably improved, (2) the foundation internal ratings-based approach (3) and the more advanced approach. Notably the option of basing the breakdown of loans into risk categories on the banks’ own internal rating systems is rather revolutionary: rigid rules are to be replaced by instruments aligned to market forces. These approaches are discussed in more detail in the section on credit risk further on in this article.

Table 1 Outline of Capital Accord

<table>
<thead>
<tr>
<th>Pillar i: Minimum capital requirements</th>
<th>Pillar ii: Supervisory Review</th>
<th>Pillar iii: Market discipline</th>
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<tbody>
<tr>
<td>Credit risk</td>
<td>Economic capital</td>
<td>Transparency</td>
</tr>
<tr>
<td>– standardised approach</td>
<td></td>
<td></td>
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<tr>
<td>– internal rating based approach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operational risk</td>
<td></td>
<td></td>
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<tr>
<td>(Market risk: unchanged)</td>
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</tbody>
</table>
Besides credit and market risk, the new Accord also explicitly differentiates operational risk, i.e. the risk of loss resulting from inadequate internal systems or staff errors. The capital requirement for operational risk will on average constitute approximately 20% of the overall solvency requirement. The capital requirement is based on an evolutionary approach: banks can choose from three methods of measurement of increasing complexity and precision. The basic indicator approach links the capital for operational risk to a single risk indicator, such as gross income, for the whole bank. The second method is the so-called standardised approach which combines financial indicators with specific banking activities to determine the capital requirement. Both approaches are commonly prescribed by the supervisory authorities. The third method, internal measurement, draws on the banks' own experiences of losses arising from operational risk, based on different banking activities. This internal measurement approach is still in its early stages of development.

Supervisory review
The idea behind supervisory review is that the capital requirement arising from pillar I of the new Accord is no more than a minimum level which cannot adequately match the risk profile of each individual bank. Institutions need to operate above the minimum requirement and supervisory review is a means to ensure that they do. In this way, supervisory review acts as a fine-tuning instrument which can also counteract any decline in banks' solvency and possible changes in market conditions. The supervisory review process should ensure that banks have a good insight into the adequacy of their capital buffer relative to their risk profile and is based on four principles: (1) banks should periodically assess their capital adequacy in the light of their risk profile, new developments and exceptional circumstances and should formulate an appropriate strategy, (2) supervisors review this process and evaluate the banks' compliance with supervisory regulations, (3) banks should hold a capital buffer which is higher than the required minimum under the first pillar, and (4) supervisors are obliged to intervene at an early stage if a bank no longer has adequate capital.

Adequate implementation of the second pillar requires that supervisors have the means and methods at their disposal to monitor whether banks are still complying with the requirements and conditions set down in the legislation in order to take adequate and timely measures where necessary. The supervision of interest rate risk in the banking book also comes under this second pillar. Banks must have adequate internal measurement systems for the assessment of interest rate risk and supervisors should be particularly attentive to the capital adequacy of banks with a high interest rate risk profile.

Transparency
A supplementary form of supervision is the promotion of effective market discipline. Market forces can encourage banks to adopt more cautious management practices with sufficient buffers against future losses if market parties which provide the financing for banks (such as deposit holders and other banks) receive timely and adequate information. Riskier banks would in that case be penalised by higher financing costs. Banks will therefore in future need to regularly disclose information on matters such as (1) the amount and the quality of their capital, (2) the amounts exposed to risk and the methods to measure these risks, and (3) the degree of capital adequacy. The proposals in the third pillar are generally recommendations. It should be noted that supervisors are explicitly expected to attempt to correct banks which do not give sufficient disclosure. Moreover, efforts are being made to have the recommendations reflected in new international accounting standards. Some areas are, however, subject to transparency requirements. For example a bank may only use an internal rating system to determine capital requirements if it discloses all the prescribed information.

Credit risk
The treatment of credit risk is the most extensive and innovative component of the new Capital Accord. The following section therefore takes a closer look at how the minimum capital requirement for credit risk is determined.

Risk models
Banks were first given the option of basing the solvency requirement for their market risks on risk models of their own design early in 1998. This encouraged banks to use sophisticated and effective methods to measure and manage the in some cases very dynamic risks involved in lending. Market participants responded to this success by developing advanced credit risk models
which attempt to measure the credit risk of a bank’s overall portfolio and to determine the corresponding level of economic capital (the buffer which the bank itself deems necessary to cover certain banking activities). The strength of such models is the application of a single consistent risk concept for the entire bank, showing for example the consequences of diversification and concentration on the total risk profile. However, the scope of credit risk models is limited in practice, especially in setting capital requirements, due to the lack of adequate reliable data with which to estimate and test the models’ correlations. This means that there is so far no prospect of a sufficiently objective and transparent method of determining capital charges since such a method would have to guarantee that banks with the same risk profile would be subject to the same capital requirements. For this reason, the application of credit risk models in a revised Capital Accord is not feasible in the near future. However, it is clear that the current regulations have been structured so as to readily incorporate such models once they have been sufficiently developed. In this respect too, an evolutionary approach has been chosen.

**Internal rating systems**
The basic framework of credit risk models consists of an internal rating system, i.e. the banks’ assessment and classification of loans in terms of risk, or more specifically, in terms of the likelihood of default or even bankruptcy on the part of the debtor. The Committee has adopted this framework, allowing a sufficiently sophisticated bank to base its breakdown of loans into risk categories on its internal rating system. Each rating is assigned a risk weight which is multiplied by the size of the loan to determine the capital requirement. This risk weight is based on the banking sector’s experience as well as the Committee’s own model calculations. The resulting solvency requirement provides a capital buffer which is almost certainly large enough for an average diversified bank to absorb extreme shortfalls.

An internal rating system must obviously meet a number of requirements before it can be deemed acceptable for supervisory purposes. The rating system must be based on a consistent definition of risk, such as the risk of bankruptcy or expected loss, be applied throughout the bank, consist of sufficient gradations, and be verifiable. Banks are also obliged to give explicit criteria for their rating process; have access to sufficient relevant data over an adequate period of time; have used internal ratings for a number of years prior to approval (so that historical data are available for statistical analysis); and apply their method internally in its entirety (i.e. that internal risk management, credit acceptance and pricing policy be also based on these rating systems). As the supervisory authority, the Nederlandsche Bank will have to make considerable efforts to improve the internal methods and to continuously monitor their quality. In the foundation approach, banks solely determine the probability of default. This more straightforward form enables small banks and banks in emerging markets to use internal methods. As banks become able to comply with higher requirements, they may apply the advanced approach and devise their own models for a (growing) number of components, such as in the area of risk-mitigating instruments. The banks’ own methods may evolve within certain limits by covering more and more risk factors. Banks for which the internal ratings-based approach is too sophisticated or otherwise unsuitable can fall back on the standardised approach, in which the ratings and other determinants of capital requirements are prescribed. In many cases, the application of the internal ratings-based approach will require substantial efforts by the banks. The introduction of the internal ratings-based approach in the new Capital Accord hence forms – as has already emerged in practice – a strong incentive for banks to improve and expand their risk management.

**Standardised approach**
Expectations are that the majority of banks, especially those in non-EEC countries, shall not be able to adopt the internal ratings-based approach or shall decide not to for various reasons. These – generally small – banks can fall back on the new standardised approach which builds on the existing Accord as regards the breakdown of different kinds of assets into categories linked to risk weights. A new factor is that banks may use external ratings for this categorisation of assets so that, while the method remains relatively simple, the capital requirements better match a bank’s actual risk profile (Table 2). For exposures to sovereigns, banks may use the country credit scores published by national export credit agencies along with rating structures determined by agencies such as Moody’s, Standard & Poor’s and Fitch. For the risk weighting of banking counterparties, a national supervisory authority can choose to relate the capital requirements to the weight of the relevant sovereign or to base them on the external rating of the bank in question. External ratings can also be used for the corporate category which covers all debtors other than sovereigns or banks. Counterparties without a rating shall be
weighted with 100% as is now the case, while residential mortgages have a risk weight of 50%, and claims with payment arrears of 90 days or more are assigned a risk weight of 150%. Rating agencies must be objective, transparent and independent and be recognised by the national supervisory authority.

**Credit risk mitigation techniques**

The broader recognition of risk mitigation techniques is expected to make a substantial contribution to the risk sensitivity of the new Accord. The new system for the recognition of collateral and guarantees (including credit derivatives) can be used in both the standardised method and the foundation version of the internal ratings-based approach. Collateral can lead to a lower capital requirement provided that there is legal certainty as to how it may be realised, a low correlation to the risk of the underlying exposure and that all attendant risks are adequately controlled. In the standardised method, the recognition of collateral applies only to certain readily marketable and liquid financial instruments. For the adjusted value of the collateral, the underlying claim is largely exempted from a capital charge. The internal ratings-based approach includes an arrangement for real estate as collateral. For guarantees and certain credit derivatives, the principle applies that the risk weight of the underlying claim can be replaced by that of the guarantor. A guarantee is only recognised for capital adequacy purposes if it is direct, explicit, irrevocable and unconditional and if a number of operational requirements are met.

**Securitisation**

Securitisation is the conversion of a group of assets, such as mortgage claims, into marketable securities. Once sold, these assets disappear from the banks’ balance sheets and no capital need be maintained against them. In this way, banks can boost their solvency ratio or attract cheaper financing. The new Accord contains a number of criteria to determine whether, as regards the solvency test, assets can be removed from the balance sheet. The nominal value of the guarantees against loss issued by banks is deducted in its entirety from their actual own funds. A 20% risk weight has been introduced for a short-term liquidity facility. A risk which is more difficult to quantify is reputation risk which could prompt a bank – if the assets which it put on the market are performing badly – to voluntarily choose to protect the investors against losses. In order to avoid this implicit risk, the Basel Committee has chosen a qualitative approach involving the return of all the assets in a transaction to the balance sheet of the relevant bank as soon as it emerges that it gave unauthorised, non-contractual support to a transaction. Should this occur on more than one occasion, the bank shall not be allowed to undertake any more securitisations.

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**Table 2 Risk weights of standardised method based on external ratings**

<table>
<thead>
<tr>
<th>Risk weight</th>
<th>0 per cent</th>
<th>20 per cent</th>
<th>50 per cent</th>
<th>100 per cent</th>
<th>150 per cent</th>
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<tbody>
<tr>
<td><strong>New Capital Accord</strong> 1</td>
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<td></td>
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</tr>
<tr>
<td>Sovereigns</td>
<td>aaa/aa</td>
<td>a</td>
<td>bbb</td>
<td>bb/b/no rating</td>
<td>&lt; b</td>
</tr>
<tr>
<td>Banks 1 2</td>
<td>aaa/aa</td>
<td>a</td>
<td>bbb/b/no rating</td>
<td>&lt; b</td>
<td></td>
</tr>
<tr>
<td>Banks 2 3</td>
<td>aaa/aa</td>
<td>a/bbb/no rating</td>
<td>bb/b</td>
<td>&lt; b</td>
<td></td>
</tr>
<tr>
<td>Corporates</td>
<td>aaa/aa</td>
<td>a</td>
<td>bbb/bb/no rating</td>
<td>&lt; bb</td>
<td></td>
</tr>
<tr>
<td>Securitisation 4</td>
<td>aaa/aa</td>
<td>a</td>
<td>bbb</td>
<td>bb</td>
<td></td>
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</tbody>
</table>

**Old Capital Accord**

<table>
<thead>
<tr>
<th>Risk weight</th>
<th>0 ecd countries</th>
<th>Other countries</th>
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<tbody>
<tr>
<td>Sovereigns</td>
<td>oecd countries</td>
<td>Other countries</td>
</tr>
<tr>
<td>Corporates</td>
<td>oecd countries</td>
<td>All corporates</td>
</tr>
</tbody>
</table>

**Explanatory note:** Ratings by Standard & Poor’s.

1 Risk weights of other categories: residential mortgages 50% and loans with payment arrears 150%.
2 Option 1: risk weighting based on that of the relevant sovereign.
3 Option 2: risk weighting based on that of the individual bank.
4 < bb and no rating: complete deduction of capital (i.e. 1250%).
Consequences of the new Capital Accord

Position of Dutch banks
The new Capital Accord is of great importance to the Dutch banking sector. The strong international character of notably the major banks leaves Dutch banks vulnerable to international competitive inequalities. The Basel Committee has traditionally focused on contributing to a level playing field by promoting a uniform solvency standard for all countries. Accordingly, the Basel Committee, which includes representatives from the US, Canada and Japan, is especially important for the Netherlands on account of its global outlook, geared mainly to internationally-active banks. It is expected that the use of the internal ratings-based approach by banks with a strong credit portfolio will lead to a lower capital requirement. However, given the diversity of the portfolios, there will be vast differences from bank to bank and from country to country. These differences illustrate that the new method is far more risk sensitive and that there are some financial institutions with risky portfolios which are not matched by an adequate financial buffer. On average, the internal ratings-based approach will result in a lower capital charge. This will, on the one hand, encourage banks to introduce more advanced risk measurement techniques, while on the other hand being justified by the fact that an improvement in risk measurement and management shall in itself promote a bank’s financial soundness. The major Dutch banks are expected to immediately adopt the internal ratings-based approach once the new Accord comes into effect.

Challenges for supervision
The first commentaries on the structure of the new Capital Accord referred more than once to the difficulties of assessing the soundness of the internal rating systems of all banks – including international ones – in the same way. Is there a risk that banks in emerging markets for example will make an overly-optimistic estimation of their risks in an attempt to reduce their capital requirement and that banks will try to get the better of supervisory authorities? And what about that risk closer to home? The problems of a level playing field for all banks have been acknowledged from the outset. As mentioned above, several qualitative and quantitative requirements have been drawn up with which banks have to comply with before being permitted to adopt the internal ratings-based approach to determine the capital requirements. The need for transparency came up for discussion already too: all data required for the calculation of the capital charge must be published so that market discipline may take effect. Moreover, the supervisory authorities shall, where necessary, need to reorganise their staff in quantitative and qualitative terms to carry out the assessment process and the subsequent continuous monitoring.

Pro-cyclical effects
As described above, the new Accord and especially the internal ratings-based approach make the capital requirements more risk sensitive. This implies that the capital buffers expand if the risks increase due to a deterioration in economic conditions or for other reasons. The same applies in reverse if prospects improve again. This is precisely the objective of supervisors, who are responsible for the financial soundness of individual banks. However, from a macro-economic point of view these procyclical capital requirements may have less beneficial side effects. If banks do not hold enough capital on the eve of a cyclical slowdown, there is a risk that their capital requirements shall rise as economic conditions worsen, making banks less inclined to grant credit. Such a credit crunch could further retard economic development. Micro- and macro-economic principles diverge at this point. A possible solution would be to oblige banks to maintain reserves in excess of the minimum when the economy is performing well in order to avoid a capital deficit in the event of a cyclical downturn. However, estimating the current stage of the economic cycle and predicting future economic conditions has always been a tough challenge. In the new Capital Accord, this problem in tackled in pillar ii, the supervisory review. The method which each bank must develop independently to assess its level of capital adequacy must be forward-looking and, in particular, must meet the need for capital during an economic decline.

Conclusions
The revised accord corrects numerous restrictions and shortcomings in the former 1988 Accord and introduces flexibility in the form of an evolutionary approach, geared to both less and more advanced banks. To determine the capital buffer required against the credit portfolio, banks can use internal rating systems subject to their approval by the supervisor. The resulting capital buffers will more closely reflect the actual risks and this shall strongly promote the financial health of individual banks. The regulations are based on best practice methods by banks.
with advanced credit risk management. This will promote clear concepts, contain the implementation costs and aid the efficiency of the methods used. The introduction of the Supervisory review and the recommendations and requirements on transparency are new elements which shall advance the quality of banking supervision. The new Capital Accord was drawn up in close cooperation with banks, supervisors and central banks, both in the Netherlands and other G10 countries. This cooperation will also be needed in future in order to successfully pursue the chosen course towards supervision in line with market practice.

1 The first and much briefer consultative paper appeared in June 1999.
The American central banking system is often considered pre-eminently suitable as a model for the Eurosystem. This article compares the two systems in monetary respect to determine to what extent the ‘American model’ may be declared applicable to Europe. However, from the historical background outlined in this contribution it will appear that there is a fundamental difference in origin, which manifests itself in various areas.
Historical background

The Federal Reserve System (f r s of Fed) was established in 1913 as a consequence of national legislation by the American Congress, which provided for the creation of a central bank for the United States as a whole. For two brief periods before that, the country had had a central bank, whose duties included the issue of banknotes. Founded in 1791, the ‘First Bank of the United States’ was compelled to close down as soon as in 1811. A similar lot fell to the ‘Second Bank of the United States’, which was founded in 1816, but was closed by President Jackson in 1836. Following the American Civil War (1861-1865) came the so-named ‘National Banking Period (1863-1913), when ‘national banks’ established by the federal government were authorised to issue banknotes. However, these institutions were unable to develop into central banks such as were known in Europe at the time, for one, because of the hostile attitude of the American public towards anything smacking of central power.

At times of serious financial tensions, the decentralised issue of banknotes used to lead to considerable monetary difficulties. The banking crises, no fewer than seven of which would ravage social life in the period 1877-1913, eventually convinced the public that the institution of one central bank was the best guarantee of sustained financial stability. This is why the Federal Reserve Act of 23 December 1913 aimed to bring an end to institutional monetary fragmentation. The Federal Reserve System did not become operational until 1914. So, considering that the dollar was introduced as single currency in 1792, it would take as long as almost 125 years before a fully-fledged currency area with a central monetary authority was realised. Although the new central bank model endeavoured to strike a balance between regional interests and the federal authorities, the first twenty years of the Fed’s existence were marked by a multitude of internal policy conflicts. Under the influence of the depression of the late twenties, the banking legislation was radically amended. Pursuant to the banking act of 1933, the so-called ‘Federal Open Market Committee’ (f o m c) was set up, which commenced functioning two years later and developed into an outstanding monetary policy body. Subsequently, the bank act of 1935 provided the central management in Washington d. c., now embodied by the ‘Board of Governors’, with a majority vote in that body. Thus, the centralisation of decision-making in the central banking system of the United States was a fact.

The emergence of the European System of Central Banks (e s c b) evolved quite differently. This system may be regarded as the monetary compromise reached after an almost fifty-year long, but not yet completed, pursuit of European political integration. The cornerstone was laid with the establishment of the supranational European Coal and Steel Community in 1950. A new milestone in the process was the foundation of the European Economic Community in 1957, which before long was to further the political unification by economic measures, the supranational character of that Community being only potentially present, though. The Werner Plan of 1970 provided for a phased realisation of the Economic and Monetary Union (e m u) with community and, consequently, fully supranational institutions in the field of monetary and fiscal policies. When this plan fell through, Western Europe shifted the emphasis towards monetary integration, of which the European Monetary System launched in 1979 was the immediate forerunner. The creation of the internal market in the mid-eighties reinforced the call for a single currency. The otherwise cumbersome process of integration suddenly gained momentum when, in 1989, the fall of the Berlin Wall obliterated the political dichotomy in Europe. France and Germany, which from the outset had been the driving forces behind the post-war process of European integration, reached a political compromise in which the unified Germany, in its pursuit of more control in the global political arena, met the French desire to curb the Bundesbank’s monetary power in that same global arena through the foundation of a supranational European Central Bank (e c b). This compromise was reflected in the Treaty of Maastricht concluded in December 1991, which provided for the establishment of the European Union (e u). At the heart of this agreement is e m u, which entered its third and last stage with the foundation of the e s c b on 1 January 1999. Given the political constellation of the e u, it may be clear that the e s c b is a uniquely European model, with the European Central Bank as well as the national central banks (n c b s) as indispensable components.

Regional structure

The individual significance of the Fed districts in the United States 1 and of the national member states of the e m u in terms of g d p volume is reflected in Table 1.

The establishment of the regional Federal Reserve Districts originally resulted from a deliberate political decision that they should not correspond to the states
of the American federation. Each district was originally allocated around one-twelfth of \( \text{gdp} \), a share that in some cases has radically changed since 1913, due to the individual districts differing among each other as regards dynamism (see Table 1). This does not alter the fact that even now still ten out of the twelve districts fall in the 5-10% category, while only one district (San Francisco), accounting for 20% of the American \( \text{gdp} \), may be called truly significant.

Unlike in the United States, geographically, economic power in the euro area in terms of \( \text{gdp} \) is very unevenly spread. While here, too, the majority of the member states belong to the category 'small', three large countries (Germany, France and Italy) stand out for accounting for 20% of the American \( \text{gdp} \), may be called truly significant.

Unlike in the United States, geographically, economic power in the euro area in terms of \( \text{gdp} \) is very unevenly spread. While here, too, the majority of the member states belong to the category 'small', three large countries (Germany, France and Italy) stand out for accounting for more than 70% of \( \text{gdp} \) in the euro area together. This image is additionally reinforced by the dominant position of Germany with its share of almost 32%, while Germany and France jointly produce more than half of the \( \text{emu} \)'s \( \text{gdp} \).

### Independence

The Fed is an independent central bank in that its decisions are not subject to the approval of the President of the United States. It is accountable, though, to Congress, which has the constitutional right to coin money and set its value. Democratic embedment is thus ensured. By the Act of 1913, however, Congress has delegated that power to the Fed. Moreover, generating its own income, the Fed is not like government agencies dependent on a budget allocated by the govern-

### Purpose of the monetary policy

As defined in the Federal Reserve Act of 1913 and the provisions added afterwards, the task of the Fed and the \( \text{fomc} \) consists in promoting 'effectively the goal of maximum employment, stable prices, and moderate long-term interest rates.' This multiple objective leaves the Fed ample leeway in terms of policy and interpretation. The Fed defines price stability as a situation in which

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Table 1  Distribution of Fed districts and \( \text{emu} \) member states\(^1 \) in terms of \( \text{gdp} \) volume in their respective areas

<table>
<thead>
<tr>
<th>Percentage of ( \text{gdp} )</th>
<th>Fed districts</th>
<th>( \text{emu} ) countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 5</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>5 – 10</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>10 – 15</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>15 – 20</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>20– 30</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>&gt;30</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of members 12 12

Total \( \text{gdp} \) (billions of euro) 10,015 6,217

\(^1 \) Including Greece, the twelfth member of \( \text{emu} \) as of 1 January 2001.
economic decisions are not disrupted by expectations regarding inflation. Regional inflation differences are irrelevant in this context. They are to be regarded as symptomatic of temporary imbalances in supply and demand conditions that before long will be eliminated by market mechanisms. In other words: regional price differences are not a monetary phenomenon, but ‘just a piece of information’ for the monetary policy, which after all focuses on control of the general price level. The Fed does not observe a quantitative inflation target. It has adopted this course not only by virtue of its mandate from Congress, but also on account of the personality of its chairman, Mr. Greenspan, who has been at the helm since 1987 and who as the custodian of price stability commands so much respect among the public that he embodies a guarantee of the system’s credibility. Quantitative targeting, for that matter, is being considered in Fed circles, though. It is generally thought, however, that there is insufficient support for such a line of policy within the Board, for one thing, out of fear that Congress might take this to be conflicting with the mandate given. It cannot be denied, though, that the Fed’s present vaguely defined objectives often lead to ‘fussy language’, which complicates explaining the Fed’s policy in the regions. The local Fed presidents have a key function in this context.

Compared to the Fed’s, the ECB’s mandate is simple. Under the Treaty of Maastricht, the primary objective of the single European monetary policy is to maintain price stability. Given the fact that not all member states have adopted the euro, this means: maintaining price stability in the euro area. Without prejudice to this objective, the System supports the general economic policies in the Community. In that, it differs fundamentally from the Fed, which must assign equal priority to both targets. The ECB Governing Council defines price stability as the year-on-year increase in the Harmonised Index of Consumer Price (HICP) for the euro area by less than 2%. Price stability according to this definition is to be maintained over the medium term. Traditionally producing national statistics, every country is accustomed to publishing their own inflation figures. Consequently, it is well conceivable that national inflation rates may deviate from the ECB’s target, in which case the national fiscal and wage policies are the appropriate instruments for corrective measures. However, the uneven distribution of economic power complicates matters. For example, inflation pressure in one or several of the three largest member states will have a far greater impact on the euro area’s price index figure than a similar pressure in any of the nine smaller member states. To achieve its goal, the ECB employs a two-pillar strategy. The first consists of the announcement of a quantitative reference value for the broad money aggregate M3. The second pillar comprises all factors that may be relevant to the future price development, including the euro exchange rate. As to the latter, the ECB and Ecofin Council bear a more or less shared responsibility. The Ecofin Council may decide to conclude exchange rate mechanisms with non-eu countries and to adopt general orientations for the euro area’s exchange rate policy. Such actions do not stand in the way though of the ECB’s main objective, i.e. maintaining price stability. In 1997, the European Council resolved that these general orientations should be resorted to in exceptional situations only. The ECB Governing Council carefully monitors the exchange rate development, taking this into account for its monetary policy decisions.

Policy-making

As noted above, the American System’s most important policy-making body is the FOMC. This committee is composed of the seven members making up the Board of Governors and five out of the twelve regional Fed presidents, namely the president of the Fed in New York, who is a permanent member, and the presidents of four other Federal Reserve Banks, who rotate with their colleagues of the other seven regional banks according to a fixed schedule. As implied by the ratio by which centre and region are represented in the FOMC, the Board holds the majority in ballots. The FOMC meets in Washington, once in every six weeks. The chairman, Mr Greenspan, puts a dominant mark on the FOMC’s meetings. All twelve Fed presidents, voting and non-voting members alike, participate actively in the meetings. The personality of a local president and his knowledge of affairs largely determine his persuasiveness. Coalitions may be formed indeed, but in general there is a tendency to reach consensus. The chairman is inclined, though, to listen more to FOMC members with voting rights, since his policy decisions depend also on them. For their policy advice, the Fed presidents are primarily guided by national economic considerations. Regional developments only come into play insofar as they have nation-wide significance. From the above it is clear that the Board of Governors holds a powerful position within the system. What makes this position even stronger is that the budgets of the regional Feds
Within the Eurosystem (composed of the ECB and the twelve fully participating NCBs) the distribution of power is slightly more complicated. Together with the twelve NCB governors, the six-strong Executive Board of the ECB forms the Governing Council, the supreme decision-making body of the ESCB. In view of the three member states that have not joined the ESCB yet, there is a third policy body, the General Council, which, besides the president and vice-president of the ECB is composed of the NCB governors of all fifteen EU member states. However, this body is not involved in EMU-related monetary policy decisions. Compared to the American system, the power of the ESCB is less centralised. The ECB Executive Board holds no majority within the Governing Council (the European counterpart of FOMC). Hence the votes of the NCB governors, who all have voting rights, predominate. This system is explained by a fundamental difference with the FOMC: in the Eurosystem, all national central bank governors are permanent members of the Governing Council and, consequently, all bear responsibility for the formulation of the monetary policy. In fixing the interest rate, each governor may cast one vote, taking account of the economic development of the entire euro area. It is the national central bank governors’ duty to interpret the economic development ‘euro-wide’ and ensure that the common element in the euro economy prevails. A distinguishing feature of the ESCB is that the NCBs cover a variety of cultures. This is most apparent from the difference in traditions regarding political independence. Being a true champion of independence by nature, no central banker has had difficulty adjusting to the ESCB’s autonomous position. This is why in the ESCB’s brief existence an evident coherence has become perceivable: in formulating its policy, the Governing Council is entirely led by euro-area-wide motives. This does not alter the fact that as yet the ratio between centre and region within the ESCB fundamentally differs from that of the American System. Apart from the fact that within the ESCB, the NCBs are shareholders of the ECB – Frankfurt has no say in their budgets – the subsidiarity principle adopted in the Treaty of Maastricht has set another boundary between the positions of the NCBs and the ECB. The technicalities of this principle are still very much in the process of being worked out, though.

Implementation of the monetary policy

The Fed’s key monetary policy instrument since 1982 has been the open-market policy aimed at influencing the federal funds rate in order to control money and credit expansion. At the FOMC meeting, the so-called intended rate is fixed, to which the Fed of New York is instructed to attune its open-market policy. The Fed of New York is the only Federal Reserve Bank with a mandate to implement the monetary policy. This bank’s transactions consist in the purchase and sale of Treasury paper. Fine-tuning is done in two directions. To ease liquidity (‘non-borrowed reserves’), the Fed of New York purchases paper from the banks on condition that they repurchase this paper (‘repurchase agreement’); to tighten monetary conditions this institution buys paper with a repurchase commitment (a so-called ‘matched sale-purchase transaction’). So, in fact, the Fed seeks to approach the intended rate as closely as possible by effecting liquidity adjustments on the market. In addition, the Fed provides for the banks’ borrowed reserves via the rediscounting credit facility. From a monetary point of view the discount rate is of little relevance at this juncture, if only on account of the discounting volume being modest. The latter circumstance is associated with the banks’ concern that an appeal to this facility is regarded by the market as signalling weakness, despite the Fed’s efforts of recent years to curb this anxiety by providing the public with more information. The discount rate derives its principal significance from forming a link between the centre and the regions. This relationship is twofold. At the request of their Boards of Directors, every two weeks the regional Fed presidents must propose the discount rate to the Board of Governors. As these recommendations are accompanied by an economically founded explanation presented by the Directors, the centre in Washington stays more or less permanently abreast of what goes on in the region in economic respect. Conversely, the Directors are compelled through their presidents to disseminate the Fed’s eventual policy measures and provide these with explanations in far-off corners of the country. This symbolic function of the discount rate is at least remarkable. Finally, the Fed employs the instrument of the compulsory cash reserves (10%). This instrument is not used, though, to regulate money expansion but serves to support the open-market policy and, consequently, indirectly to control the federal funds rate.

The ECB, too, seeks to control money and credit expansion through its interest rate policy in order to attain its
price stability objective. Unlike the United States, here, the practical implementation of the monetary policy is maximally decentralised instead of occurring at one location besides the centre. This system is the corollary of the ESCB being composed of national central banks and financial markets with rich traditions. This does not alter the fact, though, that basically there is also room for a role by the ESCB itself. How the distribution of tasks between the NCBs and the centre will evolve in the longer run, is something only experience can tell. The American example shows that there is no permanent blueprint for these matters. The ESCB’s set of instruments is designed to bring about a uniform money market rate in the euro area. The decentralised implementation of the policy calls for maximum standardisation of the operating procedures and relatively much discretionary power for the national central banks. The minimum reserve system applied by the ESCB is primarily intended to stabilise money market interest rates and to contribute to the maintenance of a structural liquidity shortage within the banking system. Furthermore, the ESCB has no fewer than five instruments at its disposal for executing open-market transactions. The majority of the Eurosystem’s open-market transactions consist of reverse transactions against eligible collateral. The two main instruments are the main refinancing operations, which have a maturity of two weeks and are conducted on a weekly basis, and the longer-term refinancing operations, which have a maturity of three months and are conducted as variable rate tenders, on a monthly basis. The resultant interest rate on the main refinancing operations (comparable to the federal funds rate in the United States) has an essential role in signalling the ESCB’s monetary stance. In addition, the Eurosystem may conduct fine-tuning open-market operations to equalise the effects of unexpected fluctuations in liquidity conditions on interest rates. So far, this has happened only once, though. The standing facilities, an instrument that is not available to the Fed, consist of a marginal lending facility (‘Lombard’), which can be used to obtain overnight liquidity against eligible assets and a deposit facility for making overnight deposits. Both rates set an upper and a lower limit to overnight market interest rates. As the Eurosystem does not employ rediscounting as an instrument, the NCBs have abolished the official discount rate.

Specialisation

As a rule, the research departments, which also cover monetary policy, are closely involved in preparing the

regional Fed presidents for the FOMC meetings. ‘At arriving at his position, the president needs to hear the diversity of arguments only a research department can make,’ says the president of the Federal Reserve Bank of Richmond, where the preparation proceeds according to a strict schedule (see Box 1).

At many Reserve Banks a distinct role is reserved for their research efforts. In the eyes of various regional Fed presidents, the regional research departments can be more innovative than the policy centre’s, which, by its nature, must be more conservative. Besides sharing a common task, most research departments are specialised to some degree. For example, broadly speaking, the research conducted at the Feds of Cleveland, St Louis, Minneapolis and Richmond may be labelled monetarist with rational expectations and theoretical depth as common feature. The research activities of the Feds of Chicago and Kansas City have a regional bias and those conducted in New York, San Francisco and Dallas bear an international stamp. Payments and financial markets form the special area of attention at the Feds of Atlanta and New York. In addition to this economic research specialisation, a certain measure of functional specialisation at regional Reserve Banks is apparent, in particular regarding the non-specifically monetary tasks of the system. For example, data processing (FRAS) is centred at the Fed in Richmond, while the Atlanta Fed specialises in payments oversight and the Fed of New York acts as fiscal agent on behalf of the authorities.

In the Eurosystem, the NCBs contribute to the policy preparations in Frankfurt through several channels. To facilitate the implementation of the Eurosystem’s key policies, such as the monetary policy, the money market policy and the payments policy, committees have been formed, consisting of relevant specialists of both the ESCB and the NCBs. These committees provide technical and analytical support within the scope of policy preparations, drawing on their respective fields of expertise. In addition, the staffs of the individual NCBs have functions that go beyond participating in the committees referred to above. Within each NCB, staff workers provide their governor in his capacity as member of the Governing Council with considerations, data and arguments that he may put forward at that meeting. A certain measure of specialisation also seems to be emerging at the NCBs. For example, the NCBs of Italy, Finland, the Netherlands and, to a lesser extent, Spain are obviously creating distinct research profiles for
themselves in the economic field, specialising in models of all kinds, including macro-economic models and models for monetary transmission forecasts and analyses. The national central bank of the Netherlands was the first within the system to employ a model of the European economy (\textit{euromon}) and is among the few \textit{ncb}s to publish model forecasts for analysis. It should be noted that the diversity is wide and that there are many areas where the research activities overlap, partly on account of the \textit{ncb}s’ traditional task of charting economic and monetary developments in their own country. Strikingly, no clear research specialisation is as yet perceivable in precisely the two largest member states of \textit{emu} (Germany and France). The \textit{ncb}s of the large member states in particular differ markedly from the Federal Reserve Banks in that they have considerably larger staffs at their disposal. It should be borne in mind, though, that these banks have traditionally been closely involved in the policy preparations of their respective home countries. The \textit{escb} has as yet not provided for a functional distribution of tasks in the sense of a distribution of specific non-monetary tasks among the \textit{ncb}s.

**Box 1 Preparation schedule for \textit{fomc} meeting at Federal Reserve Bank of Richmond on 19 May 1998**

- **Friday 1 May** Preparatory preliminary meeting (‘pre-pre \textit{fomc}-meeting’) of the head of the economic research department and a small team of staff economists to discuss items and themes to be expected and considered necessary for discussion at the coming \textit{fomc} meeting. Staff economists prepare 3 to 4 memorandums per theme.
- **Monday 11 May** Distribution of copies of the memorandums among the other staff economists, who have until the end of the week for comments.
- **Thursday 14 May** Arrival of two documents of the economic staff of the Board in Washington. In the so-called \textit{Green Book} the staff forecasts what federal funds rate matches an unchanged inflation rate. In the \textit{Blue Book}, the staff sets out a varied range of federal funds rate targets, each target being accompanied by the appropriate money and credit expansion forecast.
- **Friday 15 May** Preliminary discussion of memorandums and comments by the president with the economists and his closest staff. The size of the team is such that it breathes the \textit{large-meeting atmosphere} of an \textit{fomc} meeting. The economists are required to advance their reasoning in plain English, without technical and mathematical jargon.
- **Saturday 16 May** On the basis of the preliminary discussion, the head of the research department formulates the preliminary \textit{fomc} statement for the president of the coming \textit{fomc} meeting.
- **Sunday 17 May** Morning: the president reads the ‘statement’, revising it at his discretion. Afternoon: meeting of the head of the research department and a small team of economists at the president’s to adopt the final ‘statement’.
- **Monday 18 May** The president and the head of the research department travel to Washington.
- **Tuesday 19 May** \textit{fomc} meeting in Washington.

**Transparency**

The Fed system is marked by a high degree of transparency. This manifests itself in customs such as the publication – be it after six weeks – of the minutes of the \textit{fomc} meeting, in which also differing opinions of members (‘dissenters’) and their arguments are disclosed. By practising this measure of openness the Fed hopes to avoid that the public considers its policy actions elitist. The Fed’s publications, including quarterly reports, and external performances of the regional Reserve Banks are designed to further the visibility and transparency of the system and thus raise the confidence of the public in the region as well as bolstering the credibility of the national policy. All this sets high demands indeed on the Fed presidents, who -each in his own region before his own public- propagate and explain the policy message of the \textit{fomc} chairman, Mr. Greenspan.

The openness observed within the \textit{escb} at least equals that of the American system, although it is different in nature. For example, the minutes of the Governing Council’s consultations are not published; one of the main reasons being that publication would draw undue attention to individual voting behaviour, which would hinder the decision-making process. It is not in the
interest of the common monetary policy if the stances of the individual NCB governors are known. The reason why the Governing Council has taken a specific decision is relevant, though. For the public to be adequately informed, the ESCB must explain its policy in unambiguous terms. To this end it uses different communication channels and instruments. As noted above, besides the ECB annual report, the ECB president furnishes background information in sessions with the European Parliament. In addition, the Eurosystem has developed several initiatives towards providing the public with the best possible information. The ECB Monthly Report, for example, contains a detailed assessment of the recent economic developments. The monthly press conferences with the ECB president, held right after the first of a given month’s biweekly meetings of the Governing Council, are an extraordinarily important, unique information channel. At these sessions, the President enters at length into the ECB’s policy, which is also published by way of a press communiqué. Finally, the ECB recently decided to publish half-yearly economic projections drawn up by experts of the ECB and the NCBs of the euro area jointly. These projections are an ingredient for the Board of Governors’ assessment of the price developments and the risks for the price stability under the second pillar of the monetary policy strategy of the ECB.

Summary and conclusions

Being significant, the differences between the Federal Reserve System and the ESCB are summed up in Box 2.

Just like the Federal Reserve System, the ESCB is characterised by a combination of central and local elements. Its policy is determined centrally and implemented, where possible and appropriate, locally. Yet this mix is differently biased on account of historical, social and political differences. Since the members of the ESCB are made up of central banks of national sovereign states, each having its own history, culture and tradition, the Eurosystem is marked by a mix of national identities and Community spirit. It is this specific, historically evolved element that defines the relationship between the centre in Frankfurt and the NCBs. This is also why the NCBs still play a significant part in the system: they are familiar with the factors underlying the economic, financial and inflationary development in their respective home countries. The comparison with the American system shows, however, that in the long run an initially decentralised set-up may develop into a more centralised model, even if at the Fed, too, the regional Reserve Banks make a significant contribution in the policy preparation phase. This does not mean, though, that the American system provides a blueprint for the ESCB. For that, the political constellations are too divergent. The United States form one nation, whereas the European Union is constituted by sovereign states that have not formed a political union yet.

2 The twelve Fed districts are (in parentheses are the states covered by the district concerned): Boston (Maine, New Hampshire, Vermont, Rhode Island, Connecticut), New York (New York, Connecticut), Philadelphia (New Jersey, Pennsylvania, Delaware, District of Columbia), Cleveland (Ohio, Kentucky, West Virginia, Pennsylvania), Richmond (South Carolina, North Carolina, Virginia, West Virginia, Maryland), Atlanta (Georgia, Florida, Alabama, Mississippi, Tennessee, Louisiana), Chicago (Illinois, Michigan, Wisconsin), St Louis (Arkansas, Mississippi, Tennessee, Kentucky, Indiana, Illinois, Missouri), Minneapolis (Minnesota, North Dakota, South Dakota, Minnesota, Wisconsin, Michigan), Kansas City (Nebraska, Kansas, Oklahoma, Missouri), Dallas (Texas, New Mexico, Louisiana), San Francisco (Washington, Oregon, California, Nevada, Idaho, Utah, Arizona, Alaska, Hawaii).
### Box 2 Comparison between the FRs and the ESCB

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Federal Reserve System</th>
<th>ESCB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment</td>
<td>1913</td>
<td>1998</td>
</tr>
<tr>
<td></td>
<td>Through a resolution of Congress.</td>
<td>Through a European Treaty ratified by all national parliaments concerned.</td>
</tr>
<tr>
<td>Structure</td>
<td>‘Board of Governors’ (Washington) plus 12 districts; economic power is evenly distributed, San Francisco being the only large district (20% of US GDP).</td>
<td>ECB (Frankfurt) plus 15 NCBs of the EU member states, 12 of which have adopted the euro; economic power unevenly distributed, with Germany and France jointly accounting for more than 50% ofEMU GDP.</td>
</tr>
<tr>
<td>Independence</td>
<td>– Accountable to Congress.</td>
<td>– Full independence. The ECB President reports on monetary policy in sessions with European Parliament.</td>
</tr>
<tr>
<td></td>
<td>– Monetary policy conducted within the economic policy defined by the Administration.</td>
<td>– Within the limiting conditions of the Stability and Growth Pact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Consistent policy co-ordination takes place within the intergovernmental Ecofin council.</td>
</tr>
<tr>
<td>Object of monetary</td>
<td>‘to promote effectively the goal of maximum employment, stable prices and moderate long-term interest rates.’</td>
<td>Maintenance of price stability; without prejudice to this objective, the system supports the general economic policy.</td>
</tr>
<tr>
<td>policy</td>
<td>– Price stability is defined as a situation in which economic decisions are not disturbed by inflation expectations. The Fed follows an elective strategy, which takes account of a multitude of economic indicators.</td>
<td>Year-on-year rise of Harmonised Consumer price index in the euro area below 2% and maintenance of that target in the medium term. To realise that goal, the ECB observes a two-pillar strategy: the first pillar being formed by M3 as reference value; the second comprising all factors that may be of influence on the development of prices.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monetary policy is pursued independently; economic policy is determined on a national level.</td>
</tr>
</tbody>
</table>
### Policy-making bodies

- **fomc**, which consists of the ‘Board of Governors’ (7 members) and 5 voting Fed presidents.
- Board holds the majority in the fomc.
- All 12 Fed presidents participate in the fomc meeting where the regional economic developments are interpreted ‘nationwide’.
- Governing Council, made up of **ecb** Executive Board (6 members) and the central bank governors of the 12 euro countries, who all have voting rights.
- The **ecb** Executive Board does not hold the majority in the Governing Council.
- All 12 **ncb** governors are permanent members of the **ecb** Governing Council and in that capacity bear responsibility for the formulation of the common monetary policy of the euro area.

### Execution of policy

By steering of short-term rates through:

- Open-market policy: ‘federal funds rate’.
- Discount window.
- Required (cash) reserves.

- Open-market policy: interest rate on the main refinancing operations.
- Required (cash) reserves.
- Standing facilities

### Specialisation

- Separate policy preparation of fomc meetings, by staff of the Board of Governors (Green Book and Blue Book) and staffs of the regional Feds (Beige Book).
- Staffs at the regional Feds are closely involved in the policy preparation of the president in his capacity of fomc member.
- Economic and functional specialisation.

- Policy-related preparation via committees on which the staffs of both the **ecb** and the **ncb**s are represented.
- Staffs at the **ncb**s are closely involved in the policy preparation of the governor in his capacity of member of the **ecb** Board of Governors.
- Economic specialisation at various **ncb**s.

### Transparency

- Publication of minutes of fomc meetings and divergent votes, six weeks after the fomc meeting concerned.
- Annual report and monthly Federal Reserve Bulletin by de Board
- Annual Report and periodical Economic Reviews by District Reserve Banks.
- Biannual session of Fed President and Congress.
- Public explanation of policy by the presidents and the members of the Board of Directors, after each fomc meeting.

- Minutes of meetings of the Board of Governors are secret.
- Annual Report and Monthly Report of the **ecb**.
- Annual Reports and Quarterly/Monthly Bulletins of the **ncb**s.
- Quarterly sessions of the **ecb** President with the European Parliament.
- Monthly explanation of policy by the **ecb** President during press conference following on the Governing Council’s first biweekly meeting of a month.
- Biannual economic projections.
International foreign currency trading has grown enormously over the past decades, thus making a significant contribution to world economic growth. However, the settlement of foreign currency business does involve particular risks in payment systems, since problems in one national payment system can quickly spread to another country. It is hoped that the creation of a new institution, CLS Bank, allowing the world-wide settlement of foreign currency transactions, will help to limit these risks significantly.
A new approach to risk in foreign exchange settlement

Introduction

It is estimated that in the aggregate the equivalent of around €1,400 billion is exchanged in payment transactions around the world each day. On an annual basis that is equal to nearly 40 times the value of the gross national product of all the countries in the world and 300 times the amount of world exports. As much as 80% or so of the turnover in national payment systems relates to foreign currency transactions. And the simple fact of having to process foreign currency transactions makes national payment systems closely interlinked. But this also means that processing problems in one system will quickly spill over into other systems and threaten the efficient operation of the world’s financial markets. The processing of foreign currency transactions is therefore a key issue in the maintenance of financial stability. The risks are closely related to the manner in which transactions are currently processed and this is primarily determined at national level. The creation of the so-called CLS (Continuous Linked Settlement) Bank will thus be an institutional innovation in this respect, since it will allow processing to take place at the world level. Needless to say, strict requirements will need to be met in the way this new system is organized.

The risks in foreign exchange settlement

A foreign exchange transaction involves the sale of one currency against the purchase of another. For example, a Dutch bank (a) buys dollars from a Japanese bank (b) and pays the latter in euros. With today’s international payments infrastructure the payment in euros and receipt of the dollars are two separate operations. Payment and receipt usually take place on accounts at banks (so-called correspondent banks) in the country of issue of the currency concerned. Bank a receives its dollars on an account at a US bank and transfers its euros to an account which the Japanese bank holds at a bank in the euro area. As a rule, more than one day is needed to process these transactions. At the time that Bank a is making the euro payment it cannot be sure that it will receive the dollars it has purchased. Bank b might default and fail to pay on time. Then Bank a has a problem, since it was counting on the dollars, perhaps to pay for the purchase of US securities. It will need to raise dollars in some other way at short notice, e.g. by borrowing. But there is always the risk that it will not be able to do so and as a consequence will default in the settlement of the securities transaction. In payment transactions this risk of not being able to pay on time is known as the liquidity risk. In a worst-case scenario Bank b may not pay up at all, if it has been declared insolvent in the meantime. Bank a will then have lost its euros without getting dollars in return. This risk is known as the credit risk. Non-receipt of the expected dollars can cause even more difficulties if Bank a is unable to obtain dollars elsewhere at short notice, since if a defaults this can cause problems for other banks. The possibility of such a chain reaction building up and threatening the proper functioning of financial markets is known as systemic risk.

The above-mentioned risks became evident on 26 June 1974, when a German bank, Bankhaus Herstatt, proved unable to meet its dollar liabilities arising on earlier foreign currency transactions. For Bankhaus Herstatt’s counterparties the event referred to as the credit risk, i.e. the loss of the whole principal sum involved in the transaction, had materialized, as they had not received the dollars which they had purchased, although they had delivered the currencies they had sold. The banks concerned then saw the liquidity risk materialize, since at the time that they were due to make payments with the dollars that they should have received from Bankhaus Herstatt they were experiencing acute liquidity problems in dollars. Since the problems surrounding Bankhaus Herstatt, the risks that can arise in the settlement of foreign currency transactions have been referred to as the ‘Herstatt risk’.

A major issue in the settlement of foreign currency transactions is the time difference between national payment systems. Even if payment and receipt take place on the same day, in the case of a currency belonging to a country located in an earlier time zone payment will take place sooner than in the case of a currency located in a later time zone. Payments in yen take place earlier than payments in euros, which in turn take place earlier than payments in dollars. However, the period of uncertainty over the settlement of foreign currency transactions lasts longer than just the period of this time difference, because of the time taken for the cross-border delivery of payment orders and receipt of the information concerning sums received. The so-called Allsopp Report¹, published in 1996 by the G10 central banks, concluded that it was quite possible for the amount of foreign currency payments due to a bank from a single counterparty outstanding in the settlement process to exceed the amount of that bank’s own funds. In view of the huge volume of foreign exchange flows and the links which they necessitate between national payment systems, it is thus essential to pay particular attention to the underlying risks.
A new approach: cl s Bank

The Herstatt risk is, in fact, a coordination problem resulting from the fact that payments have to be made under conditions which give the paying parties only limited control over the process. The payments are handled within the respective national payment systems and via banks located in those countries, without any coordination of the two payments taking place in the light of the underlying currency transaction. As a result of the Allsopp Report, the g10 central banks suggested that the private sector should try and develop a new approach to the settlement of foreign currency transactions in order to resolve this coordination problem. The idea was to establish a direct relationship between the payments involved in a transaction in the various currencies. Preferably, a payment ought to occur only if it is definitely meant to be conditional on a receipt. This so-called ‘Payment-Versus-Payment’ (pvp) concept should form the starting-point for the processing operation. The advantage of such an approach is that it can ensure that the principal amount will never be lost and so eliminate the credit risk.

In response to the g10 Governors’ proposal, a group of large international correspondent banks have set up cl s, in order to deal with the foreign currency settlement problem. cl s will consist of a number of components. cl s Bank itself will be based in New York and so will be subject to us regulation. The holding company, cl s Services, will be based in London and fall under the jurisdiction of English law. Processing will also largely take place in London. A branch will be set up in Tokyo. cl s Services Ltd. will be owned by around sixty shareholders, including abn am ro, ing and Rabobank. Fortis will own a stake via its Belgian establishment.

cl s is based on a centrally administered pvp approach. cl s Bank will be the central institution and the entire currency transaction settlement operation will take place there. Transactions will be settled via payments to and from accounts which banks will hold at cl s Bank. These accounts will be denominated in the various currencies in which transactions may be settled via cl s. Initially, these will be us, Canadian and Australian dollars, the euro, sterling, the Swiss Franc and the yen.

cl s will have three sorts of participant: settlement members, user members and third parties. Settlement members and user members will be shareholders of cl s. Settlement members will themselves have an account at cl s Bank, broken down into the named sub-accounts for each currency, while, for the purposes of the financial settlement of transactions, user members will have to use the account of a settlement member. Both types of members may pass on transactions directly to cl s Bank. Therefore, both are required to comply with specific operational conditions. Other banks that wish to settle transactions via cl s Bank (referred to as ‘third parties’) fall outside the system and need to use a settlement member in order to have transactions settled. Figure 1 shows how the various parties relate to each other.

Generally speaking, the safest way to settle payments between parties is to do it item by item on a gross basis (this known as ‘gross settlement’). The disadvantage of this is that it requires a substantial amount of liquidity, since when making payments no account is taken of the amounts to be received. Where counterparties have many reciprocal liabilities, a considerable saving of liquidity can be achieved by first offsetting these and only settling the net liabilities (this is known as ‘netting’). A risk arises here, though, if one of the participants is unable to meet its resulting liability. In principle, if this were to happen the whole of the netting process would have to be unwound. Measures need to be taken to deal with this risk. The foreign currency transactions that are to be settled by cl s Bank consist of reciprocal liabilities, which by their nature are roughly equivalent in value for each transaction. Netting as it is usually understood will not be possible, since the liabilities will be denominated in different currencies. But in an ingenious way a similar effect will be obtained in cl s, thus helping to limit the amount of liquidity needing to be supplied in the settlement process.

The cl s approach is essentially based on the fact that, as a result of the pvp concept, when a transaction is settled within the system the accounts of the banks concerned will record, against the payment of the currency that is to be delivered, the receipt of a sum for an, in principle, similar value in the currency to be received. This is known as the ‘self-collateralizing’ effect, since it means that financial value (in some currency) will be available at all times to serve as collateral. cl s makes particular use of this effect by allowing a member bank, within certain limits, to build up a temporary debit position in a currency collateralized by its credit positions in other currencies. This makes it possible to limit the amount of liquidity required in the settlement process. cl s Bank weights the collateral value on the basis of the actual exchange rate relationship and a certain safety margin for exchange rate movements (the so-called ‘haircut’), in order to ensure that
The Bank itself does not incur any risk. The transactions themselves are settled item by item in a 'continuous linked settlement' process. However, for a transaction to go ahead, there need not necessarily be a sufficient balance in the actual currency which is to be paid, provided that there is a sufficient balance in other currencies by way of collateral. Only if the value of the collateral has fallen too low or the debit position in a given currency has reached its limit could it happen that a transaction cannot be settled owing to insufficient funds. The transaction will then wait in the queue until the paying bank has provided extra liquidity. In addition to the requirement that sufficient collateral must be available to cover a temporary debit position in a currency, other constraints have been included to ensure that the Bank is able to pay out the sums credited. For example, the total amount of permissible debit positions in a given currency will be limited under the agreements concluded with banks that will provide the required liquidity in an emergency.

The Bank will be a special bank insofar as it will allow balances to be held in the various currencies, but it will grant no credits other than the ‘temporary currency swaps’ described above. Moreover, the balances may in principle only be held during the working day. At the end of the working day the Bank’s balance sheet will, so to speak, return to zero. To this extent, therefore, the Bank is more like a clearing house than a bank. Box 1 illustrates in greater detail, with the help of some sample figures, how the Bank will operate.

The money that is used in the system is, in fact, central bank money. In order to get the balances to and from the accounts at the Bank, the latter holds an account at the central banks of the currencies for which transactions may be settled. (In the case of the euro this will be the European Central Bank.) Banks which need a balance at the Bank in a given currency transfer, for the purpose, an amount from their account or via their correspondent’s account in that currency at the relevant central bank to the Bank’s account at that central bank and are duly credited with that amount in the Bank’s books. Since the Bank itself is not allowed to grant credit, the balance in the Bank’s books for each currency corresponds to the amount for which the Bank has been credited by the settlement banks at the various central banks.

Although the settlement of the individual transactions themselves will take place on a gross basis, the settlement banks will be able to pay in for settlement on a net basis. At the start of the settlement day (00:00 CET) the Bank will have all the orders relating to the transactions that are to be settled on that day. On the basis of this list, ‘pay-in’ grids will be prepared, which show the
Box 1  How CLS will operate

It is possible to explain how CLS Bank will operate, with the help of a very simple example. Let us suppose that CLS Bank has three settlement members, Banks a, b and c. At the start of the day, the banks have credit balances of EUR 300, USD 450 and JPY 10,000 respectively on their accounts at CLS Bank. For the sake of simplicity, the present example assumes the following fictitious exchange rates: USD 1 = EUR 1 = JPY 100 yen.

<table>
<thead>
<tr>
<th>Account</th>
<th>Value collateral</th>
<th>Account</th>
<th>Value collateral</th>
<th>Account</th>
<th>Value collateral</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>euro 300</td>
<td></td>
<td>euro 300</td>
<td></td>
<td>euro 300</td>
</tr>
<tr>
<td>In-payment</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>270</td>
<td>0</td>
</tr>
<tr>
<td>Trans. 1</td>
<td>-300</td>
<td>+300</td>
<td>+300</td>
<td>-300</td>
<td>0</td>
</tr>
<tr>
<td>Balance after 1</td>
<td>0</td>
<td>300</td>
<td>270</td>
<td>300</td>
<td>0</td>
</tr>
<tr>
<td>Trans. 2</td>
<td>-200</td>
<td>+20000</td>
<td>+200</td>
<td>-20000</td>
<td>0</td>
</tr>
<tr>
<td>Balance after 2</td>
<td>-200</td>
<td>300</td>
<td>20000</td>
<td>270</td>
<td>500</td>
</tr>
<tr>
<td>Trans. 3</td>
<td>-200</td>
<td>200</td>
<td>-200</td>
<td>+200</td>
<td>-200</td>
</tr>
<tr>
<td>Transaction cannot go ahead because of insufficient collateral on c’s account for the required USD.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In this example the procedure takes place as follows:
1  The first transaction can be processed. A must deliver EUR 300 and it also has EUR 300 in cash, and B, with USD 450 in cash, must deliver USD 300.
2  The second transaction can also be executed. Here Bank A, with its dollar credit balance as collateral, is allowed a temporary debit position in euros, and B on the basis of the euros and dollars in cash may take a debit position in yen.
3  The third transaction cannot go ahead, however. B has sufficient euros on its account, but C has only JPY 10,000 in cash (countervalue of USD 90). This is not enough to serve as collateral for a payment of USD 200. Currency receivables are not eligible as collateral. If this transaction were to go ahead, CLS would be granting an unsecured credit. The transaction is placed in the queue until Bank C has replenished its credit balance at CLS Bank. It could do this either directly in dollars or in yen. For example, if Bank C pays in JPY 12,222 (with a collateral value of EUR 110), it will be able to borrow the dollars it needs.

In this example the net in-payment required, assuming that all transactions finally go ahead. Settlement then takes place in a short period of time: for Europe early in the morning, for the Far East at the end of the afternoon and for the US in the middle of the night (see Box 2 for time zones in the CLS process). Following settlement, the settlement members’ resulting balances in CLS Bank’s books are transferred back to the accounts of the banks at the central banks.

CLS Bank and central bank requirements

In view of the importance of the CLS system, the central banks are laying down a number of specific requirements which must be met. Broadly speaking, these requirements are derived from the so-called Core Principles Report. This Report formulates principles applying to critical payment systems, such as their legal basis, the adequacy of risk management policy and risk transparency. Systems must also at least take measures to ensure that the settlement procedure can go ahead if the member with the highest net position defaults. Systems likewise need to meet criteria of operational reliability, and the conditions on which members join or leave the system must be objective and transparent. These requirements were initially drawn up for multicurrency netting systems, but have also over the years been declared to be applicable to other systems in which large amounts change hands.

One requirement that is difficult to implement in the CLS context is the fifth condition, which lays down that multilateral netting systems must at least have taken measures to ensure that the settlement procedure...
can be completed on time even if the participant with the highest debit position defaults.

The normal way of giving practical form to such a requirement in a netting system is by incorporating limits on a net position and concluding agreements with so-called liquidity providers, namely banks that have undertaken to make available, in case of emergency, a given amount which is equivalent to the limit set. Such arrangements can at least ensure the supply of the necessary liquidity in the event of the participant with the highest debit position defaulting.

However, in the case of C İş, giving effect to such a condition is quite complicated. Firstly, C İş is not a netting system. It is true that the manner in which settlement takes place can effectively be regarded as netting, since only the net amount of liquidity required needs to be supplied for the purposes of the settlement process. However, in a genuine netting system the netting procedure makes it clear what the position of the largest debtor in net terms is, whereas in the C İş system the position of the largest debtor is continually changing during the processing operation. On the other hand, it is possible within the system, without knowing the position of the largest debtor, to set limits on the ‘borrowing’ positions which a member is allowed to take in a given currency. By making these limits equal to the amount that has been agreed with a liquidity provider, it is possible to limit the position in such a way that the settlement process can be completed on time even if the participant with the largest debit position defaults.

In fact, C İş here adopts the same approach used in the earlier multicurrency multilateral netting initiatives ECHo and Multinet. However, there is a difference in conditions, which also illustrates the difference in operational complexity. In the case of ECHo (Exchange Clearing House), a liquidity provider was always given two hours, whereas in the highly time-critical C İş system a deadline of twenty minutes is laid down if liquidity is required. By the time this deadline has expired,
a swap must have been agreed, the back-office procedure completed and the payment settled. Another point of difference is that CLS accepts transactions up to a later time than the previous netting systems. These normally accepted transactions up to and including spot (transactions that are settled two days after the deal), whereas with today’s advances in technology CLS could in principle accept transactions up to the time of processing. The netting systems in fact had more than one day in which to calculate the net results and to see what the position of the largest net debtor was or at least what the largest debit position in a given currency was. The systems then had procedures in place (and the time) to ensure that, if the limit had been exceeded, the debtors’ positions were within the limits on the settlement day. Since CLS will accept transactions up to a later time, such corrective procedures are not possible and it is much more difficult under CLS to restrict the amount of the transactions to be settled to the limit amount.

A second complication arises with CLS. A consequence of having limits is that, if there are not enough funds in the system to settle a given transaction, it is placed in a queue. However, if that happens with a relatively large number of transactions which also cannot be settled later on in the CLS process, the problem arises that a number of transactions which by their nature are critical for the banks’ international liquidity management effectively cannot be processed. Once CLS is in operation, the banks will have mainly geared their liquidity management to the settlement operation in the CLS system. If this operation is (partially) halted, this will cause problems, since it is not practically possible to settle these transactions in the traditional decentralized manner outside CLS, not only because of the logistical complications, but above all because suddenly there is once again a need for liquidity on a gross basis for each individual transaction at the level of the national payment systems concerned. Admittedly, if some transactions cannot then be actually settled on the proper day, there is no credit risk, because of the way CLS operates (if a purchase of dollars for euros cannot go ahead, the bank will in principle get it euros back). However, there is a significant liquidity risk (since the bank was counting on the dollars). Moreover, because of the pivotal role played by the CLS system, such a liquidity risk could quite easily develop into a world-wide systemic risk which would also affect banks that had nothing to do with CLS.

For these reasons for CLS purposes condition 5 should be interpreted to the effect that not only does CLS need to take responsibility for the payment of transactions that have already been settled in its books, but it must also take measures to prevent a critical mass of transactions building up in the queue. The crucial factor here is the volume of the liquidity arrangements which CLS concludes with its liquidity providers. This is a difficult matter, since not only does liquidity need to be made available very quickly, it is sometimes required at times at which the ‘regular’ money markets in the currencies concerned are not open. CLS thus needs to be ready not only for marginal disruptions to the ‘normal’ settlement process, but also for problem situations. A situation could arise, for example, in which more than one bank encounters (operational) difficulties. Then the liquidity implications for all participants need to be quickly recalculated: those participants in their turn may be paid other amounts and possibly other currencies than those they had been expecting and systems and markets in the earliest time zone may well be approaching their closing time. Serious operational problems could also arise for a particular payment system or central bank, as a result of which in-payments cannot take place on time. Even in such a situation it is important to preserve the principle that the CLS system must not cause any problems for other systems or countries. Compliance with condition 5 therefore needs to take account of such eventualities.

The debate between CLS, the banks and the central banks on how to deal with these sorts of issues has been organized in a particular way. The approach chosen involves the conduct of an interactive dialogue with CLS, based on the experience with the earlier multicurrency netting systems, and then working out the various requirements seen in relation to the procedures that CLS regards as desirable on operational considerations.

The implications of CLS
CLS has far-reaching implications for all the parties involved. For example, it looks likely that the CLS procedures will impose significant requirements at the operational level and in terms of liquidity management.

From the operational point of view, the fact that foreign currency transactions will be settled on a pyb-basis means that the payment systems of all the central banks involved will have to be open. This also applies to the systems in the earliest (Australia/Japan) and the latest (US/Canada) time zones. It is not only necessary that payments can be made or money transferred to the CLS Bank’s account at the various central banks within the hours of opening. It must also be possible for the
balances remaining in the various currencies after completion of the settlement process to be transferred back within these hours. For these reasons the central banks concerned have extended opening hours so as to ensure that there is a period when all the systems are open, allowing enough time not only for the normal settlement process, which will take place between 07.00 and 09.00 CET, but also for dealing with problem situations, which will take longer.

The member banks will also need to adapt their procedures. For example, in view of the different time zones, it will in fact be necessary for a settlement member to centralize the organization of its position and liquidity management, so as to be able to react within the time zones. This means not only under normal circumstances, but also in problem situations where, owing to problems at a particular bank, certain transactions are removed from the processing, resulting in new liquidity positions. As already mentioned, this can mean being suddenly confronted with a debit position in CLS in a certain currency, where a credit position was expected. Apart from the operational implications, CLS and the arrangements for participating in it will also have strategic implications for the various banks’ relations with their correspondents. Moreover, it is not only commercial considerations that will lead banks to participate, in whatever way, in the CLS process. Since the publication of the Allsopp Report the Herstatt risk has been a particular focus of attention for the banking supervision authorities.4

Liquidity and the related markets will also be significantly affected. Since payment will take place on a net basis, both the number of transactions and turnover in the interbank transaction-processing systems (e.g. in Europe, the central banks’ systems TARGET and the commercial Euro1) can be expected to decline. On the other hand, a market in intraday liquidity can be expected to grow up in response to the particular timing problems involved in the way CLS operates. CLS will bring about a significant acceleration in the international payment process and this will be (or will certainly need to be) accommodated by the markets in terms of both supply and price. But this will not be the only price effect. For example, a system of ‘dual pricing’ is also expected to develop, in which transactions settled via CLS will be cheaper than those settled outside CLS. From the point of view of financial stability, this is a favourable development, since the difference in price is meant to reflect the difference in risk.

Conclusions

If CLS, as expected, becomes operational in October 2001, this will be an event of great consequence for the organization of the world financial system. CLS, will be a private-sector institution settling, in central bank money, a stream of transactions that will be of critical importance for the stability of payments and the financial system as a whole. This will make a significant contribution to reducing one of the greatest risks that exists in international financial transactions.

More generally, the introduction of CLS, also reflects the trend towards an increasingly integrated world economy. Globalization is affecting not only economic relationships, but also payments. At the national and international levels, both money and securities settlement systems are becoming increasingly interlinked. This trend is not an isolated phenomenon, but is the result both of technological advances that make such interlinking possible and of the markets’ desire to exploit the opportunities offered by such advances. The incentive for the markets comes from the need for risk management and especially the need to optimize liquidity requirements. Another factor is the role of the central banks, which either for institutional reasons (e.g. within the EU) or out of concern for the risks associated with payments are pressing ahead with the policy of interlinking payment systems. In view of the general move towards globalization, it can be expected that the trend towards interlinking will continue and that the logical conclusion of this process will be an even greater degree of integration not only of payment systems but also of the financial system as a whole than we have at present. In such a world, overall stability can only become an even more important priority.

1 G10, Settlement Risk in Foreign Exchange Transactions, Basel, 1996.
3 A multicurrency netting system or, better still, a multicurrency multilateral netting system is a system in which, for the purposes of final settlement, the sums to be paid are calculated on the basis of the net positions (netting) between the various members (multilateral) of the system. Multicurrency refers to the existence of positions in various currencies as a result of the fact that transactions have been executed in more than one currency. It is usual for one (debit or credit) position to be calculated for each member.
The role of fiscal policy in EMU: A simulation with euromon

Country members of EMU as well as the United States have improved their fiscal positions during the course of the past decade. This article considers the impact of further government debt and deficit reductions in the EMU area. First the literature on government finance establishing the role of fiscal policy in macroeconomic management is reviewed. Next some empirical simulations using the macroeconometric multi-country model euromon of the Nederlandsche Bank are carried out. With these it is investigated what countries would have to incur if they were to improve their fiscal positions further and more generally, what is the role of fiscal policy in the context of the single currency. This discussion focuses on how countries’ fiscal policy can affect first each other and second, general price stability. Finally, a US simulation is presented that shows the possible impact of a further improvement of the US fiscal position as recently projected by the Congressional Budget Office, on the eurozone.
The role of fiscal policy in EMU: A simulation with EUROMON

Introduction and background

The adoption of a single currency in Europe has introduced an asymmetry in the level of monetary and fiscal governance. The monetary instrument is given to a central supra-national authority with a view to safeguarding area-wide price stability in the medium-term, whereas the fiscal instrument is still within the hands of the individual governments. Decisions on the management of the monetary instrument are thus taken at the European Economic and Monetary Union (EMU) level, whereas the use of the fiscal instrument is decided separately at the level of the nation-states. The merits of this institutional arrangement in terms of helping achieve price stability are rigorously analysed in the literature and agreed upon among the EMU policy makers. What is less obvious and perhaps more uncertain in the future however, is the role that the fiscal instrument will acquire in this asymmetric set-up. The argument put forward in the literature is that in the absence of a national monetary instrument, governments are more likely to resort to a greater than otherwise use of their fiscal instrument. If that proves to be the case, then what will that mean for macroeconomic stability in general and for prices, more specifically. It is often quoted that excessive use of the fiscal instrument can jeopardise the level of inflation. The question that can be raised is whether European countries are more likely to use their fiscal instrument now than in the past. And if they are, whether this will make the European Central Bank's objective of price stability in the medium-term more difficult to attain. The 'new' role for fiscal policy and its potential effects on price stability in EMU constitute the motivation for examining the issue.

In what follows these issues are examined in three parts. The first part concentrates on the theory of fiscal policy and what the literature identifies as the merits but also potential pitfalls of fiscal expansions. Next to that, it is also discussed how, the creation of EMU may have altered the nature of fiscal policy and with what consequences. The second part then portrays the government financial position for countries in the single currency area and the United States (for comparative purposes) over the past decades. This aims to describe where countries are now and what challenges they may face ahead. Lastly, section three implements a number of fiscal scenarios using the Bank's multi-country model, EUROMON (see DNB, 2000a). Our aim is to identify what is required of countries if they are to achieve fiscal balance on the one hand, but also what it would mean if instead, they were to resort to overusing their fiscal instrument. This is of interest both with respect to price stability in the eurozone but also in terms of how countries can actually affect each other. In this section the recent projections of the Congressional Budget Office (CBO) with respect to the future U.S fiscal position are also presented. The principal aim of this simulation is to show the EU area's sensitivity to US budgetary policies.

An overview of the literature

The role of government debt

The importance of fiscal policy lies in the ways that it interacts with monetary actions and the role of debt in affecting the economic cycle. The conventional view on the issuance of government debt is that it stimulates economic growth in the short-run but crowds out capital (and thus reduces national income) in the long-run (see Elmendorf and Mankiw, 1999). Evaluating now a government's financial position usually relies heavily on the course of its debt, despite it not being its only liability. In particular, assessing fiscal policy requires looking at both the level the government financial position is at, as well as how deficits are financed. Blanchard and Perotti (1999) find consistent evidence that positive government spending shocks have a beneficial effect on output while positive tax shocks prove to be detrimental. Looking at the argument the other way, spending cuts are seen to have positive effects on resource use, while tax increases to have negative effects on incentives. More generally, the existence of debt has potentially three more harmful effects (see Elmendorf and Mankiw, 1999). A tax-financed deficit may give rise to a dead-weight loss, which is associated with distorting individuals' behaviour. Moreover, a high government debt may alter the political process and make an economy more vulnerable to a crisis of international confidence. Lastly, the beneficial short-run effects of a budget deficit on consumption and saving constitute a poor guide to the long-run effects of debt on national wealth.

Monetary and fiscal interdependencies

There are a number of channels through which fiscal and monetary policy can affect each other and a number of theories that defend the relative merits of each one. Which however, is the most relevant empirically, remains an issue that is difficult to test. It is commonly agreed in the literature that monetary policy has a comparative advantage over the use of
fiscal instruments in achieving counter-cyclical goals. Experience has shown (see Taylor, 2000) that the implementation timing is much shorter for monetary than for fiscal policy, with the exception of automatic stabilisers which avoid the slow implementation that can cause discretionary policy to lag so far behind events. In general terms, discretionary changes in fiscal policy may have poorly timed effects on aggregate demand. Taylor even argues that the use of discretionary fiscal policy could make the job of the monetary authority more difficult because it would then have to spend time forecasting the size of the fiscal proposals. The aim of fiscal policy instead is to keep aggregate demand close to potential GDP, a policy that is perceived to be good in its own right.

The literature is agreed as to how fiscally undisciplined behaviour may threaten monetary stability. This refers to the threat of debt monetisation (monetary bailout) or in other words, the expectation that a central bank can always allow creeping inflation to reduce the real value of debt (see Sargent and Wallace, 1981). A widely agreed means of removing this expectation of monetary rescue is the delegation of monetary decisions to a politically independent monetary authority with a clear mandate, that of stable prices. A fiscal authority which is tempted to overuse its instrument is therefore aware that, so the argument goes, high deficit and debt levels can only be corrected through disciplined fiscal conduct. Delegation is thus perceived to eliminate the possibility of an escape route for the fiscal authorities. And indeed, under stable macroeconomic conditions, this may very well act as a necessary and sufficient disciplinary device. It does not however provide a solution when faced with exceptional circumstances that result to unusually high levels of debt; the monetary authority may still be called to the rescue. Furthermore, it could be argued that the threat to price stability remains even under normal macroeconomic conditions. This stems from the ways fiscal policies feed through to the economy. The question that arises is whether there are costs to excessive fiscal behaviour and if there are then who is the bearer. It can be argued that although free to achieve its monetary objectives, the central bank is not immune to fiscal developments. Fiscal actions can and do affect prices and growth and can potentially hamper the central bank’s objectives. By means of an example assume an expansionary fiscal policy implemented through tax cuts. If households expect the present tax cut to be met in the future with cuts in government purchases, then the policy implemented has provided them with net benefits. This occurs because the current government expansion will have stimulated consumption, reduced national saving and increased households’ stream of future income. This in turn generates growth but also inflationary pressures in the short-run. If the objective of the central bank is to achieve stable prices, then it will need to use its monetary tool to counteract expansive fiscal policies. If on the other hand, households expect this tax cut to be met with future tax increases instead, then there will be no change in their future stream of income and as a result no change in the macroeconomic variables. The central bank needs to react differently depending on which of the two actually prevails. The main explanatory factor that renders some fiscal policies ineffective while others not, lies in the role of households’ expectations. The effectiveness of fiscal policy is a much more complicated issue and depends on the timing of the intervention as well as the general economic conditions under which policies are implemented. In the example above it is the expected cut in government purchases (or increase in future taxes) rather than the tax cut itself, that stimulates (leaves) consumption (uneffected). From a policy perspective, capturing the role of expectations is perhaps the most important, although also the most difficult task in evaluating a fiscal stance. Further to that, nowhere is it specified when the debt is eventually, if ever, to be repaid. All that is required is an expectation that sufficient funds will be generated to justify current expenditures. This adds further to the difficulty with evaluating the sustainability of fiscal policy.

The role of fiscal policy in EMU

As already mentioned, the distinct economic feature of EMU is the asymmetry in the level of monetary and fiscal governance. Monetary policy is given to a supranational body, the European System of Central Banks (ESCB) to conduct, and is designed to achieve and maintain price stability in the medium-term. Fiscal policy on the other hand, still remains within the countries’ jurisdiction. It is of course true that the Maastricht Treaty and the Stability and Growth Pact do provide a framework for monitoring the fiscal actions of the individual members. This is implemented by requiring that countries maintain a fiscal position close to balance or in surplus in the medium-term, providing at the same time for the use of the fiscal instrument under exceptional circumstances. They aim thus to restrict the fiscal instrument from being used in ways that would jeopardise area-wide monetary stability and impose costs across the countries. Furthermore, the Stability and Growth Pact also aims at encouraging the effective
use of automatic fiscal stabilisers in dealing both with structural issues as well as the different parts of the business cycle. In terms of macroeconomic management however, countries maintain fiscal policy and lose the use of the monetary instrument at the national level. Monetary policy is in use at the European level, but it is not directed to the specific needs of the countries. It is fiscal policy – and perhaps wage policy – that is now called to deal with country specificities. The important implication of this arrangement is that there is now greater scope for an otherwise ‘excessive’ use of the fiscal instrument (see Hughes Hallett and Vines, 1993). And if monetary union intensifies the use of the fiscal instrument (see Demertzis et al, 1999) then for a given level of growth and interest rate, it also increases the risk of fiscal default. The important question is therefore, how likely countries are to use their fiscal tool in ways that may eventually jeopardise aggregate price stability. The literature on this point remains divided. There are studies which point to structural differences between countries (see Bayoumi and Eichengreen, 1994, Demertzis et al, 1998), and others that consider the asymmetries insignificant and in any case diminishing as trade is encouraged by the single currency (see Frenkel and Rose, 1998).

In what follows however, a number of unresolved questions relating to the use of fiscal policy in the context of a single currency is presented. We allude to the reasons – provided by the literature – why countries may actually be tempted to use this instrument and why the current institutional arrangements may not insulate monetary policy from fiscal ‘mischief’.

Firstly, the nature of the fiscal regime present in each country as described in the previous section, may create asymmetric transmissions. If household expectations are different between countries – in terms of how they expect current expansions (fiscal or monetary) to be financed in the future – then similar policies will have different effects. Secondly, although the motivation behind imposing disciplinary rules is correct in that they do help ensure overall stability, at the same time the evidence is not entirely in favour of tight fiscal limits. From a welfare point of view, tight fiscal limits can actually be as harming as no limits, especially in the absence of a federal structure (see Sala-i-Martin and Sachs, 1992). Thirdly, as alluded above, the introduction of a single monetary policy may in fact create the incentive to overuse one’s fiscal instrument. This may arise because a country knows that the costs of being fiscally undisciplined may not only be felt by itself, but may also be shared across all the members of EMU (given the uniqueness of the short-term interest rates). That implies that the country will initially reap the benefits of the fiscal expansion single-handedly, but will only share in the subsequent burden. This incentive may admittedly be moderated if the country was to account for the potential inflationary impact of its fiscal actions. If that was indeed to be taken into consideration then the benefits mentioned would in fact be reduced. Lastly, the price stability that EMU entails encourages residents to invest in debt issued by other member countries’ governments. But greater exposure of their residents to foreign debt, may automatically increase the pressure they face to bailout members in financial distress. To the extent that this may be anticipated, it may generate greater incentives for fiscal expansion, hence increasing the level of interdependence between countries (see Viegi, 1999).

The historical evolution of EMU countries’ fiscal positions

The Maastricht criteria as laid down in the Treaty, have disciplined the debt and financial positions of the European governments. Those countries that joined EMU in the first wave in 1999 have satisfied the deficit criterion of less than 3% as a proportion of nominal GDP. Most countries have managed to bring their debt ratios close to (or below) 60%, as a proportion of nominal GDP, with the exception of Belgium and Italy which have debt ratios of more than 100%. Over the past years the debt and deficits have continued to decrease in most EMU-countries due to, among others, higher economic growth.

Chart 1 shows the debt and deficit to GDP ratios for seven EMU countries and the United States. Debt ratios in Belgium, France, the Netherlands and the United States decreased slightly in the mid-seventies. At the end of the decade and during the eighties the debt ratios increased up to about 60% or even 100% as a proportion of GDP due to, among others, lower economic growth. Then, 1992 proved to be a turning point in each of the countries considered. The end of the nineties saw lower deficits and hence lower debt ratios, a downward trend that has not stopped yet. During the 90s most of the countries had the highest deficit in the years 1992 or 1994. This also holds for the United States, where 1992 saw the start of a period of prolonged growth.

The figures in Chart 1 are realisations for the period between 1970-1999 and estimates for 2000. For the years
Chart 1 Government debt and government financial balance ratios in seven EMU-countries and the United States

Per cent

Belgium

Germany

Spain

Finland

France

Italy

Netherlands

United States

Government debt to nominal GDP, left-hand scale

Government financial balance to nominal GDP, right-hand scale
2001 and 2002, some institutions have also provided projections for the medium term outlook. The OeCD, for instance (see December 2000), foresees further debt reductions for each of the EMU-countries. Debt to GDP is projected to slow down in Germany from 59.6% in 2000 to 57.5% in 2002 and in France from 64.6% to 62.6%. Ireland may even reach a government debt stock that is only 16.7% of nominal GDP in 2002. For the Netherlands, according to the OeCD but also according to the DNB forecasts with the Dutch model Euromon (see DNB, 2000c), the debt ratio may reach levels less than 50%. In this respect, the Netherlands shows a similar pattern to the United States.

The debt stock reduction during the last years has led to a much lower burden of interest payments by the government. Chart 2 shows this for the same seven EMU-countries as in Chart 1 and for the United States, for the years between 1996-2002. Again, the data until 1999 are realisations, for 2000 estimates and for 2001-2002 projections. As shown, the strongest reductions of interest payments from 1997 onwards occurred in those countries with the highest debt, i.e. Belgium, Italy and Spain. Italy, for instance, faced lower interest rate payments from 11.1% to 9%. In these countries, the observed decrease in interest debt payments between 1996-1999 was made possible by the higher economic growth, but also by the reduction in the debt stock itself and lower EMU and US interest rates. EMU short and long rates declined from 4.9% in 1996 to 3.1% in 1999 and from 7.1% to 4.7%, respectively, and US long rates from 6.4% to 5.6%.

The debt to GDP ratios are expected to continue to decrease until 2002. Looking at forecasts for the debt ratios in the longer term however, prospects are different. Many forecasters in European countries and in the United States are expecting the debt to GDP ratio to stop decreasing after 2000. These projections are made on the basis of generational accounting models that take into account the government expenditure and tax income per cohort in a population explicitly. To give an example, very young and elderly cohorts are expected to be receiving more money from the government through funds for education, health care or retirement than they pay back through taxes. Assumptions concerning interest rates, labour participation rates and economic growth are in these models often based on the current situation. The populations in many European countries and the United States are ageing as birth and death rates decline. Populations are expected to be most at age around 2020-2030. Due to this expected development, the costs of social security, medicare, pensions and other government expenditures are projected to outweigh tax revenues by then. Under the current assumptions and hence no further policy changes, the government will thus run deficits, which in turn will burden the government debt to GDP ratio.

Projections for the Netherlands made by the Nederlandsche Bank in 2000 indicate that the debt to GDP ratio may decrease from about 60% in 2000 to 20% in 2025 and then rise until a bit less than 80% in 2050 (see DNB, 2000b). This is shown in Chart 3. The underlying assumptions are that the real interest rate is 4% and the growth of labour productivity 1.5%. The elderly dependency ratio – the number of people in the Netherlands above 65 as a proportion to the number of people between 20 and 65 - is calculated to be 40% by 2050. This is almost double the dependency ratio of 22% in 2000, pointing to the considerable shift in the population age distribution. Nevertheless, with the exception of Ireland, Luxembourg and Finland, Dutch elderly dependency ratios are lower in comparison with other European countries. Italy and Spain compare the least favourable as their populations are expected to age the most (see ECB, 2000). The turn in the debt ratio and its increase in most of the other European countries in the long term (between 30 and 50 years ahead), may thus be as severe as outlined for the Netherlands in Chart 3.

In summarising this section, the following can be said. In European countries and in the United States, debt and government interest payments to GDP ratios have decreased over the last years. Projections for the two years ahead are that this decline in debt to GDP ratios may continue. However a shift in the populations from relatively young and productive to ageing people over the next 20 years is expected in these countries. Ceteris paribus, governments will therefore be forced to augment their expenditures. This will entail higher government deficits and consequently higher debt to GDP ratios.

Three simulations with euromon

Reviewing the literature and discussing the historical evolution of countries’ levels of debt leads to two questions that might currently be of policy relevance. This section attempts to provide answers to these questions using the Bank’s multi-country model, Euromon. Following the theoretical argument that debt can be detrimental to growth in the long run and might also threaten price stability, we examine first what it would take for countries to eliminate debt. This is done in
Chart 2  Interest payment component in government debt to nominal GDP
Per cent
Simulation 1: The cost of debt in EMU
As an illustrative example, a 3% surplus (as a percentage of GDP) is imposed on the government financial position of each EMU-8 member for the whole period, under the assumptions of constant interest and exchange rates. This aims to identify how quickly individual countries can eliminate their debt. The results are plotted in Chart 4. Our baseline is generated based on the assumption that governments gradually reach a balanced financial position till 2002 and maintain this balance thereafter. The OECD projections for 2001 and 2002 are assumed. Consistently with this setting, debt reduces gradually till 2002 and remains constant thereafter. Chart 4 shows, for instance, that for Austria it would take about 15 years before debt is eliminated. This term is shorter for Finland and France but longer for Belgium and Italy who are faced with a relatively higher level of debt to begin with. The message from this simulation is that countries aiming to reduce their levels of debt, would require prolonged periods of high government surpluses.

Simulation 2: Government expansion
The shock examined next is that of a government expansion in an EMU country through expenditure increases. The experiments performed are applied to Germany and Italy individually. The choice of countries is based on the size of their economy but also the relative difference in their current fiscal positions, as Germany has a low and Italy a high level of debt. It is examined how shocks affect both the domestic economy as well as the other country considered. In this simulation monetary policy is assumed to maintain constant real interest rates. This is a neutral way of modelling monetary policy. It implies that the change in the eurozone short-term interest rate is precisely equal to the change in inflation in the eurozone.

A permanent 1% government investment shock applied to Germany
Chart 5 shows the results of a 10-year government investment shock of 1% in Germany. Given the assumed balanced-budget baseline, government expenditures are greater than revenues, by the shock applied for the 10-year period. The first consequence is that the government financial position and the debt deteriorate across the whole period. This deterioration has an
Chart 4 Debt ratio at 3% government surplus, 2000-2020
Per cent

Austria

Belgium

Germany

Spain

Finland

France

Italy

Netherlands
Chart 5  Results of a 1% permanent raise in government investment in Germany
Absolute percentage deviations from baseline

Long-term interest rate

Government debt (% GDP)

Government financial balance (% GDP)

Inflation

Gross domestic product (%)

00 02 04 06 08 10

00 02 04 06 08 10

00 02 04 06 08 10

00 02 04 06 08 10

00 02 04 06 08 10

Germany  Italy
Chart 6 Results of a 1% permanent raise in government investment in Italy
Absolute percentage deviations from baseline
adverse effect on the German long-term interest rate, reflecting the prospect of a burdened government financial position. Real economic growth is stimulated as a result of the government expansion and despite the increase in long-term interest rates. Inflation increases as a consequence of higher domestic demand. The consequences for Italy, also shown in Chart 5, are that it benefits from the shock in Germany both in terms of lower long-term interest rates which in turn stimulate growth, as well as lower debt levels. At the same time however, the inflationary impact of the German expansion is also felt in Italy.

A permanent 1% government investment shock applied to Italy
Chart 6 now shows the results for a similar shock applied to Italy. In Italy, domestic long-term interest rates are affected by far more, reflecting the greater elasticity of the rates with respect to the government financial position. The increase observed amounts to about 3 percentage points in the first five years. Indeed the Italian fiscal position deteriorates sharply with the deficit reaching 9% by the end of the first five years. Similarly debt increases, but only after the end of the fourth year. Real output on the other hand benefits in the first five years from the fiscal stimulus, reaching 1.8% in deviation from baseline. Inflation on the other hand does suffer, with a 1% point increase in the first five years. Similarly debt increases, but only after the end of the first five years. Real economic growth is stimulated as a consequence of higher domestic demand. The decrease is also felt in Germany, which suffers from the impact of the Italian shock, will contribute significantly (given the size of the country) to the area-wide level of inflation.

Simulation 3: The effects for EMU of a further reduction of the US-debt
Recent projections by the Congressional Budget Office (CBO, 31 January 2001, Washington) show a significant decrease in the US debt stock over the next ten years. The projections even foresee that a zero debt situation for the US government would be possible within the next decade. This of course, depends strongly on the fiscal policy pursued and further economic developments. If president Bush’s tax cut plans of about 1.3 to 1.6 trillion dollars over the next ten years are implemented or if the US economy slows down, the debt to GDP ratio will reduce at a slower pace than current projections suggest.

If current CBO projections for the next decade were to prove accurate, an impact on EMU would be expected. In order to analyse the effects of such a fiscal US-position, a US budget scenario is simulated with EUROMON. A ‘bright’ (as the CBO calls it) fiscal budget scenario the way they project is carried out and the impact of a US surplus during a 10-year period on the EMU economy is analyzed. The simulation is performed by imposing a shock in which US government surplus (gradually) increases from 2.4% of nominal GDP in 2000 to 4.9% in 2010. This is compared to a baseline in which the US economy has a balanced budget (i.e. is fiscally neutral) in the period examined.

The responses obtained with EUROMON for the EMU-economy are as follows. The US long-term interest rate falls as a consequence of the increase in the government surplus and, in response, long-term interest rates in Europe fall. All exchange rates in EMU are assumed to remain constant.

The surplus imposed during the ten-year period, brings down the US debt to nominal GDP ratio to less than 10%. Further, the long-term interest rate reduces which makes business and housing investment in the US cheaper. As both sorts of investment increase, they contribute positively to US economic growth. Long-term interest rates in Europe follow the decline in the US long rate and investment expenditure in EMU starts increasing. Through higher investment, domestic production rises and more labour is demanded. This imposes pressure on the labour markets in the United States, and to a lesser extent in the European countries. Due to the...
tighter labour market, wage pressures may induce inflation. The extent to which inflation may materialise then depends on the reaction of the monetary authorities. Table 1 reports results for the United States and for theEMU, like in the previous simulation, under the assumption that monetary policy maintains constant short-term real interest rates.

The results from this fiscal consolidation simulation show that after five years the long-term interest rate in the United States is 2.6 percentage points below baseline. InEMUthe long-term interest rate (constructed as the average of all long-term interest rates of component countries) is 0.6 of a percentage point below the baseline in the fifth year. InEMU, GDP is 1.1% higher in deviation from base and inflation higher by 0.5 of a percentage point. GDP and inflation effects after 10 years are stronger than the effects in the fifth year. If the euro-dollar exchange rate were also to react to the simulated USfiscal policy actions (not assumed in this simulation),EMUwould take more advantage due to additional trade and/or financial flows.

This simulation thus shows that a continuous debt reduction in the United States during a full decade can cause significantly lower long-term interest rates and higher growth inEMU, under the assumption of a neutral monetary policy and constant exchange rates. This, in turn, would improve the fiscal positions of each of theEMU-countries ceternsparibus. According to this simulation, the debt toGDPratio forEMUwould decrease about 10 percentage points in 10 years. It is to be re-emphasised that in this simulation the dollar-euro exchange rate is kept constant. If the exchange rate was free to respond to the state of the government financial position, the dollar vis-à-vis the euro would appreciate. The eurozone could be faced with higher exports, lower imports and subsequently higher economic growth.

Conclusions

The theoretical literature as well as our empirical simulations with the Bank’s own modelEUROMON, provide us with the following insights about the role of fiscal policy:

• Most countries inEMUhave improved their fiscal positions after the inception of the Maastricht Treaty. It can therefore be argued that it has contributed to greater fiscal discipline.
• Far from complacent, this emphasises the need for further and more explicit co-ordination at the intergovernmental level, beyond the broad economic policy guidelines and the Stability and Growth Pact.
• This need arises from the fact that countries have an incentive to use their fiscal instrument to generate growth, and perhaps more than they would in the absence of Monetary Union. But countries’ fiscal actions do affect each other both in terms of debt and deficit levels, as well as in the way they influence prices. This is of particular interest to the European System of Central Banks, which is now in charge of monetary policy.
• Finally, theEUarea may still be affected byUSpolicies. Our simulations show that a reduction inUSdebt can lower both the domestic as well as the European long-term interest rate. It can thus stimulate economic growth in both economic areas and contribute to lower debt ratios.

References

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This is the case because although it is not the only one, debt held by the public represents the largest explicit government liability. Furthermore, it is usually difficult to assess the value of many of the government’s assets.

2 This admittedly may be unlikely for a low inflation country where seignorage revenues contribute only very modestly to government revenues.

3 The distinction in the way that a fiscal expansion is expected to be resolved in the future is very often associated in the literature with Ricardian versus Non-Ricardian equivalence. The former implies fiscal neutrality whereby private agents anticipate in full future changes in their tax burden following current fiscal actions. In a non-Ricardian world on the other hand, private agents remain agnostic about the future of fiscal policy and base their decision on current events. And there are numerous reasons to depart from Ricardian equivalence: people may be childless and not care about future generations, or they may not always leave bequests, credit markets may be imperfect, or individuals credit-constrained (Blanchard and Fischer, 1990).

4 In the literature, fiscal solvency is assumed as long as the rate of growth of a government’s debt does not exceed the interest rate on that debt.

5 Equations for the long-term interest rates for each of the countries in euromon are estimated. As explanatory variables they contain the short-term interest rate, inflation and the government financial balance to nominal GDP ratio. The effect of the government financial balance on the long-term interest rate is negative. So, when government balance decreases, the long-term interest rate increases, ceteris paribus.

6 The shock is given to the US government financial balance. Government expenditures are exogenised. The model further contains tax rates, that are exogenous. So, the shock can be seen as a shock to both government expenditures and government revenues. If GDP is kept endogenous, so the government financial balance to nominal GDP ratio may differ (slightly) from what the cbo projects.
Publications
**DNB Staff reports**

**DNB Staff reports have been published since 1996. 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 DNB Staff reports can be found on the Bank’s website, http://www.dnb.nl. During the fourth quarter of 2000 and the first quarter of 2001, six Staff reports were published which are summarised below.**

**No. 54 Liquidity Effects and Welfare Costs of Inflation in an Endogenous Growth Model**

C.K. Folkertsma

The paper has two subjects. The first subject is the development of a monetary general equilibrium model with endogenous growth. By combining the two-sector endogenous growth model and the limited participation approach, the model is able to explain the empirically observed liquidity effect of an expansionary monetary policy. The second subject is the effect of inflation on growth and economic welfare. It is shown that the traditional approach to measure the welfare costs of inflation may be misleading: It ignores the costs or benefits of the transition to the new steady state. This omission may bias estimates of the optimal degree and of the total benefits of disinflation. It is also argued that, once the transition is taken into account, the welfare gains of lowering inflation depend on the monetary policy rule and the fiscal response to disinflation. The two themes of the paper are related. Given that the welfare costs of inflation depend on the transitional dynamics, then simulating disinflation processes requires models with sensible short run properties.

*Keywords: Monetary general equilibrium model, endogenous growth, welfare costs of inflation, monetary transmission, liquidity effects.*

*JEL codes: D58, E31, E52, O41.*

**No. 55 Consumers’ Inflation Expectations and Monetary Policy in Europe**

J.M. Berk

This paper analyses the effects of monetary policy decisions on inflation expectations of European consumers. Using a novel approach that does not assume unbiasedness of expectations, which makes use of survey data on expected future as well as perceived past price developments and allows for non-normal peakedness and asymmetry, we convert qualitative survey responses of consumers in various European countries into quantitative time series of inflation expectations. After checking the rationality of the constructed expectations measures, we investigate the effects of unanticipated movements in interest rates and inflation on inflation expectations across European countries. We *inter alia* seek to explore whether the reaction of consumers in countries with more credible central banks differs from the reaction of consumers in less credible countries.

*Keywords: Inflation expectations, Survey data, Monetary policy.*

*JEL codes: C31, C32, E58.*

**No. 56 The Federal Reserve System Discussed: a comparative analysis**

M.M.G. Fase and W.F.V. Vanthoor

In the first half of 2000 the authors of this paper visited the twelve District Reserve Banks in the United States which was followed by a discussion at the Board in Washington. The aim of this visit was to get a deeper insight into the working of the American Federal Reserve System in order to see whether there is a sufficient basis for a comparison with the European System of Central Banks. The direct contacts with many senior and research staff members enabled them to deepen their factual empirical knowledge about the US banking system. The staff set aside a lot of time to discuss the relevant questions and made various members of the Economic Research Departments available for further conversation. Particularly enlightening were the stimulating views of some Reserve Bank presidents on the task and rules of monetary policy.

**No. 57 Monetary transmission in Germany: Lessons for the euro area**

K. Hubrich and P.J.G. Vlaar

This study analyses the transmission of monetary policy in Germany for the EMU period in the framework of a structural vector error correction model (S-VECM). Three stable cointegration relationships are found: a money demand relation, an interest rate spread and a stationary real interest rate. Based on both contempo-
aneous and long-run restrictions, five structural shocks to the economy are identified. In contrast to analyses for the euro area, we find that output and inflation are not independent in the long run for Germany. Our analysis indicates that uncertainties remain concerning the controllability of money and its usefulness as a leading indicator with respect to inflation. Stability of the money demand relationship does not seem to be problematic.

Keywords: Monetary transmission, Germany, generalised common trends model.

JEL Codes: C32, C52, E41, E43, E52.

No. 58 The Profit-Structure Relationship and Mergers in the European Banking Industry: an empirical assessment

L.W. Punt and M.C.J. van Rooij

Empirical research provides evidence of a relationship between market structure and profitability in the European banking sector. This paper tests several market-power and efficient-structure theories, which might explain the profit-structure relationship. These tests reveal that x-efficiency is the crucial factor underlying the profit-structure relationship because it enables banks to improve both profitability and market share. Bank mergers in recent years appear to have been successful because, on average, x-efficiency and profitability have improved after the consolidation. Moreover, there are no indications of unfavourable price setting behaviour as a result of increased market power.

Keywords: profit-structure relationship, bank efficiency, bank mergers.

JEL codes: G14, G21, G34, L11.

No. 59 Wage Inflation and the Distribution of Output Gaps in Europe: Insiders vs. Outsiders

M. Demertzis and A.J. Hughes Hallett

This paper examines whether Europe’s monetary framework of ‘ins’ and ‘outs’ reflects differences in market structures underpinned by relatively immobile labour. Such a situation could give rise to sufficient nominal convergence to satisfy the entry requirements to EMU, but little real convergence and hence a signifi-
Monetary Monographs

The Bank has published Monetary Monographs since 1984. These contain compact studies and analyses relating to the Bank’s functions. Since September 1999, the Monetary Monographs also include reports of seminars and conferences organised by the Bank. Copies of Monetary Monographs are obtainable from the Netherlands Institute for Banking, Insurance and Stockbroking in Amsterdam.

In the fourth quarter of 2000, one Monetary Monograph was published, which is summarised below.

No. 19 euromon: The Nederlandsche Bank’s multi-country model for policy analysis in Europe

Econometric Research and Special Studies Department

This Monograph describes euromon, the macroeconomic multi-country model of the Nederlandsche Bank. euromon covers the principal emu countries: Austria, Belgium, Finland, France, Germany, Italy, the Netherlands and Spain. In addition, three other eu Member States, viz. Denmark, Sweden and the United Kingdom, and the principal eu trading partners Japan and the United States have been modelled. The economies of these countries are discussed, with all international trade links and monetary and financial spill-overs. The Monograph focuses notably on emu, monetary policy, wealth effects in the stock and housing markets, and exchange rates. On the basis of simulations, the effects for emu are analysed of oil price changes, stock market shocks in the United States and worldwide, changes in the natural level of unemployment and fiscal policy in some emu countries. Worthy of note are the asymmetric effects for the various countries, which are due to the individual estimates for each of the countries covered by euromon.