Subscription orders for Quarterly Bulletins and Annual report and requests for specimen copies should be sent to:

Kluwer Academic Publishers
PO Box 17 – 3300 AH Dordrecht – The Netherlands

© 2001 De Nederlandsche Bank NV

Edition: 1.100
Publication and multiplication for educational and non-commercial purposes is allowed, with acknowledgement.
Westeinde 1, 1017 ZN Amsterdam – Postbus 98, 1000 AB Amsterdam, the Netherlands – Telephone (31)20 524 91 11 – Telex 11355 DNBAM NL – Telefax (31)20 524 25 00
Internet: http://www.dnb.nl.

This publication contains a translation of the Dutch-language Quarterly Bulletin of De Nederlandsche Bank NV, except where indicated otherwise.
In the event of discrepancies between the original Dutch-language version and this translation, the Dutch text shall prevail.
issn: 0922-6184
Contents

Recent developments

Monetary and economic developments
The Netherlands in the euro area  7

Supervision
Latest developments in supervision  15

Payments
Current developments in payments and securities systems  21

Articles

Risk of substantial price increases due to euro conversion seems limited  31

Supervision of large, complex financial institutions in Europe  39

Labour mobility in the euro area  47

The Dutch economy in 2001-2003: a forecast using morkmon  55

Publications

DNB Staff Reports  73
Recent developments
The Netherlands in the euro area

**Inflation in the Netherlands has risen to the highest level in the euro area, far above the price stability standard obtaining for the euro area as a whole.** Since January, price rises have included a substantial one-off component. In this light, it is worrisome to note that in the recent collective bargaining high wage increases were agreed for large groups of employees, for both the current and the following year. This is an unwelcome development, not only in view of the persistently high inactivity rate in our country, but also because these past few years the Dutch economy has lost much of its competitive strength as it is. In addition, being relatively open, the Dutch economy is vulnerable to adverse external shocks, such as the recent slowdown in global economic growth.

**Price developments**

Inflation in the Netherlands during the first months of this year was considerably higher than last year. In April 2001, inflation measured by the CPI came out at 4.9%. According to MORKMON projections, inflation in 2001 will amount to 4.5%, and fall to 3.1% and 2.2% in 2002 and 2003, respectively. In April the year-on-year inflation rate as measured by the harmonised inflation standard, i.e. the HICP, was 5.3%. This makes the Netherlands the country with the highest inflation rate among the twelve countries of the euro area (Table 1). In the fourth quarter of 2000, inflation in the Netherlands had still been 3%. About 3/4 percentage point of the recent inflation leap stemmed from the increase in VAT rates and the most recent ecotax tranche, both of which took effect on 1 January. In addition, the effect of the transfer of broadcasting fees to the general budget, which in 2000 had depressed inflation by half a percentage point, was no longer reflected in the inflation figure. After its leap in January, inflation continued its rise in the first months of this year. This was partially related to the unfavourable movements in the prices for meat and automotive fuels. The increase in meat prices on the consumer market was attributable to the recent outbreaks of BSE and, later, foot-and-mouth disease, reducing the supply of meat, on the one hand, and benefiting the consumption of pork and fish, which were considered to be safe, on the other.

The recent series of petrol price rises primarily ensues from a combination of adverse supply and demand factors on the petrol market; the price rises for crude oil were much more moderate. Petrol production has recently been low following refining capacity cuts due to maintenance work and several accidents. Apart from the factors depressing supply, the upcoming holiday season is stepping up demand for petrol, especially in the United States. Owing to this combination of factors petrol supplies diminished worldwide, causing petrol price hikes.

After dropping sharply on a month-on-month basis in December and January, manufacturers’ input and output prices have been increasing since February. As the increase during last year’s first months was higher, the year-on-year price increase is still showing a declining tendency (Chart 1). Only the manufacturers’ input prices for domestic goods also rose sharply as against the previous year. The price level in that category was 10% above the level recorded a year earlier, and up 3.4% from that in February, the highest month-on-month rise in at least six years. High food prices in particular, most notably related to the foot-and-mouth crisis, account for much of the increase in output prices. Pork and beef product prices went up by 15 to 19% in March.

**Wages**

In the past few months, a great many industrial sectors have concluded new collective labour agreements. The negotiated wage increases, approximately 4% on average

---

### Table 1  Inflation (HICP)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>0.6</td>
<td>2.1</td>
<td>2.2</td>
<td>2.5</td>
<td>2.4</td>
</tr>
<tr>
<td>France</td>
<td>0.6</td>
<td>1.8</td>
<td>2.1</td>
<td>2.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Italy</td>
<td>1.7</td>
<td>2.6</td>
<td>2.6</td>
<td>2.8</td>
<td>2.7</td>
</tr>
<tr>
<td>Spain</td>
<td>2.2</td>
<td>3.5</td>
<td>3.7</td>
<td>4.1</td>
<td>3.9</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2.0</td>
<td>2.3</td>
<td>2.7</td>
<td>3.0</td>
<td>4.8</td>
</tr>
<tr>
<td>Belgium</td>
<td>1.1</td>
<td>2.7</td>
<td>3.1</td>
<td>3.4</td>
<td>2.5</td>
</tr>
<tr>
<td>Austria</td>
<td>0.5</td>
<td>2.0</td>
<td>2.1</td>
<td>2.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Portugal</td>
<td>2.2</td>
<td>2.8</td>
<td>3.5</td>
<td>3.7</td>
<td>4.8</td>
</tr>
<tr>
<td>Greece</td>
<td>2.1</td>
<td>2.9</td>
<td>2.8</td>
<td>3.8</td>
<td>3.3</td>
</tr>
<tr>
<td>Finland</td>
<td>1.3</td>
<td>3.0</td>
<td>3.1</td>
<td>3.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Ireland</td>
<td>2.5</td>
<td>5.3</td>
<td>5.7</td>
<td>5.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>1.0</td>
<td>3.8</td>
<td>4.2</td>
<td>4.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Euro area 1</td>
<td>1.1</td>
<td>2.3</td>
<td>2.5</td>
<td>2.7</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: Eurostat.

1 As of 2001, including Greece.
for 2001, entail an upward risk for price movements. Especially in the light of the large proportion of Dutch citizens that are still economically inactive, this increase in wages is to be considered high. An additional worrisome factor is that the wage increases negotiated for this and the next year in the most recent collective labour agreements are higher than those laid down earlier in collective labour agreements. For example, the collective labour agreement for the metals and metal manufactures sector concluded early in April provides for wage increases on an annual basis of 5% in 2001, and 3.8% in 2002. According to Morkmon estimates, the negotiated wage increase for 2002 will also be substantial, amounting to approximately 3.7%. Given the expected considerable wage drift (0.8%), the resulting rise in compensation per employee will be 4.5%. Considering the squeeze on margins the business sector has seen in recent years, the sharp wage increases could well feed through into the average price level. Besides increasing the risk of a wage-price spiral, this also lays bare the vulnerability of the Dutch economy to a deterioration in the external environment.

Box 1: The HICP and the CPI

In March 1997 a new inflation measure was introduced in the countries making up the European Union: the harmonised index of consumer prices (HICP). Since the start of monetary union, the HICP has functioned as the variable expressing the medium-term price stability target, which makes it the relevant inflation measure for the Eurosystem’s monetary policy. The inflation rate for the euro area is calculated on the basis of the HICPs of the various Member States, using annually reweighted country weights. The product categories covered by the HICP are uniform for all Member States. The weights assigned to these categories, however, may vary from one Member State to another, owing to differences in purchasing habits.

The product categories largely correspond to those covered by the consumer price indices, or CPIs. The principal difference between the HICP and CPI for the Netherlands is the treatment of some taxes and the notional rent income from owner-occupied homes, which are only included in the CPI. The principal methodological difference between the two measures is that the HICP is a chained index, whereas so far 1995 has been the weighting year for the CPI. The level differentials between the two indices generally do not amount to more than several tenths of a percentage point, both indices following practically the same curve (Chart 2). The HICP is on the whole more volatile, though, since the components covered by the Dutch CPI, but not by the HICP, develop according to a relatively stable pattern. Hence the price rises for energy and unprocessed food seen in recent months have been assigned more weight in the HICP than in the CPI. In April, the differential measured 0.4 percentage point.

Chart 2  Inflation in the Netherlands
Per cent changes from previous corresponding period

<table>
<thead>
<tr>
<th>Year</th>
<th>HICP</th>
<th>CPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

for 2001, entail an upward risk for price movements. Especially in the light of the large proportion of Dutch citizens that are still economically inactive, this increase in wages is to be considered high. An additional worrisome factor is that the wage increases negotiated for this and the next year in the most recent collective labour agreements are higher than those laid down earlier in collective labour agreements. For example, the collective labour agreement for the metals and metal manufactures sector concluded early in April provides for wage increases on an annual basis of 5% in 2001, and 3.8% in 2002. According to Morkmon estimates, the negotiated wage increase for 2002 will also be substantial, amounting to approximately 3.7%. Given the expected considerable wage drift (0.8%), the resulting rise in compensation per employee will be 4.5%. Considering the squeeze on margins the business sector has seen in recent years, the sharp wage increases could well feed through into the average price level. Besides increasing the risk of a wage-price spiral, this also lays bare the vulnerability of the Dutch economy to a deterioration in the external environment.
The policy of wage moderation pursued from the eighties to the mid-nineties strongly improved the competitive strength of the Netherlands (Chart 3). In recent years, however, we have lost some of our competitive edge on the euro area in general and on our principal trading partner, Germany, in particular. Since 1995, wage increases in Germany have been relatively moderate in response to the economic depression. In France and Belgium, wage cost movements have likewise been more subdued than in the Netherlands. In addition, Dutch labour productivity growth trails that of most of the competitors within the euro area (see Box 2). Our competitive strength as compared to the nineteen most important competitor countries has deteriorated to a lesser extent and, in recent years, has even displayed some signs of recovery. However, this development is not related to relative wage movements, but to external factors. As a result of the depreciation of the euro, the competitive strength of the Netherlands, notably vis-à-vis the United Kingdom and the United States, has improved strongly these past few years, masking the unfavourable wage movements. Combined, the countries outside the euro area carry a competitive weight of approximately forty per cent.

The competitive position, in terms of relative export prices, need not necessarily move in line with the power to compete on the basis of wage costs. Indeed, besides wages, other production costs, operational margins and the market situation may have a bearing on the eventual prices of exported products. The competitive position of the Netherlands vis-à-vis competitors outside the euro area, rather than showing improvement, has remained more or less stable while that vis-à-vis competitors within the euro area has even worsened considerably (Chart 4). The diverging movements of the competitive strength and competitive position may stem from the circumstance that, after several years of declining operational margins, the high utilisation rate now enables companies to pass on much of the increases in input prices in their export prices and see their operational margins broaden as a consequence.

Cyclical conditions

In the second quarter of this year, economic growth in the Netherlands declined to 2% on an annual basis. Also in other euro area countries economic growth fell in the first quarter (Table 2). This means a continuation of the decelerating tendency of gross domestic product from the first quarter of 2000 onwards (Chart 5) and brings home that the high growth levels witnessed in recent years (4% on average) are behind us now. The development of private consumption is striking. Still
4.3% in the fourth quarter of 2000, the growth of this expenditure category amounted to only 2.0% in the first quarter of 2001 as compared to the same quarter a year earlier. The movements in this variable around the turn of the year suggest that consumers massively anticipated the new tax scheme by advancing high expenditures such as for cars, and, thus, evading the higher VAT rates coming into effect as of 1 January 2001. Consequently, expenditure on durables dropped sharply in the first months of this year. Besides this sudden slowdown, a downward underlying trend in consumption is perceivable, which set in some time ago. Consumer spending has thus gradually recovered its trend growth level, after having been positively influenced for a prolonged period during which households derived substantial capital gains from increased share and house prices. The reduction in taxation provided for by the new tax scheme implies a new spending impulse for 2001 and 2002. On the other hand, sales of durables may be depressed by saturation effects.

International uncertainty has grown in the past few quarters, owing to the economic slowdown in the

### Table 2 GDP volume

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro area</td>
<td>3.4</td>
<td>3.5</td>
<td>3.7</td>
<td>3.3</td>
<td>2.9</td>
</tr>
<tr>
<td>Germany</td>
<td>3.1</td>
<td>2.6</td>
<td>4.0</td>
<td>3.3</td>
<td>2.6</td>
</tr>
<tr>
<td>France</td>
<td>3.3</td>
<td>3.7</td>
<td>3.5</td>
<td>3.2</td>
<td>2.9</td>
</tr>
<tr>
<td>Italy</td>
<td>2.9</td>
<td>3.3</td>
<td>2.9</td>
<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3.9</td>
<td>4.6</td>
<td>4.3</td>
<td>3.5</td>
<td>3.0</td>
</tr>
</tbody>
</table>

1 The changes are based on seasonally adjusted data. Source: Eurostat.

43.3% in the fourth quarter of 2000, the growth of this expenditure category amounted to only 2.0% in the first quarter of 2001 as compared to the same quarter a year earlier. The movements in this variable around the turn of the year suggest that consumers massively anticipated the new tax scheme by advancing high expenditures such as for cars, and, thus, evading the higher VAT rates coming into effect as of 1 January 2001. Consequently, expenditure on durables dropped sharply in the first months of this year. Besides this sudden slowdown, a downward underlying trend in consumption is perceivable, which set in some time ago. Consumer spending has thus gradually recovered its trend growth level, after having been positively influenced for a prolonged period during which households derived substantial capital gains from increased share and house prices. The reduction in taxation provided for by the new tax scheme implies a new spending impulse for 2001 and 2002. On the other hand, sales of durables may be depressed by saturation effects.

International uncertainty has grown in the past few quarters, owing to the economic slowdown in the

### Box 2 Growth and level of productivity in the Netherlands

The high economic growth of the past few years was mainly achieved by an increase in employment. In the period 1996-2000, the growth of labour productivity, the other growth source, was confined to an average of 1.5% per year, lower than in neighbouring countries. A high productivity growth creates room to compensate for the effects of the ageing of the population and the weakening Dutch competitive position. Internationally, the level of Dutch labour productivity, measured per employee, is relatively low.

However, these productivity measures ignore the average number of hours worked in a country. As a result of the relatively low labour participation rate and the short working week prevalent in the Netherlands, the productivity rate comes out relatively low. If the number of hours worked are taken into account, though, the Netherlands records a rate well above the average (Table 3). In hourly terms, the Dutch level practically compares with that in the United States, exceeding the European average by far. Hence, it offers barely any catching-up potential vis-à-vis the countries around us. Consequently, the most effective way for the Netherlands to match the high macro-economic productivity levels (per employee) realised in the other countries in the European Union will be to raise the average number of hours worked.

### Table 3 Labour productivity levels in 2000

<table>
<thead>
<tr>
<th></th>
<th>US 100</th>
<th>Netherlands 100</th>
<th>EU 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per hour</td>
<td></td>
<td>95.0</td>
<td>80.7</td>
</tr>
<tr>
<td>Per employee</td>
<td></td>
<td>76.1</td>
<td>78.0</td>
</tr>
<tr>
<td>Per capita</td>
<td></td>
<td>75.1</td>
<td>67.4</td>
</tr>
</tbody>
</table>

Source: The Conference Board.
United States and the crises in Argentina and Turkey. Growth of world trade slackened, with Dutch exports in the first quarter of the year only rising slightly on the previous quarter. Net exports contributed more to economic growth, however, because the import volume trailed that of exports, probably under the influence of the slower growth of consumption.

Fixed investment is still at a high level, but has hardly contributed to economic growth for three-quarters. While this slowdown is making itself felt in practically all investment categories, it is especially pronounced for capital goods produced in the construction sector. These goods together make up roughly one half of the total investment volume. In general, the investment climate has recently worsened due to the weakening global economy. Markmon projections show a growth of investment (excluding dwellings) of 0.4% for 2001, edging up to 1.7% in 2002 and 2003.

Labour market

Despite the growth slowdown, labour shortages in the Netherlands continue to be urgent. After a four-year boom, the number of registered unemployed persons was approximately 155,000 in the three months up to and including April 2001, or 2.1% of the working population. Thus, the Netherlands ranked among the countries with the lowest unemployment levels in the euro area. The drop in long-term unemployment (longer than one year) has for a good length of time exceeded the decline of short-term unemployment. This suggests that the latter category is primarily frictional. With unemployment on the decline, the number of unfilled vacancies is growing, amounting to as many as 189,000 in the fourth quarter, or 2.5% of the labour force (Chart 6).

Despite this scissor movement of unemployment and vacancies, the pressures on the labour market seemed to be wearing off slightly in the first quarter. The number of industrial enterprises reporting production restraints due to shortage of personnel has dropped in the past few quarters from a record level of 10% in the third quarter of 2000, to 5% in the first quarter of this year. A reduced personnel shortage, however, is not always positive: in the past year, this development was attended by a doubling of the number of industrial enterprises adducing a decrease in demand as a factor restraining production, to 8% in the first quarter.

Monetary and financial developments

At its meeting of 10 May last, the Governing Council of the European Central Bank lowered the ECB interest rates by 25 basis points. This decision arose from the assessment of the inflation movements in the medium term, within the scope of the monetary policy strategy.

The analysis under the first pillar showed that the growth of the broad monetary aggregate M3 is displaying an increasingly pronounced downward tendency. Since the spring of 2000, low or non-interest-bearing, highly liquid components of M1 are being substituted within M3 by less liquid components of M3, which offer a higher interest rate. This substitution occurs in
response to the interest rate increases carried through by the ecb since the end of 1999, which raised the opportunity costs of holding highly liquid instruments. In principle, the m3 components only consist of instruments held by euro area residents. A proportion of the marketable money market instruments, whose holders are anonymous, is held by parties outside the euro area, though. Strictly speaking, these components are not part of the euro area money supply. However, when at the start of emu a reliable quantification proved to be impossible, it was decided not to adjust the m3 data accordingly. Recent calculations, however, have revealed that the distortion amounts to at least 0.5 percentage point, meaning that the actual money growth is probably already moving below the reference value of 4½%.

The analysis under the second pillar, based on a range of macro-economic indicators, showed that the anticipated inflation pressure in the euro area has lessened in the medium term, under the influence of moderate wage cost movements and a less expansive economic growth pattern. This cannot preclude, however, that short-term inflation will continue to move above the price stability range, due to temporary factors like foot-and-mouth disease and bse. The prospects, however, are that the increase in the hICP will dip below 2% again in 2002.

Housing market

The housing market in the Netherlands is cooling down. In the first quarter of the year, the average price of dwellings, defined as the weighted average of the prices of single-family houses and apartments, remained unchanged as compared to the previous quarter. However, a distinct seasonal pattern in the development of house prices is perceivable, more houses being sold in the summer months than in the winter months. None the less, the year-on-year growth rates also suggest that house prices are levelling off. The highest growth figure in the period considered, 22.9%, was recorded in the first quarter of 2000. In the subsequent four quarters, growth dropped to a year-on-year rate of 13.2% in the first quarter of this year. Besides the levelling off of the house price rises, the drop in the number of dwellings sold also points to a decline of the housing market activity. The number of dwellings sold in the first quarter of 2001 was 4.8% lower than in the same period one year earlier. The number of days a house is on the market for sale has also increased noticeably, from an average of 35 days in 1999, to some 36 days now.

Turning to the regional housing markets, we see that price movements in the various regions follow a similar pattern (Chart 7). While the regional growth percentages are alike, there may be large differences between the provinces within one region. For example, in the period 1994-2000, the cumulative rise in house prices in the province of Noord-Brabant was 120%, while in the province of Zeeland, likewise situated in the southern region, it came out at ‘only’ 82.6%. Also price levels differ significantly from one region to another. In the first quarter of this year, the average house price level (NFLG 420,000) in the western region, the highest in the country, was well over one-third higher than that in the northern region (NFLG 297,000), the lowest in the country.

Despite the cooling down perceived in the housing market, the growth of bank mortgage lending accelerated in the first quarter of this year (Chart 8). This movement, which followed a prolonged deceleration after the end of 1999, can partially be explained by the lower mortgage interest rates obtaining in the first quarter of 2001. Another factor is the increase in the banks’ share of the mortgage lending market at the expense of non-banks (like insurance companies, pension funds and building
societies), as may be inferred from the fact that the aggregate mortgage data do not indicate an acceleration.

The housing market developments have had a significant influence on the real economy through wealth and expenditure effects. According to calculations using Mørkon, house price developments in 1999 and 2000 contributed an estimated 0.5 percentage point to annual GDP growth and 0.3 percentage point to annual inflation. Assuming a stabilisation of house prices from this year onwards, the model calculations demonstrate that the contribution to growth as against last year will turn negative as soon as the spending impulses related to the cashing of the excess value of real estate will cease. In addition, according to these estimates it will last until 2003 before the upward effect of the increased house prices on inflation will have worn off.

**Public sector finance**

The Spring Memorandum of the Government provides for an EMU balance for this year of 0.4% of GDP, considerably lower than the EMU balance of 1.5% of GDP realised in 2000 (excluding the proceeds from the UMTS auction). This deterioration is for much the greater part attributable to the implementation of the new tax system (0.7% of GDP).

The additional drop by approximately 0.2% of GDP is in part explained by the maximum use made of the leeway under the expenditure framework, as against last year when there was unused room to the amount of NLG 2.1 billion. With a view to the decisions to be made within the scope of the Spring Memorandum, the fiscal room available for additional expenditure was almost NLG 4.5 billion (0.4% of GDP). This room was created by the rise of inflation (measured by the GDP deflator) and by windfalls in interest charges and social security benefits. In addition, other, incidentally less robust, measures will temporarily yield over NLG 2 billion. The extra expenditure recently agreed will benefit mainly health care and education (Chart 9). The Cabinet has allotted NLG 2.2 billion to health care, more than tripling the additional funds reserved in the coalition agreement for the term of office of the present Cabinet. The extra expenditure earmarked for education amounts to NLG 1.5 billion, making the total amount of new funds for this sector three times that laid down in the coalition agreement. Part of the expenditure will be appropriated for improvement of the terms and conditions of employment of public servants.

The change in the structural EMU balance is indicative of the impact that government policy may produce on the economy. The structural element implies that a correction has been made for the cyclical effects on public finance. Another measure is the primary structural balance, which also excludes the effect of

**Chart 9 Additional funds made available during period of office of present Cabinet**

<table>
<thead>
<tr>
<th>Category</th>
<th>NLG billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature and environment</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
</tr>
<tr>
<td>Employment, income policy</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Health care</td>
<td></td>
</tr>
</tbody>
</table>

---

The change in the structural EMU balance is indicative of the impact that government policy may produce on the economy. The structural element implies that a correction has been made for the cyclical effects on public finance. Another measure is the primary structural balance, which also excludes the effect of...
interest charges. These measures offer an indication of the extent to which government policy provides a tightening or stimulating impulse to the economy.

In 1999, the structural balance improved sharply, by 1.2% of GDP (Table 4). Last year, the improvement was slight, due to the increasing cyclical component stemming from the strong economic growth and diminished fiscal consolidation. This year, this balance will deteriorate relatively sharply, primarily because of the implementation of the new tax scheme. The structural primary balance, after remaining unchanged in 2000, dropped to a considerable extent in 2001. Besides the tax review, interest payments were substituted by other public expenditure following the decision to fully use the available room for additional expenditure. All in all, this year’s budget may be deemed relatively expansionary. It should be noted, though, that the time involved in the implementation of a new overall tax system generally prevents such systems from being fully geared to the prevailing economic conditions. In addition, it is to be expected that the tax system will impart a positive impetus to the economic structure and is thus likely to produce positive effects on the labour supply in the medium and the long term.

The influence of government policy on structural balances depends on the degree to which the budgetary rules permit automatic stabilisers to operate. The more freedom the government allows, the slighter the changes in the structural deficit. If, in addition, the budgetary room generated by changes in interest charges is not appropriated for expenditure, this likewise applies to the primary structural balance. At the start of the term of office of the present Cabinet, the coalition agreement provided that 50% of the revenue windfalls was to be appropriated for debt reductions and 50% for reductions in taxation. This would mean that, on the revenue side, only half of the automatic stabilisers were allowed to work. Given the cyclical situation, the above formula was only partially adhered to in the past few years. As a result, only 80% of the revenue windfalls was used for debt reductions. The remaining 20% was used for a reduction in taxation, over and above the already substantial cuts provided for by the new tax scheme. Hence, to date, the automatic stabilisers on the revenue side have functioned fairly well, if not completely.

On the expenditure side, the automatic stabilisers were switched off. The real growth limits for public expenditure are laid down in the coalition agreement. Such (cyclical) windfalls as occurred were used for different expenditure categories. For example, via debt reduction, the substantial revenue windfalls have led to a considerable reduction of interest charges, enabling the Cabinet to make additional funds available to various policy areas (like health care and education) within the prevailing budget norms. Also the steeper price rises (measured by the GDP deflator), by expanding the expenditure framework, have led to additional expenditure. While the government has operated within the rules set, it may be advisable in view of the high inflationary pressure in our country to observe restraint in spending any further (cyclical) windfalls in the time to come.

| Table 4 | Movements in some fiscal balances |
| Changes from previous years, % of GDP |
| 1999 | 2000 | 2001 |
| Actual balance | 1.6 | 0.5 | -1.0 |
| Structural balance | 1.2 | 0.4 | -0.9 |
| Structural primary balance | 0.8 | 0.0 | -1.5 |

1 Excluding proceeds from UMTS auctions.
Source: Nederlandsche Bank.
The Dutch financial institutions, with generally sound positions, are being confronted with worsening external conditions. Where necessary, the Bank, as prudential supervisor, makes allowance for this development in its exercise of supervision on individual institutions. In addition, several new general policy rules which are intended to contribute to adequate management on the part of banks of their longer-term risks have either been introduced or are being prepared. Furthermore, the Bank takes action against enterprises operating without authorisation. This article also describes how the scope of supervision is gradually broadening. Initiatives taken in Brussels and in the Netherlands will, for instance, lead to more adequate supervision on financial conglomerates through specific rules. Consumer protection is boosted by the Cabinet’s decision that complex products must be accompanied by financial product information. Finally, as public disclosure by financial institutions gains in importance, it will need to be supervised.

Developments in the financial sector

The consequences of the deteriorating macro-economic conditions and the developments on the financial markets are showing up in the Dutch banks’ results for the first quarter of this year (Table 1). The decelerating economic growth rate is, for instance, reflected in a slightly slowing expansion of credit. Together with a fall in interest margins consequent on levelling yield curves, this has caused the banks’ interest income to stagnate. In addition, the drop in prices and activities on the share markets has worked through to lower income from commission, making for a decrease in total revenues. At the same time, operational expenses have gone up further, while the banks consider it necessary to make higher provisions for loan losses (‘changes in the value of claims’) in connection with the weakening economic activity. All in all, the net operational results of all banks combined have fallen by over 15% on the same – incidentally very favourable – period last year.

These developments illustrate that, in spite of their highly diversified activities and wide geographical spread, the Dutch banks are not insensitive to cyclical conditions. An uncertainty which gained in importance in the period reviewed is the question how the Dutch banks would be affected by a sustained deceleration of economic growth, particularly in the United States. The chances that the banks would incur direct substantial losses via their exposures to American parties are, however, slim. After all, the situation in the United States is still not such that businesses are going bankrupt on a major scale. In addition, the Dutch banks’ exposures to the United States are not excessively large. Obviously the deceleration of growth in the United States could negatively impact Europe and hence the results of the Dutch banks through macro-economic channels such as confidence and spending effects.

In a sense the same is true of domestic developments, notably in the real estate sector. The house market seems to be cooling off somewhat. As a consequence, the growth of mortgage lending by banks stabilised at around 12% in the first quarter of this year (on the same period last year). From the viewpoint of financial stability, greater moderation of the movements in house prices and mortgage lending should be welcomed.

Another risk factor lies in banks’ exposures to problem countries such as Argentina and Turkey. Owing to the persisting recession in Argentina, this country has become more vulnerable to a turnaround in sentiments on the international capital markets. The Dutch banks’ direct exposures to Argentina, and hence the chances that they will incur losses if debtors default are, however, inconsiderable. But default could have major repercussions for other emerging markets. Turkey, too, is up against a fragile financial and economic situation. By contrast with Argentina, the Dutch banks have major exposures to Turkey; combined, they are among its larger creditors. An internal scenario analysis shows that if Turkey were to default, the losses incurred by the Dutch banking system would still remain within acceptable limits. Nevertheless, the Bank is closely monitor-

<table>
<thead>
<tr>
<th>1999</th>
<th>2000</th>
<th>2000</th>
<th>2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest income</td>
<td>15.2</td>
<td>6.3</td>
<td>10.1</td>
</tr>
<tr>
<td>Commission</td>
<td>23.8</td>
<td>28.9</td>
<td>55.5</td>
</tr>
<tr>
<td>Total income</td>
<td>19.7</td>
<td>17.5</td>
<td>28.6</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>15.2</td>
<td>19.8</td>
<td>23.4</td>
</tr>
<tr>
<td>Changes in the value of claims</td>
<td>-24.3</td>
<td>-14.6</td>
<td>-21.9</td>
</tr>
<tr>
<td>Total expenses</td>
<td>11.8</td>
<td>16.7</td>
<td>19.2</td>
</tr>
<tr>
<td>Operating results after taxation</td>
<td>53.7</td>
<td>21.5</td>
<td>54.2</td>
</tr>
</tbody>
</table>

Source: Nederlandsche Bank.
Supervision

Supervision is monitoring developments attentively, as reflected in extra capital requirements under the country risk policy and a higher reporting frequency.

These less favourable developments and risk factors are counterbalanced by the fact that the Dutch banking system’s current condition is generally good. Over the past few years, the profits recorded by banks have soared. Their solvency, too, is at an acceptable level. The decreased growth of lending, the stock exchange adjustments and the easing house market may have reduced the banks’ opportunities for profit-making, but constitute a more sustainable development in terms of financial stability. All in all, the banking system as a whole may be considered capable of weathering a deterioration of the external circumstances without serious difficulties, although problems at individual institutions can evidently never be ruled out entirely.

Banking supervision

Banking supervision seeks to stimulate banks to engage in correct measurement and adequate management of the risks inherent in their operations, and to hold sufficient buffers to absorb such risks. In this context, the Bank may issue directives and recommendations with regard to solvency, liquidity or the administrative organisation. In all of these areas, rules and regulations, and hence supervision, are being drastically revised both nationally and internationally. Although this happens on an ongoing basis, there were several milestones in the period under review.

Solvency

At end-May, the international consultations of the banking system and other interested parties by the Basel Committee on Banking Supervision and the European Commission about their proposals for the revision and expansion of solvency supervision were officially rounded off. The proposals are intended to tailor capital requirements more specifically to the most important risks run by banks and to stimulate them to improve their risk measurement and management systems. Together, capital requirements, the supervisory review entailing that supervisors check internal capital allocation, and banks’ public disclosure, intended to boost market discipline, form the three pillars of the new solvency regime (Table 2).

Although not all comments have been received, the first reactions from the international banking system evidence overall support for the proposals, especially the three-pillar structure and the more risk-tailored capital requirements. There is, however, also criticism. The incentives for banks to step up their risk management are, for instance, insufficient, while the capital requirement for operational risk is considered too high and the system as a whole overly complex. It is furthermore feared that the greater risk-sensitivity of capital requirements may strengthen the business cycle, and that the quantitative and qualitative consequences for the staff formations of the supervisory authorities – who will be performing the supervisory reviews for all banks – will be considerable.

The comments are to be incorporated into the definitive version of the Basel capital requirements before the end of the year, as well as into a draft for a European directive on this subject, which is to be implemented in the Netherlands by the Bank. In the intermediate period, consultations will be held with the various representative organisations of the international banking system about the eventual details of the new solvency regime.

Liquidity

At end-March, the Bank issued a Memorandum, following intensive consultations with the Netherlands Bankers’ Association, which is to serve as the basis for the revision of the liquidity directives and liquidity reporting. The directives are intended to ensure that banks have sufficient liquid assets at their disposal to

Table 2 Overview of new solvency regime

<table>
<thead>
<tr>
<th>Capital Accord</th>
<th>Supervisory review</th>
<th>Market discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital requirements</td>
<td>Supervisory review</td>
<td>Market discipline</td>
</tr>
<tr>
<td>Capital requirements pro rata of credit, market and operational risks</td>
<td>Assessment of and requirements against internal capital allocation at individual bank</td>
<td>Transparency through greater public disclosure</td>
</tr>
</tbody>
</table>
meet their liabilities whenever necessary without incurring significant losses, and can cope with a short-lived liquidity shortage.

The revision of liquidity supervision was prompted by structural developments within the financial system. Internationalisation, including the introduction of the euro, and the emergence of cross-border payment systems increasingly call for centrally organised liquidity management by banks. Financial innovations and the increased marketability of financial products are making it easier for banks to obtain liquidity relatively rapidly, which means that there is no longer a need for a long-term approach in liquidity supervision. As a result, the new liquidity test at group level (both domestic and foreign operations) will include off-balance-sheet items, with a shorter reporting horizon. In order to restrict the banks’ administrative burden, and because their foreign subsidiaries are often subject to local liquidity supervision, these may be exempted from the new reporting regime, subject to conditions. Next year, the banking system and the Bank will gain experience with the new system, which will become operative in 2003.

**Regulation on Organisation and Control**

On 1 April, the Regulation on Organisation and Control took effect, containing guidelines and recommendations for the organisation and control of banks’ operations. This regulation replaces and integrates seven specific guidelines and recommendations issued by the Bank on the administrative organisation, risk management and automation. Its provisions have been tailored to modern views on corporate governance. The banks have a transitional period of one year to adjust their organisation and control so that they will meet the obligations provided for in the regulation.

Above all, the new regulation was prompted by developments within the banking system. The growing dynamism and complexity of banks consequent on, for instance, internationalisation, increases in the scale of operation, the ascent of information technology and automation, the increased marketability of financial products, and because their foreign subsidiaries are often subject to local liquidity supervision, these may be exempted from the new reporting regime, subject to conditions. Next year, the banking system and the Bank will gain experience with the new system, which will become operative in 2003.

A related issue is institutions’ public disclosure and the methods they use to this end. The growing importance of disclosure is a consequence of the initiatives to revise solvency supervision, as well as of proposals put forward by the European Commission to make the International Accounting Standards obligatory as from 2005, also for financial institutions quoted on the stock exchange. In this context, it is worth mentioning the consultation document on supervision on disclosure published by the Ministry of Finance in February.

Banks’ public disclosure is one of the three pillars of the new solvency supervision. Under the new regime, banks will be obliged to publish more internal data and more often, notably with regard to their risks, capital and capital adequacy. The underlying reasoning is that public disclosure augments transparency, boosts the disciplining effect of the market mechanism and thus stimulates banks to pursue a prudent policy and adequate risk management. The discussion also deals with the disclosure methods used. The current ‘mixed model’, under which different balance sheet items and financial instruments are valued on different bases, has disadvantages from the viewpoint of transparency and comparability. Internationally, accountants have been heard to voice a preference for fair value accounting, but this method is not favoured by the banks. In their opinion, fair value accounting is not invariably relevant or reliable, and they warn against greater volatility of the results to be presented. A compromise between the two views might be that the banks do not use fair values in their annual accounts, but only in their explanatory notes to these accounts. Another point up for discussion is dynamic provisioning, entailing that provi-
Supervision

Enforcement

In order to protect creditors’ interests, the Bank takes action against enterprises which have accessed the financial markets illegally. In this context, the Bank has stepped up its control on various prohibitions provided for in the 1992 Act on the Supervision of the Credit System (ascis); in the event of certain infringements, it can use its new competence to impose administrative fines or cease and desist orders. When performing these checks, the Bank makes explicit allowance for the financial position of the enterprise in question.

Against this background, the Bank petitioned the District Court concerned to take special measures (pursuant to section 71(2) of the ascis) against Bedrijfsbeheer Kremer b.v. in Assen; in November 2000, this had already happened in two cases concerning five companies. The procedure entails that an enterprise engaging in banking activities without authorisation, which does not qualify for such authorisation, and which has a weak solvency or liquidity position, is phased out under the guidance of a receiver. The latter has a specific task in this context, set out in the ascis, as well as special competences which are not provided for in the Bankruptcy Act. The special measures provide for attachment, the intention being the best possible protection of the interests of an institution’s duped creditors. The Bank expects that this procedure will have to be invoked more often than before, notably in the case of enterprises operating without authorisation, which are also insufficiently liquid or solvent.

The Bank also takes action against enterprises operating as collective investment schemes without authorisation. Last year there were clear indications that Euro Enjoy was infringing the Act on the Supervision of Collective Investment Schemes (ascis), but the Bank needed additional information for a definitive assessment. It consequently imposed a cease or desist order, so as to obtain further information about Euro Enjoy’s operations. As Euro Enjoy refused to provide such information, the Bank notified the Public Prosecutor. In the subsequent criminal case, the judge ruled that Euro Enjoy was not a collective investment scheme within the meaning of the ascis, and that the Bank was not competent to request information. The Public Prosecutor has appealed against this judgement.

Supervision on financial conglomerates

In the early 1990s, the Netherlands was one of the first countries to see the emergence of financial conglomerates, and to develop supervision on these institutions. Several Dutch conglomerates are actually so large that serious problems at one of them could pose a direct threat to the stability of the financial system. Intensive supervision is thus called for. In this context, the Dutch prudential supervisors have been cooperating closely ever since, in order to be able to exercise supervision on (components of) these institutions. In 1990, for instance, the Bank and the Insurance Board (now the Pensions and Insurance Board) agreed on what was to become known as the Protocol. Since mid-1999, improvements in group supervision are also being worked out within the Council of Financial Supervisors. This endeavour has yielded the so-termed Outline Paper. The efforts to improve the formal frame-
work for supervision on conglomerates (inter)national-ly are now clearly being followed up.

**Draft EU Directive**

In early April, the European Commission presented a draft Directive to the Council of Ministers on the supervision of financial conglomerates. Actually, the Directive provides for supplementary supervision on banks, insurance corporations and investment firms forming part of a conglomerate. The objective of this Directive is to maintain stability on the European financial markets, to introduce common standards for prudential supervision on conglomerates and hence to create a level playing field.

The Directive addresses essential issues. For instance, the Commission seeks to ensure that the solvency of the supervised components of a conglomerate is guaranteed at all times and is not put at risk by capital shifts within the conglomerate. The sectoral methods of supervising solvency are considered a given, and the Directive does not detract from the discussion about the revision of requirements for banks’ solvency. The Directive also contains qualitative guidelines concerning financial transactions and risk positions within the conglomerate. Major stipulations are those on the assignment of the coordinator, i.e. the supervisor who is to coordinate the exercise of supplementary supervision. These are also intended to facilitate cooperation between the supervisors involved and to create clarity about the roles fulfilled by each of them. The Directive notably provides for criteria underlying the assignment of the authority best placed to fulfil the coordinating role, as well as an overview of its tasks.

In some respects, the draft Directive is not sufficiently far-reaching. Coordinating supervision implies that none of the supervisors takes precedence over the others when supervising the conglomerate as a whole. The Directive furthermore explicitly provides for supplementary supervision on authorised components, but not on the conglomerate’s top holding company, where the most important policy decisions are usually taken. The reach of Dutch regulations will, obviously only with parliamentary approval, probably be wider: the Minister of Finance intends to award the sectoral supervisors additional competences to give holding companies direct instructions with regard to the administrative organisation, internal control and possibly solvency requirements.

**Study on financial conglomerates**

In the further discussion on supervision of financial con-
gomerates, a role will played by the outcome of a study on the risk profile and capital adequacy of financial conglomerates, published in mid-May. The study, made by a consultancy bureau, was commissioned by the three sectoral supervisors and two representative organisations (of the banks and of the insurance corporations).

The study’s outcome confirms that Dutch supervision’s current treatment of financial conglomerates’ capital adequacy – as embodied in the Protocol – suffices for the time being. According to the report, aggregation of the capital requirements of the various supervised components constitutes a fairly accurate approach because the advantages of diversification for a conglomerate engaging in banking and insurance activities may, on average, be put at a mere 5-10% of the capital required. For the time being, the excess can be seen as a buffer for the risks inherent in the non-supervised components of the conglomerate.

In the meantime, the Dutch financial conglomerates are setting up organisational units at holding company level, and are developing models for centralised risk and capital management. The report recommends that the existing supervision on the components of conglomerates be supplemented with supervision at holding company level on internal risk and capital management. The capital allocation models will need to be studied in greater detail, as will the effects of non-supervised operating companies on the holding company’s risk profile. The supervisors and the representative organisations have meanwhile reached agreement on such studies. The report also recognises the need for other mechanisms, next to supervision at holding company level, which are summarised in a ‘3+1’ pillar approach. It refers to the new, three-pronged set-up of supervision on banks’ solvency, supplemented with legal partitioning of non-supervised operating companies so as to prevent possible contagion. All in all, the report confirms the need of supervision at the level of the conglomerate’s holding company, as the Minister intends to propose.

**Consumer affairs**

The supervision exercised by the Bank also seeks to protect consumers. As is the case with supervision on financial conglomerates, this is a subject where a cross-sectoral approach gains in importance as the boundaries between the financial sectors fade. Special attention is therefore paid within the Council of Financial Supervisors to consumer affairs.
Financial product information
In mid-May, the Government decided that complex financial products must be provided with product information on risks, costs etc. The supervisors are currently preparing and elaborating this decision within the Council of Financial Supervisors; these activities are to be rounded off by the middle of this year. The provision of financial product information becomes obligatory as from next year.

Financial product information is intended to provide consumers with greater insight into complex financial products which they might wish to purchase. Complex products are made up of various product types, of which at least one involves investment, which means that its value depends on developments on the financial markets. Cases in point are share-lease products or investment insurance products. Financial product information also make it easier for consumers to compare products, as they contain data on the type of product, the risks involved, the consumer’s obligations, costs, complaints procedures and fiscal aspects.

It is for the financial institution offering the financial product to draw up the financial product information and to provide it to consumers. It is also obliged to explicitly mention the existence of such information. The supervisor will retroactively check its set-up and contents, as well as the manner in which it is provided.

Consumer Credit Act
Consumer protection figures prominently in the other financial regulations which are the province of the Ministry of Finance. The political responsibility for the Consumer Credit Act was therefore transferred from the Ministry of Economic Affairs to that of Finance. On that same occasion, the Minister of Finance delegated a large part of his new competences to the Bank, on the grounds that granting consumer credit is closely related to bank lending; about three quarters of the bodies authorised under the Consumer Credit Act are supervised banks. In addition, as noted before, the primary objective of the Consumer Credit Act, viz. consumer protection, is an important area addressed by the Bank.

The Bank will be assessing applications for authorisation, granting authorisations and registering authorised institutions. It will also assess the returns submitted by institutions authorised under the Consumer Credit Act. If necessary, the Bank can give a direction. The Bank will also act as helpdesk for authorised institutions, as well as for the general public in the form of supervisory helpdesks. The above obligation to include financial product information will also apply to institutions authorised under the Consumer Credit Act, as will the directives on advertising which still need to be drawn up. These amendments to the Consumer Credit Act precede an even more far-reaching revision intended to be carried out several years from now.

2 Corporate governance concerns the way enterprises are managed and controlled, the supervision exercised on management and control and these enterprises’ accountability to third parties.
3 Compliance means compliance with legislation, rules and regulations, and the prevention of fraud.
Current developments in payments and settlement systems

E-day is looming larger and larger, palpably now as banknote circulation is visibly diminishing. The required quantity of euro banknotes and coins is almost complete. In early September retail institutions will receive an information package containing order forms for the delivery of euro coins dubbed microdistribution. To obtain euro notes, retailers must go to their banks, which will extend their opening hours before and after the turn of the year. The banking system plays a crucial role in the changeover operation and the Bank is observing closely the preparations the banks are making. Both as regards the organisation of their role in the currency changeover and in preparing for the transition of retail funds transfer system, the banks have kept on schedule.

The Minister of Finance has asked the Nederlandsche Bank to prepare a report on tariff structures and the infrastructure of the retail funds transfer system. The report will assess to what extent the existing structures serve the purposes of societal efficiency, competitiveness and innovative power. The emphasis which the bank places on the efficiency of payments is also expressed in the improvements it has made in its proprietary payment system TOP, which will soon be able to settle retail payments processed by the interbank institution Interpay more quickly and efficiently, shortening the processing time of consumer payments.

Euronext, the new organisation uniting the Amsterdam, Brussels and Paris exchanges, is busily integrating its operational processes in order to achieve a major efficiency improvement for the trading parties. Both as a supplier of settlement services and under its responsibility for the ‘oversight’ of clearing and settlement systems, the Bank is closely involved in the integrating process.

Preparations for the introduction of the euro

Production of euro notes and coins

Good progress has been made in producing the euro notes required for the initial supply in the Netherlands at the start of 2002. By mid-May, over 450 million banknotes had been printed, 300 million of which had been finally inspected and packed and were ready to be issued. For the replacement of the guilder circulation, some 360 million euro notes will be needed during the early weeks of 2002. In addition, notes are being printed to supply the logistical chain and for the replacement of notes during 2002 due to normal rejection. All in all, the Bank has ordered 655 million notes to be printed before 2002.

Since April 2001, firms which manufacture or service banknote dispensing or accepting devices may, on application, perform test runs with euro notes from all printers in the euro area. This testing opportunity, which is offered by all national central banks in the euro area, mirrors a service offered in 2000 by the ECB at the central level and for the same purpose. Primarily, the tests aim to verify the proper functioning of the companies’ machines; companies participating in the tests have appeared to be happy with the quality of the various banknotes.

The production of euro coins, too, is well under way. By mid-May, almost 80% of the required 2.8 billion euro coins were ready to be issued. Some of the euro coins are used to produce the standard packages for the retail sector, the ‘consumer packs’ and the giveaway ‘euro kits’. The production of these packages, too, is on schedule.

In recent weeks, the ECB has made a decision about the distribution of the euro banknote production after 2001: No longer will all central banks produce all denominations, but production will be distributed by denomination across a limited number of central banks. Because in future, owing to the migration of notes between countries, it will become impossible to determine accurately the actual demand for banknotes in individual countries, the distribution of banknote production will, from 2003, be decided on the basis of a country’s share in the ECB’s /paid-up capital/, the size of its initial supply and national peculiarities in the demand for notes.

Microdistribution

For the benefit of the shopping industry, the catering and hotel sectors and other retail businesses which do not normally use armoured car services, the Bank has developed its own microdistribution network allowing businesses to withdraw requirements of euro coins and to deposit surplus guilder coins. This free service will keep visits to the bank to a minimum during the changeover period. Businesses will be able to place orders with their banks for initial supplies of euro coins, which distributor TPG will then deliver during the final days of December 2001.

Follow-up orders may be placed through a call centre. In early September, Chamber of Commerce registered retailing businesses which regularly deposit and withdraw cash at their banks, will receive an information package, detailing relevant aspects of the changeover, in particular the microdistribution operation. Also, retailers will be given rules of thumb by
which to determine the amount of change required during the first week of 2002 based on, among other things, the number of cash transactions per week and the average amounts changing hands. Orders must be placed with the banks by 1 October.

At the request of the Bank, the Motivation research bureau has conducted an enquiry into the quality of the information package and the extent to which businesses expect to use the microdistribution network. The enquiry indicated that generally speaking businesses appreciate the contents of the package. Sample based estimates are that some 8% of the roughly 230,000 relevant businesses will use the microdistribution network to withdraw euro coins, while slightly fewer businesses will want to deposit guilder coins this way. This latter outcome is remarkable, as retail businesses will be compensated for deposits of sorted and counted guilder coins through the microdistribution network, whereas most banks will charge a fee for deposits of guilder coins. The results of the enquiry will be used to adjust and refine the microdistribution network where necessary.

**Longer banking hours**

In order to obtain euro notes, retailers who do not regularly use armoured car services will have to apply to their local banks. In most cases, however, the need for notes to be used as change will be limited, as more notes are coming in from customers than are given back in change. In normal circumstances, shortages of euro notes will be limited to the smallest denomination, the EUR 5. In early January 2002, however, they will also want to have a sufficiency of EUR 10 and EUR 20 notes. For this reason, the banks have agreed on a common course regarding opening hours: from Thursday 27 December 2001 to Friday 4 January 2002, the cashiers’ desks of banks and post offices will be open from 9 a.m. till 6 p.m. on normal working days. If the need arises, they will keep the same hours for the second week of 2002. In addition, cashiers’ desks will be available to business clients on Monday 31 December and Saturday 5 January for the purpose of withdrawing pre-ordered packages of euro notes. On 1 January 2002, cashiers’ desks will be opened for a few hours in order to enable business clients to collect pre-ordered packages of euro notes. During the first week of 2002, guilder notes received by retail businesses may be deposited at the banks’ local branches free of charge.

**Preparations by the banking system**

Since the summer of 2000, the Bank has closely observed the preparations which the financial core infrastructure (i.e. the largest banks, Interpay and the Bank itself) has been making for the second stage of the introduction of the euro. This stage involves adaptations made to banks’ systems and their support systems, the introduction of the euro in the mass non-cash payment system, and special operations by the banks to facilitate the cash changeover.

As regards system adaptations, consultations with the institutions concerned and written information received have raised the expectation that adaptations to the systems will to a large extent be complete by the interbank agreed deadline of 1 July 2001. Remaining adjustments may then be made shortly after that date without, it is expected, severe problems arising.

At the level of the National Forum on the Introduction of the Euro (NFIE), it has been agreed that non-cash transactions for consumers and small businesses will be entirely in euro from 1 January 2002. Only handwritten orders, such as (inpayment) transfer forms, made out in 2001 but waiting to be processed (the ‘pipeline effect’) will still be settled in guilders. The transition to retail funds transfer in euro has required the development and distribution of forms for handwritten payment orders such as the euro (inpayment) transfer forms and file formats for electronic payment systems. Preparations for this are well underway and banks have encouraged their business customers to take timely action (e.g. in testing preprinted euro inpayment forms and implementing the required electronic file formats). In addition, bank and giro accounts denominated in guilders and other EMU currencies will have to be converted to euro. At the larger banks, this process is now under way. Because of the large number of accounts they manage, they have opted for a phased conversion process. The majority of the smaller banks will use the weekend before e-day to convert. Finally, POS terminals will have to be adapted (see below). As agreed within the NFIE, all efforts are directed at a single purpose: conducting all retail funds transfer in euro from e-day onwards.

The Bank is also monitoring banks’ preparations for the cash changeover, which they have by now worked out in detail and are making final adjustments to. The first of July next is the agreed day when banks must have reached a detailed arrangement with the armoured car services about the supply of banks with euro notes, coins, consumer packs and ‘eurokits’. The banks have determined what services every bank branch and post office will offer during the cash changeover process, such as the deposit of guilder currency, the distribution of euro kits and consumer packs, and the collection of
pre-ordered euro notes by business clients. An issue arising in the consultations with banks is that many institutions will need extra staff between mid-December 2001 and mid-January 2002. Banks generally prefer inside personnel, such as employees of head offices and trainees, or part-time workers who will be asked to work full-time during these weeks. But outside personnel will also be wanted. The large number of extra staffing required amid labour market tightness may cause bottlenecks. The Bank will therefore table this issue in the upcoming consultations with the banks in July 2001.

POS terminals

POS terminals will play an important part during the cash changeover. On the one hand, the use of POS terminals limits the amount of cash and change present in cash registers; on the other, the terminals can act as a safety net should an occasional shortage of change occur. In the fall of this year, moreover, a publicity campaign will draw attention once more to the importance of ‘tailored’ payment.

The rate at which POS terminals are being converted for the euro has started to rise from mid-March 2001, when the development and certification process of several POS terminal configurations of widely used POS terminals was completed on the larger POS terminal providers expanded their staff (Chart 1). Currently, some 3,500 POS terminals are being adapted each week, a number that may increase further because some smaller POS terminal providers are yet to hire more staff. The number of euro-ready POS terminals (accepting debit cards only or both debit and stored value cards) has risen to 83,000, or nearly half the total number. Order percentages, too, are presenting a positive outlook. One of the largest providers has not yet received orders for the adaptation of 20% of its POS terminals (against 30% by end-January). In late May, both Interpay and the largest providers sent another letter to customers who had not placed adaptation orders. It is still possible to finish adapting all terminals by the target date of 1 October 2001. This will mean, however, that during the remaining period, some 4,300 terminals on average will have to be adapted each week – an acceleration compared to the present rate. If this acceleration is to be realised, retail businesses which have not placed orders will be required to take action at short notice, while providers, too, must make every effort to see that all terminals are made euro-ready in time. Unadapted terminals will cease to function on 1 January.

Development of banknote and coin circulation

The circulation of Dutch banknotes has decreased considerably in the first five months of this year. By end-May, 2.2% fewer notes were circulating than at the same point in time last year. Measured by value, the decrease by end-May was even far greater: 7.9% below the end-May 2000 level. The rapid decrease by value is owing mainly to the decline in the numbers of NLG 1000 and NLG 250 notes, by nearly 14% and nearly 13%, respectively. In the NLG 100, too, a gradually accelerating decline has manifested itself in the first few months of 2001. After a slight increase in entire 2000, there came a turn in early 2001; by end-May the decline in the number of NLG 100 notes, compared to a year before, was 4.2%.

Although it was not the first time in history that circulation dipped temporarily by number or by value, but the present development seems to indicate a steady decrease (Chart 2). With the euro changeover approaching, it seems only natural for the circulation to fall off, primarily in the largest denomination, as the public begins to reduce cash hoards. This is the share of the circulation that is not used in day-to-day transactions. Of the largest two denominations, about 75% is estimated to have been saved up in such private hoards. For the NLG 100, the figure is around 35%. It should be expected therefore that the circulation of these denominations will decrease even further during 2001. The decline in circulation is also influenced by the increasing flow of guilder notes from abroad. In an article on travel in the Bank’s next Statistical Bulletin (June 2001), the flow of
guilder notes from abroad is found to have swelled especially during the last few months.

In contrast to banknotes, the number of coins in circulation showed a slight increase over the past twelve months. By end-May 2001, circulation by numbers was up 1.1% from end-May 2000. By value, however, it declined by 1.2% over the same period. The main causes are a decline in the circulation of the NLG 5 and NLG 2.50 denominations, and a slackening growth of the lower denominations, especially during the past few months.

In view of these recent developments and the approaching introduction of the cash euro, the coin circulation may be expected to fall off over the coming months.

Research into retail payments

On 30 March 2001, the Nederlandsche Bank held a conference on future developments in electronic payments after the introduction of the euro. Participants were representatives of retailers’ organisations, Interpay and the Dutch Bankers’ Association nvb, external experts, the Ministry of Finance and the Nederlandsche Bank itself. This conference followed an earlier discussion with the parties involved about the adaptation of pos terminals for the euro, when it appeared that there was a need for broader consultations on electronic payments. At one of the conference meetings, participants voiced their viewpoints and preferences regarding the institutional environment of payment systems and regarding tariff structures. Also, it was concluded that the strong growth in debit card use has made a major contribution to payment efficiency. In this respect, participants concluded, the Netherlands can more than hold its own among its neighbouring countries. Nevertheless, retailers’ representatives stated that improvements are both possible and desirable.

During the conference it was announced that the Minister of Finance, mr. Zalm, has asked the Nederlandsche Bank to conduct an inquiry into the tariff structure and infrastructure in mass payments. For this purpose, a Working Group on Payment Systems’ Tariff Structures and Infrastructure was created which had its first meeting on 4 May. The working group is chaired by the president of the Bank; the other members are the chairmen of seven banks, the chairman and general director of the nvb and the chairman of Interpay. The Treasurer General (of the Finance Ministry) and the Secretary General of the Ministry of Economic Affairs have been invited to attend the meetings as observers.

The Working Group was given the following mandate: ‘to prepare a report on the institutional environment and market effects of mass non-cash payment systems used by private and business users in the Netherlands, with special focus on tariff structures’. Underlying this mandate is the desire to determine to what extent the existing structures serve the purposes of societal efficiency, competitiveness and innovative power of the mass non-cash payment system. The Working Group was asked to complete its report by March 2002. Within its framework, a coordinative committee is to be established, chaired by the Director of Payments of the Bank and of the same representative composition as the Working Group. This committee is to assist and monitor the project’s progress. In parallel to the enquiry, and in view of its importance for the public interest, relevant non-bank users of payment services will be kept informed and be consulted on a periodic basis.

The actual enquiry will be conducted by a project team consisting of Nederlandsche Bank policy officers, and will take a two-pronged approach. A description and analysis will be prepared of the infrastructure and payments market in the Netherlands, including a breakdown by client group and an analysis of the available payment services’ tariff structure. And an analysis will be made of institutional environments and tariff structures on an international scale. In a separate initiative, and based on the analysis, the Bank will make recommendations to the Minister.
Large-value payments

The Bank is involved on an operational basis in enhancing the efficiency of large-value payments, i.e. payments between banks. These payments are settled within the Bank’s top system, which, like the other 14 national systems and that of the ECB, is a real-time gross settlement system (RTGS), meaning that transactions are made individually and that payment is immediate and irrevocable. All these systems are interlinked by the TARGET system of the European System of Central Banks. Gross final settlement diminishes settlement risks as payments cannot be undone and, considering the total and individual amounts involved in large-value payments, this is necessary to limit risks including systemic risk.

Besides large-value individual transactions, TOP also handles transactions coming in from outside net settlement systems. Within such systems, mutual obligations and claims are first netted against each other, after which the remaining net positions are settled in TOP. While these net settlements by their nature do not make up a large share of TOP payments (Chart 3), they are still highly important for the operation of the Dutch financial system. Net settlements include, on the one hand, retail balances (of private and business payments) and urgent payments (by TeleGiro) in Interpay, the automated central processing and settlement institute of the Dutch banks, and on the other, the transactions coming in from Euronext’s securities and derivatives clearing.

Retail payment transactions, dubbed ‘bulk transactions’, take up more than 40% by value of net settlements. Once every day, around noon, these transactions are sent to TOP. Because of the huge number and relatively low value of retail transactions, netting brings considerable efficiency gains: the interbank final payments constitute only a fraction of the actual retail payments. Netting some 10 million daily retail transactions totalling over EUR 4 billion on average, results in some 20 interbank transactions in TOP, averaging EUR 0.3 billion in total value.

Current practice leads to certain complications inherent in the principle of netting. A risk is created by the fact that banks receive information output by Interpay and credit some of their customers before final settlement in TOP has taken place. In the case of payment orders made to Interpay in the afternoon, this risk is increased because final payment is not made until the next day. Should a bank default, then the netting process would have to be reversed – although the probability that this will happen in the Netherlands is small and, in fact, it has never happened. Yet for reasons including further improvement risk management in retail payment systems, the so-called ‘lot method’ is to be introduced into TOP by 9 September 2001. This will mean that instead of once a day, Interpay will present ‘lots’ of transactions to TOP every 30 minutes, while result transmission by Interpay and final payment will always take place on the same day. Book entry information will be made available to the banks as the concluding step in each lot transaction, after final payment has been made in TOP. Banks will then be able to send updated account balances to their customers several times a day. In addition, lot settlement will increase efficiency, especially because the elapse time of the entire process will be shorter. Customers will have earlier access to final information about payments made or received. This will satisfy a desire in all parties concerned. Processing times of cross-circuit payments (between Postbank and the other banks) will, as a consequence, also be shortened.

---

**Chart 3 Turnover figures 1st quarter 2001**

Daily averages in EUR billions

<table>
<thead>
<tr>
<th>Description</th>
<th>Daily Average (EUR billions)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpay Bulk</td>
<td>0.23</td>
<td>31%</td>
</tr>
<tr>
<td>Interpay TeleGiro</td>
<td>0.02</td>
<td>3%</td>
</tr>
<tr>
<td>Euronext - Securities Clearing</td>
<td>0.34</td>
<td>46%</td>
</tr>
<tr>
<td>Euronext - Derivates Clearing</td>
<td>0.15</td>
<td>20%</td>
</tr>
<tr>
<td>TARGET</td>
<td>25.8</td>
<td>31%</td>
</tr>
<tr>
<td>SETTLEMENT</td>
<td>6.0</td>
<td>7%</td>
</tr>
<tr>
<td>Other Domestic Payments</td>
<td>4.2</td>
<td>5%</td>
</tr>
<tr>
<td>8007</td>
<td>0.7</td>
<td>1%</td>
</tr>
<tr>
<td>Interpay Total</td>
<td>45.5</td>
<td>56%</td>
</tr>
</tbody>
</table>

Explanation 8007: orders involving a non-resident.
TfT or Trade-for-Trade: cash settlement of OTC transactions based on the delivery-versus-payment principle.
Euronext

On 22 September 2000, the legal merger between Parisbourse, Amsterdam Exchanges and Brussels Exchanges was finalised. The new corporation takes the form of a Dutch holding company, Euronext n.v., with the three exchanges as its subsidiaries. Euronext Paris is the largest of the three, both in terms of market capitalisation and in number of companies listed (Chart 4). Euronext is to be the second largest exchange in Europe, larger than the Frankfurt exchange but smaller than the London Stock Exchange. Still, in terms of market capitalisation, the 14 European stock exchanges put together are trailing well behind the New York Stock Exchange alone. Further consolidation is therefore to be expected in the longer term.

At present, securities and derivatives trading on the three exchanges is still happening on a separate basis, so that traders need to be admitted to each exchange individually. Clearing (processing trading orders and netting traders’ positions) has, from 1 February 2001, been entrusted to Clearnet, a French-based subsidiary of Euronext, and is performed separately on each exchange. Trading positions on each exchange are netted against each other, but this is not yet true of positions across exchanges. The settlement of securities positions is still handled by three separate settlement firms, Euroclear France (formerly Sicovam) in France, cik in Belgium and Necigef in the Netherlands. Plans are to merge cik and Necigef, together with Sicovam, into the Brussels-based international securities clearing and settlement firm Euroclear.

Ultimately, the creation of a single platform is envisioned for the securities and derivatives trade, clearing and settlement (Figure 1). Only then will the benefits of scale generated by the merger be fully realised. Even then, securities and derivatives will still be listed on the local exchange, but traders may buy and sell securities and derivatives listed in all three countries. Euronext hopes to complete this operation in 2001. The trade in securities will be split up into segments: Euronext 100 for the one hundred largest companies; Euronext 150 for the one hundred and fifty companies coming next in size; Next Economy for firms operating in the ‘new economy’ sectors; and finally the Prime segment for mid-sized companies operating in the more traditional sectors. The remaining equities will be classified according to the fise sectoring system.

Centralised clearing will enable traders to net positions in securities and derivatives listed at any of the three exchanges. Even ‘cross-margining’, the netting of positions in different types of product, will be possible across all three exchanges. Centralisation of clearing will be possible once Clearnet installs the Clearing 21 software in all three of its establishments, which is expected to happen in the first half of 2002. Centralised clearing is important, as fewer non-profitable liquidities will be needed for settling securities positions and for holding securities margins as collateral.

---

1 Excluding collective investment schemes.
2 Total of the three exchanges, uncorrected for multiple listings.
Source: fibv.
Finally, Euronext and Euroclear also intend to create a single entity for securities settlement. This will entail centralised management of securities accounts, so that a single securities account will suffice for the settlement of all securities listed at each of the Euronext exchanges. The possibilities to centralise securities deposit facilities seem limited, because the legal protection of this function is subject to national laws (for the Netherlands, the Securities Giro Act). In the Netherlands, the Bank acts as settlement bank for payments as a result of securities and derivatives transactions, which are therefore settled in central bank money. In France and Belgium, too, the central banks act as settlement banks. After the merger it will still be possible to process cash settlement through the central banks. Euroclear Bank, however, will also offer this service on a commercial basis.

Besides acting as settlement bank, the Bank is also involved in the safekeeping of collateral (in the form of securities deposits) which clearing members must give to safeguard securities and options clearing. Collateral for borrowing purposes, deposited at the Bank by clearing members, may also be used for the purpose of securities and derivatives clearing. This arrangement allows collateral to be used more efficiently. In addition, the Bank, through what is called a liquidities arrangement, guarantees that the settlement process can continue even if a clearing member should default. The Euronext merger will have implications for these services. The issue is being discussed by Bank and the other parties involved, with the purpose of maintaining and if possible enhancing the efficiency benefits realised in the Netherlands.

### Oversight of settlement systems: monitoring of Necigef and niec

A regulatory measure introduced by the Minister of Finance on licensing new exchange organisations, Euronext, is that, in order to manage systemic risks, the clearing and settlement systems of Euronext nv and Euronext Amsterdam must meet the requirements of the ‘Oversight Framework Clearing and Settlement Euronext’ (cse). The Netherlands Central Institute for Giro Securities Transactions (Necigef), which provides central securities deposit and administration facilities for its member organisations, and the Netherlands Interprofessional Securities Centre niec, which provides such services for non-giro deliverable securities, are both part of the Dutch Euronext organisation. During the review period, Necigef and niec were tested under the Oversight Framework cse. An important feature of the Oversight Framework is the testing framework, consisting of six standards that must be satisfied.
during a so-termed ‘initial test’. Supervision (‘over-
sight’) of the securities clearing and settlement systems
is performed by the Bank together with the Securities
Board of the Netherlands (StB). The test included an
examination of the legal foundation, the adequacy of
risk management policy and the operational reliability.
The examination has not been completed: at present, a
number of specific issues are being discussed with the
parties involved.

In order to achieve further integration of Euronext’s
clearing, settlement and deposit services, the organisa-
tion plans to integrate Necigef (and nIbc) into
Euroclear. This way, Euronext hopes to create a more
efficient settlement platform for securities transactions
and to bring down clearing and settlement costs. The
intended (systemic) change will be submitted in
advance to the ‘overseer’, who will hen establish
whether requirements of risk management, operational
reliability and legal sustainability will continue to be
met after the change.
Articles
The majority of Dutch households fear that the conversion to the euro will be attended by extra price increases. Last March, the Bank initiated an investigation in order to assess whether this fear was justified. On the basis of an inventory of economic arguments and historical experiences as well as a close analysis of the price setting behaviour in the Netherlands, it may be concluded that there is no direct cause for concern.

Price increases may come about for basically two reasons. The first is the tendency to round up prices if psychologically attractive prices denominated in guilders turn out ‘ugly’ on being converted in euro. If all retailers in the Netherlands were to decide to round up all their psychological guilder prices to (the nearest) attractive equivalents in euro – which, for that matter, is not allowed – the subsequent annualised price increase for the consumer price index would not exceed 0.7 percentage point. As a result of the strong price competition in the retail sector, however, the eventual price effects are expected to be much lower. From a survey recently commissioned by the Bank it appears that retailers are less optimistic. Therefore, it is crucial that the price competition mechanism operates smoothly. In securing this, the Dutch Consumers’ Association and sectoral organisations as well as consumers themselves play an essential role by closely monitoring the effects of the euro conversion.

It is allowed, though, for the retail trade to pass on the cost they incur in euro-proofing their organisations. This is the second potential source of price increases. According to calculations by the Bank, euro conversion costs will have a temporary upward price effect of 0.3 percentage point maximally this year. In the medium term, a permanent decrease of prices is expected, because the new currency will increase price transparency and price competition.
The Bank examines price effects of euro conversion

A few widely reported incidents involving substantial price hikes in connection with the euro conversion recently raised some commotion among the Dutch public. The National Forum for the introduction of the Euro (NFIE) takes the line that entrepreneurs are free to adjust their prices and pass on cost increases in the process, but that the introduction of the euro *per se* cannot be a ground for raising prices. The NFIE therefore insists that the parties concerned observe restraint in adjusting prices within the scope of the changeover from the guilder to the euro. They will need to ensure that they obtain attractive prices by rounding off prices in both directions in order that the overall price effect will remain neutral.

Various authorities will see to it that the euro conversion will not be exploited as an opportunity for price increases. The Consumers’ Association does so, for example, by closely monitoring a vast number of individual prices. By way of a ‘mild sanction’, the results of this investigation will be disclosed to the public. In other words: a company that carries through unduly high price increases will face negative publicity. So far, this fieldwork has not produced any evidence pointing to systematic price increases due to the euro conversion. As the physical euro conversion will not be effected until six months from now, the question arises if the price effects under consideration are yet about to occur on a larger scale. In its own investigation, the Bank has opted for this more forward-looking approach. Hence, its efforts are supplementary to the vigilance of the Consumers’ Association.

This article sets out to determine if the literature offers economic arguments on the basis of which significant price increases following the euro conversion should be expected. Subsequently, it takes stock of past price effects of events that are in some sense comparable to the introduction of the euro. The significance of these insights is discussed in detail in the section entitled ‘Price effects of euro conversion in the Netherlands’, which is also based on information derived from a price setting behaviour survey among Dutch retailers, conducted at the Bank’s initiative. Next, this section furnishes a first impression of a running study of the effects of price rounding in converting guilder prices into euro prices. Furthermore, this contribution looks into the possible effects on Dutch consumer prices if the euro conversion costs are passed through, and ends with summarising conclusions.

What does the literature tell us?

If there are no market imperfections, the euro conversion will not be attended by price effects. After all, price increases within competitive sectors would immediately translate into a loss of market share. Sectors holding monopoly positions have no cause to raise prices either, since the profit-maximising price in euro is nothing else but the converted guilder price. Nor will a pass-through of the implementation costs push up prices if the price setting is based on marginal costs and the costs entailed by the euro conversion are fixed costs. Prices may also be set, though, on the basis of the average costs. In this case, price effects cannot be precluded.

In practice, any other price effects are the result of market imperfections, such as are entailed by menu costs, psychological prices and money illusion. The possible effects of these factors on consumer prices in the changeover to euro notes and coins is discussed below (Folkertsma and Van Rooij, 2001).

**Influence of menu costs on price effect of euro launch**

When enterprises adjust their prices, they incur costs (the so-called menu costs) related to materials and labour (time required to calculate the new prices and adjust the price tickets, posters etc. accordingly). As menu costs are a major cost item in the retail sector in particular, making up an estimated 0.7% of total sales, the frequency of price adjustments in the retail trade is low. In the United States, for example, more than fifty per cent of the retailers do not adjust their prices more than once a year.

While menu costs are not specific to the euro conversion, they create a natural point in time for adjusting prices. Price adjustments clustered on one specific date (e.g. 1 January 2002 or 1 July 2001) may produce an inflationary effect. As in the months before and after that date, however, the opposite effect will manifest itself, and the average inflation viewed over a longer period will not alter. The higher the frequency of price adjustments, the smaller will this clustering effect be.

**Influence of psychological prices on price effect of euro launch**

The custom of enterprises to price their products just below a round figure is called psychological pricing. Examples of such prices are NLG 4.99 and NLG 99.95 instead of NLG 5.00 and NLG 100, respectively. The latter kind is also referred to as threshold prices. The use of psychological prices is widespread, in the retail trade in particular. A survey conducted in 1976 (Lisman and
Pathuis, 1976) reveals that 62% of Dutch supermarket prices end in ‘0’, ‘5’ or ‘9’. Hence, besides menu costs, the custom of psychological pricing is considered an important explanation for prices being rigid.

Various studies demonstrate that a psychological price has a far more stimulating effect on demand than the nearest higher rounded price. This means, for example, that the effect on demand is stronger in the event of a price decrease from NLG 5.00 to NLG 4.99 than in the event of a price decrease from NLG 4.99 to NLG 4.98, or from NLG 5.01 to NLG 5.00. These observations do not conflict with the rational behaviour of buyers and sellers. Consumers have to compare prices and properties of a vast range of products. As the average supermarket carries more than 15,000 different articles, this would be a time-consuming effort if done accurately. A rational strategy simplifying this task consists in ignoring the last digit or digits of the price. If consumers follow this approach, the seller stands to gain maximum profit when his prices end in ‘9’.

If psychological pricing is the reason why prices do not respond entirely flexibly to cost price rises, the implementation of the euro will only be attended by a temporary price effect due to clustering. A permanent price effect is a theoretical possibility, be it under unrealistic conditions, like a very low price awareness of consumers.

Apart from psychological pricing (NLG 2.95 or NLG 2.99) below threshold prices, other types of pricing can be distinguished, like the use of round prices (NLG 3.00) or convenient, broken prices (NLG 3.25 or NLG 3.50). The use of broken prices is dependent on the denomination of the currency. Smooth and broken prices are usually intended to simplify the payment (e.g. in slot machines) or the mental arithmetic required to calculate a final account (in the catering and public transport sectors). As, because of their nature, these prices will usually be adjusted by leaps, 1 January 2002 would seem an obvious date for conversion into smooth or broken euro prices. This would mean that a clustering effect might occur in these sectors in particular, were it not for the fact that, for the said sectors, 1 January usually is an obvious date for price adjustments anyway.

Influence of money illusion on price effect of euro launch
Consumers base their decisions on whether or not to buy a product on reference prices. With the euro conversion, the old reference values will become useless. Strictly speaking, the reference amounts in guilders should be divided by 2.20371, which, given the purpose of the reference prices, would not seem to be an obvious procedure. It is quite conceivable that the new reference values will take shape gradually. If some consumers develop the habit of halving the reference values for convenience sake, the euro prices will seem more attractive and the purchase will be stimulated. This mechanism would allow enterprises operating in mildly competitive markets to raise their prices. The provision of information in the transition period aimed at enhancing awareness of the new currency – such as dual pricing – will lessen the uncertainty about euro reference values. It ought to be noted in this context that the recent commotion has made consumers extra alert. Presuming money illusion will come into play, because consumers keep on proceeding from old or roughly converted reference numbers, it is not certain what effect this would eventually produce. On the one hand, prices seemingly cut by more than half and, therefore, looking attractive may induce extra consumption. On the other hand, balances on savings accounts will seemingly drop likewise by more than half, as will the value of houses and monthly pay-cheques. This may equally well provoke a shock reaction and cause consumers to keep a tight hand on their purses. Should expenditures run up, for example, because the response to what seem to be lower prices will precede the response to a seemingly lower income, it will before long be brought home that the money does not last as long as in former days. It is expected that, if that moment is reached, consumers will readapt their consumption pattern. All other things being equal, since higher prices mean lower sales, the producers will eventually come off worse.

Long-term price effects
The introduction of the euro will enhance price transparency in the euro area. This will stimulate the demand for imports from the country with the lowest prices. Price discrimination between countries, as now often exists in cases where competition is imperfect, will become more difficult to maintain and price differences between countries will diminish as a result. In other words, competition will increase over time. Judging by the appreciable price differences between countries for one and the same product as found in various studies (see, e.g., Degryse and Verboven, 2000; Kucher and Partners, 2000), price discrimination within the euro area is in evidence, at least in specific markets. Table 1 shows this for a number of products.

The arrival of the euro will facilitate making price comparisons, and the subsequent tendency to purchase products abroad will eventually reduce price differ-
ences. However, price differences will probably not vanish altogether, because of factors like transport costs. In the end, though, a greater price transparency and intensification of competition will result in lower prices. Moreover, favourable price effects are also to be expected from enterprises passing on cost advantages of the euro conversion to their customers (compelled by competition-related motives or otherwise). As appeared from former euro-related surveys commissioned by the Bank, these cost advantages ensue from such effects as lower interest charges, lower transaction and hedging costs, simpler accounting and financial management systems and increased financing opportunities.

While, as a project, the introduction of the new single currency within the euro area is unprecedented, a number of events in the past also involved some of the aspects of the possible price changes described above. Examples are VAT rate adjustments, the abolition of the Dutch cent in 1983 and the introduction of the decimal system in the United Kingdom in 1971. These examples are set out in more detail below.

**Adjustment of VAT rates**

Over the years, VAT rates have been adjusted on several occasions. In the event of a VAT increase, one would expect a much stronger clustering effect than from the implementation of the euro, because a VAT increase must be processed into the prices on one specific day. Besides a temporary price hike due to clustering, a VAT increase may also lead to prices that are permanently higher than in the case of a one-on-one pass-through of VAT. This ‘overshifting’ may manifest itself under conditions of imperfect competition and increasing economies of scale. In case of a price-elastic demand, a VAT increase will lead to a drop in sales volume. At increasing economies of scale, the sales decrease will lead to higher costs. This cost increase is what causes overshifting.

Empirical research into the price effects on tax increases is scarce and the picture obtained is often ambiguous. In a number of American studies conducted before 1995, it is generally found that an increase of indirect taxes prompts disproportionately high price rises. US-oriented studies of a more recent date, on the other hand, have found more diverging price setting reactions. Overshifting, however, if found at all, was never attributed to psychological price setting.

Incidentally, estimates of the effects of VAT changes in the Netherlands do not reveal evidence of overshifting in prices. Also regarding the recent VAT increase in the Netherlands, the price monitoring by the Consumers’ Association does not indicate that the price rises as of 1 January 2001 were higher than was to be expected. Nor was any evidence found of a clustering of price adjustments on 1 January, which might have occurred given the menu costs involved by price changes. A VAT increase is of course only to a limited extent comparable to the euro conversion. The VAT raises the selling price permanently, whereas the changeover to the euro only means a change of unit-of-account, be it that it is attended by considerable, one-off costs of implementation. Therefore, the theoretical arguments for overshifting after tax increases are not wholly applicable to the implementation of the euro.

**Introduction of the decimal monetary system in the United Kingdom in 1971**

On 15 February 1971, the United Kingdom changed over to a decimal monetary system. Just as the conversion to the euro notes and coins, this changeover was announced well in advance, i.e. as early as in 1965. The old pound/shilling/pence system, by which 1 pound was worth 20 shillings, each of which was the equivalent of 12 pence, was replaced by a new pound/pence system, under which the pound retained its old value, while becoming the equivalent of 100 pence (which made 1 new penny worth 2.4 old pennies). A so-called ‘Shoppers’ Table’ was introduced, which converted the old amounts into new amounts, and was designed to ensure that the number of amounts rounded off either way balanced each other out. Following discussions about this system, the authorities were convinced that the publicity surrounding these tables as well as the market pressure would discourage companies from using a different conversion method, unless there was sound reason to do so. This conviction proved to be well founded, since according to a study by Moore (1995) no empirical evidence was found for an upward price effect. The same study notes, however,
that this result, soothing as it may be, was belied by the consumers’ perception, for that: ‘it was part of ineradicable folk mythology that the changeover in fact had pushed up prices’. Apparently, individual price rises are noticed sooner and stick to people’s memories longer than unchanged or decreasing prices, and are seen as an increase in the general price level.

Incidentally, also the transition to a decimal monetary system is only to a limited extent comparable to the approaching euro conversion. Since the new pound retained its old value, only the decimal places in reference prices changed, if at all, and any adjustments to achieve psychological, smooth or broken prices were attended by no more than modest price changes, especially for the more expensive products.

Abolition of the cent in 1983

In 1983, the cent was abolished in the Netherlands as a legal tender. As the implementation of this measure had been on the agenda many years before, Statistics Netherlands and others had conducted the necessary simulation research into the possible effects of this measure on prices well in advance. For example, in 1976 Lisman and Pathuis calculated a price effect of roughly +0.2%, proceeding from the assumption that prices would be rounded to end in either ‘0’ or ‘5’. Because to date the cent is still frequently used as a unit-of-account, the actual consequences for the price level will in all probability have been considerably more modest.

Price effects of euro conversion in the Netherlands

The main channels through which the euro conversion might have price effects are psychological price setting and the pass-through of implementation-related costs in the prices. This possibility is explored below, from a national perspective.

Price setting behaviour survey commissioned by the Nederlandsche Bank

From the above it is clear that psychological prices are primarily important for the retail trade. However, since no up-to-date information on this custom was available for the Netherlands, the Nederlandsche Bank had commissioned a Dutch market research institute to make the necessary inquiries via a survey by telephone. The main results of this survey, which was conducted among a representative group of 900 retail businesses, are discussed in this section.

First of all, the survey shows that psychology plays a prominent role in the price setting behaviour of retailers. The results found in 1976 appear to deviate only slightly from the results found for the present Dutch situation. In 2001, about two-thirds of the products ranges are psychologically priced. This holds for small retailers and chain stores alike. Viewed by sector, larger differences are found. Psychological price setting is less common in specialty food stores. Self-evidently, the same applies to the catering industry. Incidentally, quite a number of companies – the larger ones in particular – are bound by the recommended prices laid down by their headquarters or suppliers. Across the board, 60% of retailers report they do their own price setting.

From the above it follows that, seeing their attractive guilder prices go by the board on converting these into euro, many retailers will have to fix new psychological prices. The question is when? Will they do so when they start dual pricing their products? Or later? The survey shows that the moment of transition to dual prices may vary widely from one sector to another. The food sector with a general product range will be leading the way, followed by clothing and shoe shops and shops specialising in furniture and domestic appliances. At the time of the survey, 35% of the companies interviewed had meanwhile introduced dual pricing, and by all appearances the rest of the entrepreneurs will proceed to doing so during the remainder of the year. Companies intending to introduce dual pricing after 1 July, however, will be acting in conflict with the agreements concluded in 1999 between the Consumers’ Association and the sectoral organisations. If this group can as yet be prevailed upon to introduce dual pricing before 1 July at the latest, this would mean that around that date a substantial percentage of the retail sector will change over in one go.

Asked whether they intend to combine the conversion with a simultaneous transition to attractive euro prices, almost 30% of retailers answer in the affirmative. The majority of the respondents, however, take different views: 43% say they will continue to use the ‘old’ guilder prices for the time being and not adjust these until later, whereas 17% report that they wish to retain the ‘old’ guilder prices anyway. For this last category of respondents, psychologically priced products probably play a minor role in the product range they carry. In that case, it makes no difference whether prices are denominated in euro or guilder.

With a view to clustering effects it is relevant to know how often companies adjust their prices. From the survey it appears that, on average, about 40% of the
Dutch retailers do so once per year and 10% less often (e.g. the catering industry). In view of the menu costs entailed, this category of retailers will sooner opt for a combined adjustment. Furthermore, the survey shows that a quarter of Dutch retailers normally adjust their prices two to four times a year, and that over 10% do so more often (e.g. the food sector). As they are bound to incur menu costs anyway, for these last two subcategories of retailers it is less urgent to synchronise dual pricing with the changeover to attractive euro prices. Moreover, it would be inconvenient to do so as long as the guilder is the unit-of-account and legal tender. All in all, the survey results seem to indicate that the majority of companies will postpone setting psychologically attractive euro prices until later in the year, as they can probably combine this operation with regular price adjustments.

Will this transition be attended by price increases on top of those introduced as part of normal business? The Bank is currently examining the possible effects of different conversion methods, using the comprehensive price sample (almost 72,000 individual prices) made available by Statistics Netherlands, which also underlined the calculation of the consumer price index (cpi) of January this year. On the basis of this material, psychological and broken prices could be identified. Subsequently, these prices were converted into euro prices and – by way of experiment – rounded up to the nearest broken or psychological euro price. Also, account was taken of the fact that the euro differs from the guilder in denomination. This procedure enables a calculation of the effect on, e.g., the cpi, if prices were systematically rounded up. If this conversion method is applied, the cpi comes out 0.7 percentage point higher maximally. This is a worst-case scenario, with every retailer rounding prices up and the competition factor being left out of consideration. While, for some products, this results in a price increase by more than 10%, their share in the rise of the cpi is negligible because they account for but a minor percentage of consumer expenditure. As regards the competition, the survey results confirm what in fact we knew already. A great many retailers, up to 50% of the small entrepreneurs and up to almost 80% of the large entrepreneurs, report that they are experiencing heavy to fierce competition. Consequently, there appears to be little room for euro conversion windfall profits. Nevertheless, approximately 40% of the retailers and 25% of the chain store businesses note they reckon with the possibility of additional price increases in their respective sectors as a corollary of psychological euro pricing. Therefore, besides the constraints exercised by the market, monitoring of product prices continues to be essential in safeguarding a conversion that balances out for Dutch inflation. Timely provision of euro awareness information – on 1 July of this year, every entrepreneur must have changed to dual pricing – is crucial to this end. For it permits the consumer to grow familiar with euro reference values and keep a critical eye on the conversion to the euro well in advance of e-day.

Pass-through of costs and advantages of euro conversion in the prices

The changeover to the euro will come with costs and benefits for the business sector. The question arises to what extent companies intend to pass on the net costs incurred to the consumer. This section seeks to answer this question on the basis of several scenario analyses using MORKMON, the Bank’s macro-economic model. The calculations are based on the costs and benefits that companies (non-banks) themselves indicate as expecting in connection with the introduction of the euro.

According to the Bank’s most recent euro survey (2001) the implementation costs will amount to over nlg 6 billion. These costs are spread over a number of years. Companies expect these one-off costs to be compensated by advantages of the euro conversion. In part, these bear a long-term character and are based on estimated cost advantages deriving from greater price transparency, lower interest charges and a larger sales area. The more palpable direct advantages relate to reduced transaction and hedging costs, simpler accounting and treasury management systems and increased financing opportunities. According to the business sector, these direct benefits may eventually mount up to as much as nlg 3 billion per year.

The effects of the implementation costs and direct cost advantages on consumer prices may be calculated using different methods. The euro conversion affects expenditure and employment, as well as wages and prices. The calculations have taken account of the fact that the costs will not only be passed on to the consumer prices, but also to the prices of other expenditure categories, in particular Dutch exports and those of the competitors from euro area countries, who are likewise faced with implementation costs. Furthermore, in determining the time required for the costs to be passed through, the calculations proceed from normal consequent effects, with short-term profits acting as buffer. Besides generating expenditure effects, it is assumed that the implementation costs will need to be tem-
porarily covered through the available production factors. The Bank’s euro surveys allow for a further cost allocation split-up into categories. According to entrepreneurs, roughly half of the costs relate to investment (extra investment in software and hardware) and the other half to additional labour costs. Of the latter costs, 50% is accounted for by non-recurrent wage costs (higher remuneration because of overtime or recruitment bonuses) and 50% by extra jobs. It is assumed here that, while the expenditure effects of the extra investment will appear immediately, the investment costs will be passed on to the cost price over a depreciation period of three years. As to the direct advantages, it is assumed that these will be passed on to cost prices without much delay. Finally, it is assumed that the euro conversion will not affect the competitive position of the Dutch business sector. No account has been taken of any consequences for world trade and the concomitant expenditure effects.

Table 2 captures the macro-economic effects according to morkmon. The data are based on two possible scenarios. In the first scenario, the implementation costs are spread over 2001 (NLG 2.5 billion) and 2002 (NLG 2 billion); in the second scenario, they are for the greater part concentrated in 2001 (NLG 4 billion). In the first scenario, which proceeds from a spread of the costs involved, the expenditure effects account for a slightly higher GDP volume growth in 2000 and 2001 (+0.1 percentage point). The minor inflation effect of +0.1 percentage point in 2000 is primarily caused by higher wage costs. In 2001, this effect increases to +0.2 percentage point under the influence of the growing cost impulse and the expenditure effects translating into increased tension in the labour and product markets. These upward price effects will not be undone until 2003, when the benefits will start to prevail and the increased tension in the goods and labour markets will have ebbed away again. As a result, inflation will fall by approximately 0.2 to 0.3 percentage point in the period 2003-2004. Because of the annually recurring advantages of the new currency, the euro conversion will bring permanently lower consumer prices. In the second scenario, which assumes a concentration of implementation costs in 2001, the upward inflation effects for that year are slightly stronger, translating into an inflation impulse of +0.3 percentage point. In 2002, the inflationary pressure will be over. In 2003 and 2004, inflation will fall by 0.2 or 0.3 percentage point.

All in all, it may be concluded from the results presented that an upward effect on inflation on account of the euro conversion is to be expected for 2001 in particular. Depending on the way the implementation of the euro develops, this effect may vary from +0.2 to +0.3 percentage point. To all appearances, the downward inflation effect will not become manifest as from 2003. The recurrent annual cost advantages will ensure that in the longer term the consumer prices will decrease to a lower level.

Table 2  Macro-effects of euro conversion according to morkmon
Percentage points, unless indicated otherwise

<table>
<thead>
<tr>
<th>Scenario 1: costs spread</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation costs (NLG billions)</td>
<td>0.5</td>
<td>1.0</td>
<td>2.5</td>
<td>2.0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Single currency benefits (NLG billions)</td>
<td>0.5</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>GDP growth</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
<td>-0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Inflation</td>
<td>0.0</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
<td>-0.2</td>
<td>-0.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scenario 2: costs concentrated</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation costs (NLG billions)</td>
<td>0.5</td>
<td>1.0</td>
<td>4.0</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Single currency benefits (NLG billions)</td>
<td>0.5</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>GDP growth</td>
<td>0.0</td>
<td>0.1</td>
<td>0.2</td>
<td>-0.2</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Inflation</td>
<td>0.0</td>
<td>0.1</td>
<td>0.3</td>
<td>0.0</td>
<td>-0.2</td>
<td>-0.3</td>
</tr>
</tbody>
</table>
Conclusions

The commotion raised over the upward price effects of the euro conversion is partially based on incidents. It is all the same essential that the changeover-related developments be closely monitored, for the thought that the advent of the euro will cause the general price level to rise may well stick in the public’s mind, having an adverse effect on euro sentiment in general and the changeover to the euro in particular.

The exploration of the literature, however, has not yielded any conclusive evidence of lasting price increases as a result of the euro conversion, neither on the basis of theoretical arguments nor on the basis of other, possibly comparable events. According to a micro-simulation, in a worst-case scenario – one in which every entrepreneur rounds up his prices in order to arrive at psychological euro prices – the CPI would increase by a maximum of 0.7 percentage point. However, contrary to what is customary in economic literature, in this simulation the effect of competition on the prices has been left completely out of account.

The euro conversion might have a modest temporary price-increasing effect, because entrepreneurs will tend to synchronise their regular price adjustments with the euro conversion. Macro-economic simulations demonstrate that the euro implementation costs may also cause temporary upward price effects, insofar as competitive relationships allow room for the entrepreneurs to pass on part of these costs to the consumers. While these two causes may lead to a temporary increase of the price level, the price level will be lowered permanently by the long-term effects. After all, besides one-off costs, the implementation of the euro also carries advantages, for in addition to the savings companies will be able to realise straightaway, the single currency will enhance price transparency and strengthen competition.

Sources

Folkertsma C.K. and M.C.J. van Rooij, 2001, De invloed van de euroconversie op de prijzen. Deel I: een verkenning op basis van de literatuur, De Nederlandsche Bank, WOE & E onderzoekrapport nr 654.
Poterba, J. M., 1996, Retail price reactions to changes in state and local sales taxes, National Tax Journal 49, 165-76.
Mainly due to technological innovations and deregulation, the financial sector is subject to a great many changes, causing financial institutions to grow in size and complexity. This article considers whether the institutional framework of legislation and supervision is tailored to these institutions. In assessing the issue, it is useful to distinguish between the avoidance of problems – crisis prevention – and crisis management. The competent authorities need to intensify their cooperation in these areas, both in an international and a cross-sector context. The exchange of information between the authorities could be improved, for example, and the coordinating supervisory authority given a larger role. One measure that will have a mainly preventative effect is the convergence of the national supervisory practices. Furthermore, in the context of crisis management, it is essential that financial institutions have management information systems which can generate the relevant data at short notice. In the unhoped-for event that a financial institution runs into difficulties, a private solution should be the rule and public intervention the exception.
Financial sector in motion

Expansion and increasing complexity
The financial sector in Europe is now undergoing a great many changes, causing financial institutions to grow in size and complexity. A striking phenomenon is the intensive merger and acquisition activity, which has taken place mainly in the past decade. The attendant expansion is reflected in, among other things, increased consolidation in the banking sector. In a number of European countries, including the Netherlands, the largest five banks account for more than two-thirds of the assets of the national banking sector (Chart 1). It is precisely the large banks which seek their partners abroad without, incidentally, limiting themselves to Europe. Dutch financial institutions have made considerable acquisitions in the United States, for example.

Another important trend is the blurring of the distinctions between the various financial segments, as financial institutions venture into diverse product markets (banks now also sell insurance products, for example) or offer innovative mixed products (such as investment-based mortgages). This effect is reinforced by new forms of distribution channels, including the provision of financial services through the Internet. Financial institutions’ activities are hence becoming more varied and generally more complex in nature. As their organisational structures are adapted to these developments, they too become more complex.

A number of driving forces lie behind these trends. First and foremost are the technological innovations in the field of information and communication technology, which paved the way for the development of many new products and drastically lowered the operational unit costs. Large financial institutions are generally better able to fund the extensive investment in computerisation required by the new technology. In addition, deregulation has opened plenty of new markets and allowed for new cooperative links between, for example, banks and insurance companies. Moreover, in Europe too, the generation of shareholder value has become a far more significant concern. In practice, expansion and diversification are important tools in the strategic reorientation of financial institutions in response to mounting pressure, from both inside and outside the financial sector. In this process, the establishment of EMU acts as a catalyst, since the currency union advances the integration of financial markets and the consequent creation of a single competitive financial environment.

Implications for financial risk
The impact of expansion and increased complexity on an institution’s financial risk cannot be foreseen. On the one hand, the spread of activities over different market segments and geographic regions can help to reduce financial risk, since it makes an institution less vulnerable to local shocks; on the other hand, since total internal operations become more difficult to control, operational risks may increase. The final outcome depends on both the financial institution’s portfolio and the quality of its risk management. Therefore, the growth in the size and complexity of financial institution does not necessarily entail greater systemic risk, i.e. the chance that financial ‘accidents’ at an individual institution could, through the contagion of counterparties, harm the entire financial system.

It can be concluded however that if a crisis occurs at a large, complex financial institution, the attendant dangers to the financial system and to the economy as a whole will be more significant. The exact kind of financial institution involved cannot be clearly defined; many will be financial groups with a broad range of operations in various countries and market segments, sometimes having a pivotal function in the financial system due to their extensive dealing activities or their central role in payments and settlement transactions. The primary question is whether financial supervision in Europe is sufficiently geared to the increasing size and complexity of financial institutions. Two aspects can be distinguished here: crisis prevention and crisis management.

Chart 1 Consolidation in the banking sector in a number of European countries
Balance sheet total of five largest banks in percentages of total (1999)
Crisis prevention

Legislation
An important aspect of crisis prevention is the legislation on the supervision of financial institutions. In Europe, this is partly a European and partly a national competency. The finance ministers are responsible for keeping national legislation in line with European directives. European legislation is often derived from the agreements made by the international consultative fora of banking, insurance and securities supervisors, the Basel Committee on Banking Supervision, the International Association of Insurance Supervisors and the International Organisation of Securities Commissions respectively. It should be noted that European legislation is aimed at creating a single market for financial services and so goes much further than the recommendations agreed on in a broader international context.

In view of the changes in the financial environment, it is important that legislation is tailored to the actual risks run in the financial sector. Another essential point is that the legislation give greater prominence to the financial institutions’ own responsibility and to market discipline, in order to make optimal use of the knowledge and experience built up within institutions and in the market. To this end, efforts should be made to advance the development of adequate internal risk assessment systems at financial institutions and the disclosure of risks and risk management. The process of amending the legislation is already under way, witness the revision of the Capital Accord.

To enable a quick response to market developments and to ensure that Europe maintains its competitive position, some flexibility should be built into the legislative process. The report by the so-termed Commission of Wise Men chaired by Lamfalussy on the regulation of European securities markets is significant in this context – for the other financial sectors too. The report includes a proposal that EU directives should only contain general principles, which committees would then work out in concrete legislation. The application of the directives at national level could also be coordinated within these committees, lessening the differences in implementation between the Member States. An important consideration is that the European Parliament should remain involved in working out the legislative details, since it eventually bears responsibility for the directives. For the incorporation of the revised Capital Accord into EU rules, the European Commission has suggested a procedure that is very similar to the Lamfalussy proposals.

Institutional organisation of supervision
Another important element of crisis prevention is supervision itself, which seeks to ensure that financial institutions comply with the safety requirements laid down in legislation. The exercise of supervision is a national responsibility. Since countries have diverging financial structures and market developments, the institutional organisation of supervision differs from one country to another too. Broadly speaking, two basic models can be distinguished in Europe. In the first model, which applies to countries such as the Netherlands, Italy, Spain and, to a large extent, France, the central bank is charged with banking supervision. An important advantage of this model, which, outside of Europe, is largely applied in the United States, is that, in crisis situations, the central bank entrusted with banking supervision has earlier access to the information it needs in order to take adequate measures. Such information is derived mainly from macroeconomic analyses for monetary policy purposes, involvement in the payments systems and background knowledge of the financial markets. In addition, thanks to their network of contacts, the national central banks of the euro area are better placed than other institutions to coordinate a euro area-wide response to any financial problems that may arise. This is particularly relevant given that the establishment of Economic and Monetary Union has led to the further integration of the European banking sector through the interbank market and the payments system, increasing systemic risk.

In the second model there is an integrated supervisor of banks, insurance companies and securities institutions, independent of the central bank, a well-known example being the Financial Services Authority in the United Kingdom. This model guarantees cooperation between the sectoral supervisors, but requires an agreement governing cooperation with the central bank. In the United Kingdom this takes the form of a Memorandum of Understanding (MOU) between the central bank and the supervisor, in which the Treasury also has a say. There are also forms with elements of both models such as that in Germany (in the current situation), where banking supervision is in principle entrusted to a separate institution, but with an important role for the central bank in the practical implementation. The debate on the institutional structure of supervision has become topical in that country in particular, following the proposal by Finance Minister Hans Eichel this spring to integrate the supervision of banks, insurance companies and securities institutions. There are plans in
Ireland too to incorporate the central bank and the various supervisors in a single institution.

Within the first model, the cooperation between the banking supervisor and the other financial supervisors can be based on coordination. In the Netherlands, the tripartite cooperation between the Bank, the Pensions and Insurance Board and the Securities Board of the Netherlands has been given shape in the Council of Financial Supervisors which has been in operation since 1999. Following two years of experience with the Council, it can be concluded that this institutional framework operates well. Sector-specific issues are dealt with in a manner tailored to the sector, while, at the same time, a common policy is developed for matters that affect several financial sectors. The Minister of Finance, Gerrit Zalm, recently proposed that the supervision of the sectoral components of financial conglomerates should be backed up by supplementary group supervision. This group-wide approach will lead to the streamlining of legislation and the coordination of supervisory activities. The Protocol concluded by the Bank and the Pensions and Insurance Board in the early 1990s will be widened to cover agreements with the Securities Board, and will hence extend to securities institutions. Another recent development is that the Council of Financial Supervisors, in consultation with the financial sector, commissioned a study on the extent to which the risk profile of a financial conglomerate merits the adjustment of capital requirements at group level. The outcome of this study was the current treatment of the solvency of financial conglomerates under Dutch supervision, as set out in the Protocol, was deemed adequate for the moment.

International cooperation

Although the exercise of supervision is a national competency, it also has a strong international dimension. Committees form an important channel for international cooperation and the exchange of information. Besides the global fora referred to above, there are EU organs which bring the various supervisors of a certain sector (Box 1). One of those for the banking sector, for example, is the Banking Supervision Committee (bsc), on which, along with bank supervisors, the central banks of the EU are represented. The bsc advises notably on macro-prudential issues, and promotes an adequate exchange of information between the bank supervisors and the European System of Central Banks. It also acts as a forum for the exchange of information and cooperation among banking supervisors. Given its composition, the bsc, in the event of a threatened financial crisis, is pre-eminently suited to acting as the coordinating organ for the necessary measures (see below). Besides the bsc, there are two other European bodies of bank supervisors, the Banking Advisory Committee (bac) and the Groupe de Contact (gdc). The bac, which includes supervisors and finance ministries, focuses mainly on preparing European directives and monitoring compliance with them. The gdc is an informal body of bank supervisors only, and was established to enable the exchange of specific information among supervisors, but it also deals with the generic implementation of supervision. A Round Table of Financial Regulators was set up to advance the exchange of information on cross-sector issues of an international nature.

In addition, an extensive network of MOUs has been concluded. These are bilateral agreements between supervisors, including provisions in respect of the supervision of branches, and governing the practical cooperation in the case of on-site inspections. Multilateral MOUs are also drawn up for specific financial institutions, particularly when called for by the institution’s structure (such as Fortis, Dexia en de Nordic Baltic Holding Group).

In the context of the increasing cross-sector developments, the European Commission drew up a draft directive on financial conglomerates, which, among other things, provides for the identification of a coordinating supervisor. Depending on the financial institution and the wishes of the supervisors involved, various tasks could be allocated to the coordinator, such as the coordination and planning of supervisory activities, the assessment of developments at group level, and the distribution of information among the relevant authorities. It is essential that the coordinator encourages the authorities concerned to include the more general interest of financial stability in their examination, and so to choose a wider perspective than simply their own obligations in respect of a particular institution.

In the case of ‘pure’ banks, insurance companies, or securities institutes or financial institutions with one dominant component, the identity of the coordinator is self-evident, namely the primary supervisor from the home country. Where mixed activity financial conglomerates are concerned, the situation is less straightforward, and the allocation will be made using a number of criteria. An important consideration is whether the financial conglomerate is headed by a regulated entity. Where this applies, the function of coordinator is carried out by the competent authority which has granted this regulated entity an authorisation. To cover
other situations, a number of basic principles for the appointment of a coordinator have been set down.

The draft directive allows for the appointment of more than one coordinator, for example in the case of conglomerates with a wide variety of activities. And special circumstances could demand that the tasks of the coordinator(s) be adapted. In general, the responsibilities of the other supervisors will remain intact. This lends a degree of informality to the coordinator model. By creating a role for a ‘lead supervisor’, a role not mentioned at all in the draft directive, the responsibilities could be more sharply delineated, and the consistency of the supervision of the conglomerates could be more effectively safeguarded. The coordinator should also be given substantial tasks or supervisory instruments in respect of top holding companies, just as the Federal Reserve, under the Gramm Leach Bliley Act, has far-reaching powers and responsibilities in respect of Financial Holding Companies. In should be noted that Finance Minister Zalm, in the context of the supplementary group supervision referred to above, has proposed that the Bank, the Pension and Insurance Board and the Securities Board should be given the power to give directions to holdings first-hand in respect of matters such as administrative organisation and internal control.

Last year a working group of the Economic and Financial Committee (EFC), which prepares the meetings of the Ecofin Council, investigated whether the institutional structure of regulation and supervision in Europe was still suited to the far-reaching developments taking place in the financial sector. The working group concluded that this was indeed the case but added that the practical operation of the institutional framework could be improved on a number of points. Apart from the extension of the role of coordinating supervisor referred to above, these points notably include the exchange of information among supervisors themselves and with other authorities such as central banks, and the convergence of the national supervisory practices. The EFC has since established that substantial progress in various areas was made last year.

**Crisis management**

Even with an adequate framework of legislation and supervision aimed at preventing financial crises, the chance that a financial institution runs into difficulties cannot be ruled out. Preventative measures are not intended as a watertight safety net: financial services is
a commercial undertaking and if problems arise, share-
holders should bear the costs and management take the
consequences. That applies to large, complex financial
institutions too, albeit that the authorities will make a
greater effort than otherwise to try and stop the prob-
lems spreading to other financial institutions and so
jeopardise the stability of the financial system. Whether
a crisis can be resolved quickly depends particularly on
the availability of accurate and timely information,
along with good coordination and communication
between the parties involved (both the various public
authorities and the private sector at national and inter-
national level).

Provision of information
A crisis develops in a number of phases. The first phase
is when the problems arise, and this is known only by
the management of the financial institution and, pre-
sumably, by the supervisor (and central bank). Particu-
larly in this initial phase, the management and
authorities will want to collect as much information as
possible to get a good insight into the source and the
range of the problem. In the following stages, the mar-
et could question the survival chances of the financial
institution on the basis of weakening liquidity posi-
tions, and, in the worst-case scenario, the next step
would be the confirmation of the institution’s insolv-
ency. In practice, these phases cannot be clearly dis-
tinguished since the rapid progress in communication
technology has greatly speeded up reactions in the
financial markets. Owing to time pressure, there is a risk
that important decisions will have to be made at a
moment when not enough information is available. A
good infrastructure for the provision of information is
therefore essential for crisis management.

Information about the financial institution in diffi-
culties must eventually be obtained from the institu-
tion itself. Consequently, the information systems of
financial institutions should not – as is now generally
the case – be exclusively geared to normal business
operations, but also to crisis situations, however unlikely
they may be. In emergency situations, the authorities
will need information on the conditions in the markets
in which the institutions operate, the extent of intra-
group exposures and the open dealing positions. It
should be standard practice for financial institutions to
at any rate have information of a more generic nature
available, such as the legal and organisational structure
and the various supervisory regimes covering the group.

This should be backed up by strategies for potential
crisis situations, dealing with, among other things,
liquidity requirements and possible sources of financ-
ing, options for attracting capital, and the feasibility of
scaling down or selling (parts of) the institution. The
necessary adjustments within financial institutions
could be included as a point for attention in the so-
termed supervisory review by supervisors, which aims
to assess a financial institution’s capital adequacy on
the basis of its risk profile.

Apart from information about the individual finan-
cial institution concerned, the authorities, in the event
of a crisis, also require information on the macro-
economic and monetary environment so as to assess
the systemic risk, if any. Central banks are excellently
placed to play an important role in this area, given their
responsibilities in the area of financial stability.
Potential vulnerabilities can also be identified at an ear-
er stage using so-called macro-prudential indicators,
which give general information on the risks within the
financial sector. Examples are indicators of asset price
trends, the profitability and solvency of financial insti-
tutions and the investments in emerging markets or
risky segments, including the telecommunications
sector. The macro-prudential analyses by the bsc are a
case in point.

Coordination
Good coordination and communication during a crisis
are of great importance, particularly because decisions
will have to be made under huge time pressure. An added
complication in the case of a crisis at a large, complex
financial institution is that a sizeable number of parties
will be involved, while, in general, major interests will
be at stake.

Depending on how a crisis develops and what deci-
sions have to be taken, the relevant authorities con-
tribute to the management of a crisis in different ways.
The coordinating supervisor will play a key role during
the initial phase of a crisis – notably by identifying
problems, acting as a reporting centre for develop-
ments, and assisting in the structured exchange of inform-
ation with the relevant authorities – but also at a later
stage in the crisis when decisions will have to be made.
In practice, the exchange of information is based on
agreements that were set down in MoUs. A follow-up
report by the EFC on the management of financial crises
– which was recently endorsed in Malmö by finance
ministers and central bank governors – recommends
MoUs should be more concrete as to which informa-
tion must be exchanged during a crisis, and with whom,
so that no precious time needs to be lost on negotiating
these points. Central banks should also be informed in
the initial stage so that they may estimate the potential risks to the financial sector and can, insofar as possible, give well-founded reasons for their possible decision to give liquidity support. Finally, it is self-evident that, where a situation threatens which may have serious implications for financial stability, and where solvency support may be required, the Ministers of Finance should be informed on time.

**Decision-making**

An issue closely related to coordination is the responsibility for decision-making in crisis situations. Although the EU directives do not refer to crisis management specifically, the presumption is that the responsibility for decision-making in crisis situation, at least in relation to the institution and its branches, rests with the authorities in the home country. This principle does not directly apply to foreign subsidies, since the authorities in the host country are obliged to view these as domestic institutions with their own legal identity. Accordingly, the supervisor in the host country can take its own decisions in the event of a crisis at a subsidiary established in its jurisdiction.

Where authorities from different countries are involved, they should keep each other well informed as to any planned measures, to ensure that the response to the crisis is as consistent as possible. While this will normally be the case, the interest of the relevant parties do not necessarily always coincide. A crisis at a foreign branch could, for example, have relatively little effect on the home country while posing a systemic threat to the host. Such situations will not arise very often, but if they do, consultations should be held between the authorities involved, a procedure that could be specified in MoUs. Situations are also conceivable in which the traditional division of responsibilities between the home and host country authorities fails to give enough guidance for decision-making during crises. A case in point is when disruptions, spreading through the financial markets or the payments system, bring a considerable number of financial institutions in various jurisdictions into serious difficulties. Under those circumstances, multilateral cooperation will be needed to arrive at a consistent approach to the problems. Such cooperation could be given shape in the supervisory committees referred to above.

**Instruments**

The basis principle of crisis management, in the case of large, complex financial institutions too, is that the solution should be sought in the private sector where possible, for example in the form of private capital support (in exchange for a say) or even a direct acquisition. The authorities, as honest broker, could mediate in these negotiations. It should however be acknowledged that a private solution to a crisis might have several drawbacks, for example that the size of open positions could scare off potential buyers, or that the diversity of the activities means that a considerable number of parties would be involved in the negotiations. It could happen that a private solution only becomes attainable after the financial institution is split up. Should a private solution not prove possible, the institution will in principle be liquidated, or – where the danger of disruption to the financial sector is mounting - public instruments will be used, such as capital injections or even nationalisation. Complications could also arise in the case of such public solutions, for example due to differences between the judicial regimes governing the relevant financial institution.

To win time for finding and implementing a solution, the authorities could consider providing temporary liquidity support. Within the euro area, liquidity support is a national responsibility, albeit that it must be implemented in such a way that it does not disrupt the monetary policy of European System of Central Banks. An important consideration is that the option of liquidity support entails moral hazard (i.e. that financial institutions might engage in riskier activities if they expect that the authorities will come to their aid in an emergency). Where the authorities nonetheless choose this instrument, moral hazard will be contained as much as possible by the attachment of strict requirements to the provision of support, for example in the form of collateral or by charging interest in excess of the market rate.

**Conclusions**

*Through a combination of different trends in the financial sector, such as consolidation and diversification, financial institutions have become increasingly larger and more complex. Legislation should be geared to this development and be designed to be as flexible as possible. This process has already got under way and, as far as the banking sector is concerned, is at an advanced stage. In itself, the institutional structure of supervision in Europe is adequately geared to large, complex financial institutions. However, the practical operation of the institutional framework leaves room for improvement, for example in the exchange*
of information between the competent authorities and the convergence of national methods in the supervision of these institutions.

In the unhoped-for event that a large, complex financial institution runs into difficulties, a private solution must be the rule, and public intervention the exception. The institutions should at any rate have management information systems that are capable of generating the relevant data at short notice. In addition, concrete agreements as to which information must be shared among supervisors in good time could be set down in Memoranda of Understanding. Finally, in order to achieve more consistency in the exercise of supervision and in the response to a crisis at a large, complex financial institution, and to more effectively guarantee good communication between the authorities involved, a ‘lead supervisor’ should be identified in advance.

Literature


Unlike Americans, present-day Europeans do not seem to carry mobility in their genes. The explanation may be that the most mobile section of the European population has, over time, emigrated to the United States. However that may be, at least part of Europe’s limited labour mobility is a matter of culture. There are, to be sure, cultural differences between EU countries which help to keep cross-border labour mobility down, but there may be said to be a more general (continental European) culture in which a willingness to move for work, even within one’s own country, is by no means a matter of course. Turning such a culture around looks likely to be a long-winded effort. Yet it is possible to imagine steps which would take us closer to the (economic) ideal of high labour mobility in a more foreseeable future. One might think, for instance, of removing barriers relating to pensions, to recognition of education certificates and to housing. Another major area to turn to would be the organisation of social security as a lever to strengthen incentives for moving, both inside European countries and between them.
Introduction

The freedom of movement which employees in the European Union enjoy has been enshrined in Section 39 of the EC Treaty. This freedom, that is to say the right to labour mobility within the European Union, may therefore be regarded as an aim in itself. From an economic point of view, however, labour mobility is an instrument rather than an objective. To begin with, labour mobility may enhance the allocational function of the labour market and, more particularly, help to eliminate qualitative mismatches on the labour market. Secondly, labour mobility may, in principle, play a role in absorbing asymmetric economic shocks. It is this aspect of labour mobility that is emphasised by the economic literature on optimum currency areas. The usual example is that of the United States, where labour mobility across state lines plays an important part in mitigating various cyclical developments.

Although labour mobility is a recognised right, this right has been used on a modest scale in the euro area. This begs the question why this is so and what ways there are to improve the situation. This article will mostly deal with the first question and from there indicate directions in which solutions might be found. A two-pronged approach will be recommended, with policy measures aimed at removing barriers to mobility on the one hand and, on the other, steps enhancing incentives to become more mobile. Finally, the question will be addressed what significance the admittance of new EU member states will have for the issue of European labour mobility.

Some ‘stylised facts’

Europe has been an area of fairly low labour mobility. In 1993, the remaining formal restrictions on the free movement of labour were lifted. However, this failed to result in an actual increase in labour mobility: annual cross-border labour mobility within Europe has for many years varied between 0.1% and 0.2% of the population. In 1996, 124,000 employees from other EU member states were working in the Netherlands, i.e. 1.3% of the working age population. This figure is about equal to the EU average (Table 1), indicating by its low value that major barriers to cross-border labour mobility within Europe still exist.

It should be noted here that for most countries, there is only information about total migration. While such data may serve as an approximation of cross-border mobility, they have the drawback of including migration for other purposes than work (e.g. old-age pensioners moving south) and of being internally inconsistent due to varying definitions. The best figures in terms of comparability come from the OECD and relate to a more ‘moderate’ form of geographical mobility, i.e. that between regions within one country (Table 2). Because even internal migration is not exclusively motivated by work (in the Netherlands: the demographically determined migration into and out of the ‘Randstad’ western conurbation), these figures must be regarded as an upper boundary of labour mobility. The table shows that the level of internal migration between regions is especially low in southern European countries. By contrast, internal migration is relatively high in Anglo-Saxon countries and Japan, with northern and mid-European countries taking up an intermediate position.

Table 1 Residents from other EU countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Total</th>
<th>Annual Influx</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>as a percentage of the population</td>
</tr>
<tr>
<td>Belgium</td>
<td>247</td>
<td>5.9</td>
</tr>
<tr>
<td>Denmark</td>
<td>24</td>
<td>0.9</td>
</tr>
<tr>
<td>Germany</td>
<td>786</td>
<td>2.8</td>
</tr>
<tr>
<td>Finland</td>
<td>3</td>
<td>0.1</td>
</tr>
<tr>
<td>France</td>
<td>616</td>
<td>2.4</td>
</tr>
<tr>
<td>Greece</td>
<td>8</td>
<td>0.2</td>
</tr>
<tr>
<td>Ireland</td>
<td>42</td>
<td>2.9</td>
</tr>
<tr>
<td>Italy</td>
<td>12</td>
<td>0.1</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>80</td>
<td>36.3</td>
</tr>
<tr>
<td>Netherlands</td>
<td>124</td>
<td>1.8</td>
</tr>
<tr>
<td>Austria</td>
<td>42</td>
<td>1.3</td>
</tr>
<tr>
<td>Portugal</td>
<td>9</td>
<td>0.2</td>
</tr>
<tr>
<td>Spain</td>
<td>54</td>
<td>0.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>397</td>
<td>1.5</td>
</tr>
<tr>
<td>Sweden</td>
<td>88</td>
<td>2.1</td>
</tr>
<tr>
<td>European Union</td>
<td>2,532</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Source: OECD, Eurostat.
Indications are that countries which have high internal labour mobility, usually also have a low level of unemployment, which is spread evenly across areas (Chart 1). Regional unemployment differences are exceptionally high in Italy and Spain, for instance, while internal labour mobility is low. Germany and Belgium, too, show rather high regional differences in unemployment. In Germany, the relatively recent accession of the eastern provinces plays a part; in Belgium it is the language boundary. As predicted by economic theory, migration usually moves towards regions of relatively low unemployment. The present low level of migration in almost all European countries means that labour mobility as a means of adaptation may only be effective in the longer term. Hence, labour mobility can be of importance in coping with structural economic changes, but only of minor significance in absorbing cyclical shocks.

Comparison on an international scale shows that especially in the case of cyclical shocks, wage flexibility may play a major role: regional unemployment as a result of adverse economic shock may be countered by attracting businesses from elsewhere. These businesses, however, will not be tempted to move to another region unless the move is attractive for economic reasons including, importantly, labour costs. Another quality of wage flexibility in absorbing cyclical shocks is that the downward adjustment of wages in areas hit by a negative shock will not only encourage the movement of businesses towards these areas, but will also enhance labour mobility in the opposite direction. Thus, wage flexibility and labour mobility go hand in hand.

Although progress has been made in the Netherlands towards greater flexibility in the labour market, real wages may be said to have responded rather slowly to cyclical developments. Wage flexibility could clearly be improved. Through lack of labour mobility and of adequate alternative channels, negative cyclical shocks in Europe will express themselves entirely in declining industrial profits and a decreasing participation rate. The problem here is that longer periods of economic inactivity, whether in the form of voluntary (temporary) withdrawal from the labour market or in that of forced redundancy translating itself into rising unemployment, tend to make reentry into the labour market more difficult, and thus may cause long-term negative economic (and social) effects.

Still, labour mobility may contribute to solving qualitative mismatches in national labour markets, which in the European perspective are in many cases ‘ordinary’ geographical mismatches. This may not be true of some posts in the ICT industry which are difficult to fill in all countries, but it is true for other sectors such as health care, where Dutch physiotherapists, for instance, move to work in Germany. Conversely, shortages in the Dutch building and concrete industries are supplied by Portuguese workers, while British and Irish engineers are engaged for high-tech jobs in the Nether-

### Table 2 Domestic mobility
Annual gross migration between regions as a percentage of the population

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>2.5</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2.3</td>
</tr>
<tr>
<td>United States</td>
<td>2.2</td>
</tr>
<tr>
<td>Canada</td>
<td>2.2</td>
</tr>
<tr>
<td>Sweden</td>
<td>1.6</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.6</td>
</tr>
<tr>
<td>France</td>
<td>1.5</td>
</tr>
<tr>
<td>Belgium</td>
<td>1.3</td>
</tr>
<tr>
<td>Germany</td>
<td>1.2</td>
</tr>
<tr>
<td>Spain</td>
<td>0.6</td>
</tr>
<tr>
<td>Italy</td>
<td>0.5</td>
</tr>
</tbody>
</table>


### Chart 1 Domestic mobility vs. average unemployment

<table>
<thead>
<tr>
<th>Unemployment</th>
<th>Domestic mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>-1</td>
</tr>
<tr>
<td>4</td>
<td>-2</td>
</tr>
</tbody>
</table>

1 Figures for domestic mobility regard the year 1996; those for average unemployment regard 1990-2000.
2 Source: OECD.
lands. The number of people involved is small, only a few thousand, but they are often found there where the squeeze is felt most.

To discuss labour mobility on a macroeconomic level would do insufficient justice to the differences that exist within the labour force. It is a fact that the higher educated echelons are especially mobile, as established by studies on the situation in Spain and the United Kingdom. As these studies point out, it is often the higher educated who move away from the poorer regions. The resulting ‘brain drain’ enhances the existing regional divergence where labour productivity and wages are concerned, which may be politically undesirable, in any case to the regional government in question. The political disadvantage created by greater income differences by region will have to be balanced against the economic benefit of higher production for the country as a whole.

Removing mobility barriers

Various factors play a role in determining labour mobility. One may think of pensions, of educational certificate recognition and of housing, but also of language and culture differences, blank spots in EU regulations, incomplete implementation of regulations and the low effectivity of cross-border employment services. Because of the limited space available, only the first three factors are discussed here.

Pensions

Non-state pensions have been a major impediment to labour mobility within Europe. The European directive relating to this issue is far less effective than the similar regulation regarding state social security. Especially problematic are the differences between the various regulatory systems governing the buildup of pension rights (accrual and deferred periods), international capital transfer (pension severance) and the possibility to participate in pension funds across borders. Even on the domestic level, despite the single regulatory system, the transfer of accrued pension rights has not been flawless. Major improvements have been realised in this country in order to prevent pension severance. On the international level, however, there are much more intractable problems. One of the reasons for this is the ‘fiscal reversal rule’ applied here: cross-border pension accrual and international capital transfer have been ruled out by law, to prevent the State from forfeiting its claim on deferred taxes.

The removal of barriers regarding non-state pensions demands Europe-wide agreement on the way these pensions are dealt with. The European Commission has been very active in this field, but the European Council has determined in Stockholm that these initiatives must not interfere with the internal coherence of national tax systems. The creation of fiscal compatibility between countries is further complicated by the great differences that exist between pension systems in Europe (state vs. private schemes, funding vs. pay-as-you-go). The convergence of the various systems will take time. In the meanwhile, international agreements may be worked out concerning the cross-border exercise of fiscal claims on pensions by the country of accrual.

Recognition of educational certificates

The recognition of educational certificates is governed by a European directive, which however does not guarantee automatic mutual recognition of certificates and occupational experience, particularly where regulated professions are concerned.

When it comes to recognising foreign certificates, the Netherlands takes first place in Europe. Some other member states have been more reluctant. The Netherlands should do well to continue on its present course, even if other countries do not follow. In maintaining a relatively liberal regime, the Netherlands will, on balance, attract more qualified staff from abroad than it loses to the international market. And this will be a boon in times of labour tightness and in solving specific staffing problems (as, for instance, in health care), but also in the longer term. Most differences in qualification requirements across EU member states are formal rather than material differences. Besides, member states have a clear and permanent interest in monitoring qualification standards for each of its domestic professions. Hence, the fear of ‘certificate competition’, as it is called, and of slipping professional standards is unwarranted.

The issue of certificate recognition involves weighing the public interest of relieving particular tight spots on the labour market and of more adequate allocation of the production factor labour, on the one hand, against the partial interest which established workers have in the protection of their profession. Excluding well-qualified foreign workers means the society as a whole will lose in so-called opportunity costs. Economic theory suggests that the social cost incurred this way clearly exceeds the economic benefits of those directly involved, termed ‘monopoly rents’ – revenue relating to an artificially created market dominance of...
workers in protected professional sectors. Therefore, the public interest should prevail here.

**Housing**

A few specific impediments to labour mobility relate to housing. First, homeowners’ property transfer tax (which in the Netherlands is 6 percent of the selling price) may be a barrier to moving house. Second, homes in the public housing sector are relatively low-rent, which is why in many Dutch cities there are waiting lists, restricting the opportunity of moving into an affordable home at short notice. An additional impediment is created by the official limits on annual rent increases, keeping the rents of many sitting tenants below market levels. A low-rent home can act as a negative financial stimulus against taking a job which requires moving house. Generally speaking, a cut in property transfer tax would be particularly effective in improving labour mobility in the upper levels of the labour market, while a further (moderated) rent liberalisation would have the same effect at the lower levels.

Finally, mortgage interest in the Netherlands is given unusual fiscal treatment compared to the rest of Europe, which causes particular distortion in cross-border work, i.e. cases where people work and live in different countries.

**Enhancing mobility incentives**

Europe’s relatively low level of labour mobility may be explained not only by the impediments listed, but also by a lack of effective incentives. This would suggest arguing in favour of a two-pronged policy aiming at the removal of mobility barriers and enhancing mobility incentives.

Economic theory usually points to differences in remuneration as one possible explanation for labour mobility between regions. While such a relationship appears to be demonstrable, at least to some extent, for the United States and Canada, there is scant empirical evidence for its existence in the euro area. This lack of evidence is not caused by the absence of regional differences in remuneration. Relatively wide regional wage differences do exist, not only in the United States with its high level of labour mobility, but also in a low-mobility country like Italy. It follows that regional wage differences do not offer sufficient explanation for differences in geographical labour mobility.

A second possible explanation for the high level of labour mobility in the United States concerns social security structures. Relatively short-term unemployment benefits and a relatively large difference between wages and benefits in the United States combine to provide a strong financial incentive to workers, even at low economic levels, to look for work, even outside their own region. This incentive is clearly less strong in Europe: the net replacement rate (defined as the ratio between the net social security benefit and a low net wage level) is 63% in the United States, against an average of 80% to 85% in the euro area (Table 3). This observation needs some qualification, however. While a high net replacement rate may provide less financial incentive to the unemployed, it may also have a beneficial effect on the labour mobility of people who have jobs. Possibly, workers will be more inclined to take a risk (i.e. to give up their present job and take another, or to start their own business) if there is adequate social security to fall back on if plans misfire. The practical importance of this argument, however, is debatable. Secondly, comparison of several countries suggests that it is not so much the height of social benefits as their longer duration which explains why migration within Europe, unlike that in the United States, appears to be insensitive to unemployment developments. Other factors which may help to enhance the incentive towards migration for work (and more generally, towards participation) could be a more active re-entry policy, stricter adherence to requirements for admission to social benefits and the creation of a single point of entry for all forms of social security. Finally, it should be recognised that encouraging labour mobility is not the central objective of social-economic policy. Yet it appears to make sense, in discussing social security legislation, to take into account its implications for mobility incentives, especially since labour mobility as

<table>
<thead>
<tr>
<th>Country</th>
<th>Net replacement rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>62</td>
</tr>
<tr>
<td>France</td>
<td>70</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>80</td>
</tr>
<tr>
<td>Austria</td>
<td>82</td>
</tr>
<tr>
<td>Ireland</td>
<td>85</td>
</tr>
<tr>
<td>Belgium</td>
<td>90</td>
</tr>
<tr>
<td>Germany</td>
<td>92</td>
</tr>
<tr>
<td>Netherlands</td>
<td>96</td>
</tr>
<tr>
<td>Finland</td>
<td>100</td>
</tr>
</tbody>
</table>

an instrument of economic policy could potentially play a much larger role.

New EU Member States

In just a few years, the European Union is expected to be expanded by a number of countries in Central and Eastern Europe. Negotiations with some of the candidate member states have begun on the subject of free movement, and more in particular the amount of time over which movement is to be gradually liberalised. The length of the periods of transition to free movement of persons is important in connection with labour mobility within the Union: Workers from the candidate member states could help ease the tightness of the Dutch labour market (which, on the basis of demographic factors, looks likely to be here to stay for some time to come).

The expected influx of workers from the new member state should pose no challenges to the absorption capacity of Dutch society. Calculations by the European Commission show that the Union may expect to receive, over a period of 30 years, just under four million immigrants from the new member states. Of these immigrants, only a small number (a good 1%) is expected to come to the Netherlands.

From the Dutch perspective, therefore, there can be few objections to a speedy deregulation of the movement of labour from Central and Eastern Europe. An argument in favour of speedy deregulation is provided by the principle that any transition periods should be kept as brief as possible, to prevent the internal market from remaining segmented for unnecessary lengths of time. For those EU member states which border on the new arrivals (Germany and Austria in particular), the risk of running up against absorption limits is greatest. Conceivably, therefore, these countries may, in a European context, argue in favour of temporary arrangements limiting immigration from the new member states to a maximum. By the same token, it may be observed that Germany and Austria will, on account of their geographical situation, benefit most from the expansion (especially from an increase in trade with the new member states) and that these countries should therefore be willing to accept relatively large numbers of immigrants.

Conclusions

Labour mobility helps to achieve the most effective allocation of labour and to absorb economic shocks. Annual net migration figures within Europe are relatively low. At present, therefore, labour mobility is more effective as a means to counter structural economic changes than as a fast-working instrument for regaining equilibrium after cyclical shocks. The desirability of being able to absorb such sudden shocks suggests steps to encourage labour mobility, and also point in the direction of a need for greater wage and price flexibility. At the present moment, labour mobility may already make a major contribution to solving qualitative mismatches in the labour market.

The existence of various impediments to mobility help to explain why, within Europe, cross-border labour mobility is lagging behind domestic mobility. The absence of mobility incentives may be the most relevant factor explaining the difference in labour mobility between the United States and Europe. Encouraging labour mobility therefore requires a two-pronged policy aiming, first, at removing impediments to mobility and, secondly, the enhancement of mobility incentives.

Removing impediments to mobility will help to bring about an optimum allocation of labour within the EU. One way of doing this is for member states to recognise professional qualifications obtained elsewhere in the EU. This may help ease the present tightness and qualitative mismatch in the Dutch labour market, while the risk of undermining the quality of ‘workers’ professional standards is small. For this reason, the Netherlands should, unilaterally if need be, proceed to legislate such recognition. Another way to encourage mobility of labour could be through arrangements between EU member states for the exercise of fiscal claims on pensions. Impediments to do with housing might be reduced by cutting property transfer tax for homeowners, moderated liberalisation of rent prices and by bringing fiscal treatment of home ownership more into line with the arrangements customary elsewhere in Europe.

As for mobility incentives, the relatively short-term social benefits and relatively large gaps between wages and benefits in the United States give the unemployed a strong financial incentive to look for work, even outside their own region. In Europe this incentive is far less strong. Other instruments to encourage labour migration by the unemployed could be a more proactive reentry policy, stricter adherence to rules in granting social benefits and the creation of a single point of entry to social security services. In creating new legislation regarding social security the question should be posed whether it enhances mobility.
incentives or, conversely, discourages mobility, especially since labour mobility could potentially be a powerful economic tool.

Literature

Bentivogli and Pagano, Regional disparities and labour mobility: the euro-11 versus the usa, Labour, 1999.

Broersma, Koeman and Teulings, Labour supply, the natural rate and the welfare state in the Netherlands: the wrong institutions at the wrong point in time, Oxford Economic Papers, 2000.


Mauro and Spilimbergo, How do the skilled and the unskilled respond to regional shocks?, IMF Staff Paper, 1999.


Razin and Yuen, Labour mobility and fiscal coordination: setting the growth agenda for an economic union, CEPR, 1996.


1 The importance of pensions regulations and barriers pertaining to the housing market has been pointed out by, among others, Razin and Yuen (1996). The recognition of certificates has been highlighted in Section 5 of the recent Social and Economic Council (SER) report on labour mobility.

2 Adjustments between national social security systems are governed by EC Regulation 1408/71. This regulation is effective because it covers a broad spectrum of the population and nearly all state regulations on social security.

3 See also Section 6 of the ser report mentioned in note 1.
Economic growth is expected to develop less buoyantly during the 2001-2003 period than in the past few years. After four years of growth in the 4% region, the figure will this year fall to 2.5%, while for next year and 2003, respectively, 2.9% and 2.5% growth are projected. Inflation this year is, conversely, increasing robustly to 4.5% on average. Although in 2001, several one-off factors are expressed in the inflation rate, it will also be high next year, at 3.1%, only to fall off to 2.2% on average in 2003. Current inflation figures, however, (4.9% in May 2001) harbour the risk that a wage price spiral is set in motion, which may lead to considerably higher inflation rates and a further deterioration of competitiveness and may result, finally, in a hard landing for the Dutch economy. A stronger decline in economic growth could also result if recovery in the international economy takes longer than expected to materialise. These risks are discussed in the variants analysis section, as are the implications of the foot-and-mouth and BSE crises as included in the central projection, and the importance of policies aimed at stimulating labour supply. All forecasts and analyses in this article were compiled using MORKMON, the Nederlandsche Bank’s macro-economic structural model for the Netherlands.
Introduction

This article presents a forecast for the Dutch economy in the period 2001-2003 based on calculations which were made with the MORKMON macroeconomic structural model. Compared to the forecast made half a year ago for the years 2001-2002, the picture has changed in several ways. For instance, the expected volume growth of GDP over these years, by 2.5% and 2.9%, has been downward adjusted by 1.2 and 0.7 percentage points. The reason for this is the less favourable estimate for economic growth outside the Netherlands. An important domestic influence is that of the foot-and-mouth and BSE crises, responsible for 0.4 percentage point in the adjustments. For 2002 and 2003, GDP growth figures of 2.9% and 2.5%, respectively are projected.

The inflation outlook is little changed from what it was six months ago. Inflation, as measured by the rise of the consumer price index (CPI), will this year run to 4.5% and still be relatively high in 2002, at 3.1%. For 2003, however, the inflation rate is expected to fall further, to 2.2%. The major causes of the high inflation rate in 2001 are the recent VAT and ecotax increase (1 percentage point), the strong rise of unit wage cost, the delayed effect of the rise in oil prices and the delayed effect of the fall in the exchange rate of the euro. The present article discusses in detail the projections, the assumptions underlying them and the uncertainties inherent in the results.

Assumptions for 2001-2003

The Dutch economy is highly sensitive to developments abroad. The major relevant external influences are listed below, based on the assumptions adopted by the European System of Central Banks (ESCB) for 2001 and 2002 under the recently held Broad Macroeconomic Projection Exercise (BMPE).\(^1\) Economic growth in the major industrial countries is clearly slowing down compared to recent years (Table 1). US growth is expected to turn out at 1.6% in 2001, a stiff 5.0% lower than last year, the single most important cause being the sharp fall in the growth of consumer and investor spending. As a result of decreasing imports from the United States and spill-over effects via both

<table>
<thead>
<tr>
<th>Table 1 Assumptions</th>
<th>Actual</th>
<th>Assumed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
<td>2001</td>
</tr>
<tr>
<td><strong>International</strong>(^1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevant world trade (in volume terms)(^2)</td>
<td>11.0</td>
<td>6.5</td>
</tr>
<tr>
<td>Goods import prices, in guilders</td>
<td>10.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Export prices competitors, in guilders(^3)</td>
<td>7.3</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Average levels</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-term interest rate euro area</td>
<td>4.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Long-term interest rate Germany</td>
<td>5.2</td>
<td>4.8</td>
</tr>
<tr>
<td>Long-term interest rate US</td>
<td>6.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Euro exchange rate (in USD)</td>
<td>0.92</td>
<td>0.91</td>
</tr>
<tr>
<td>Oil price (UK Brent, in USD)</td>
<td>28.3</td>
<td>26.5</td>
</tr>
<tr>
<td><strong>Domestic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public sector employment (x 1,000 fte)</td>
<td>737</td>
<td>748</td>
</tr>
<tr>
<td>Government consumption (% volume changes)</td>
<td>3.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Gross fixed investment by the Government (% volume changes)</td>
<td>9.1</td>
<td>5.3</td>
</tr>
</tbody>
</table>

\(^1\)The source for 2001 and 2002 international assumptions is the BMPE of the ECB.

\(^2\)Geographically adjusted weights; goods excluding oil and gas.
the financial markets and business and consumer confidence, growth is slowing down in the euro area, Japan and the rest of the world as well. ECB staff projections indicate that GDP volume growth in the euro area is decreasing from 3.4% last year to 2.2%–2.8% this year and to 2.1%–3.1% in 2002. In parallel with this trend, the growth of world trade relevant to the Netherlands is falling from 11.0% in 2000 to 6.5% in 2001. For 2002 and 2003, world trade growth figures are projected of 6.4% and 7.0%, respectively.

Oil prices, based on futures prices, are expected to decline from USD 28.3 a barrel in 2000 to USD 22.4 a barrel in 2001, partly as a result of slackening world economic growth and the concomitant slower growth in the demand for oil. In the medium run, despite production cuts announced by the OPEC countries, this will result in a small market surplus. The rise in guilder prices of goods imports is coming down rapidly, from 10.0% in 2000 to 1.1% this year, after which it will remain relatively stable in 2002 and 2003. The high 2000 growth figure is related to the strong depreciation of the euro in that year. For the rest of 2001 through the year 2003, the euro exchange rate is assumed to remain unchanged relative to the USD 0.90 level. On an annual basis, this results in a slight depreciation of the euro in 2001 and 2002, to USD 0.91 and USD 0.90, respectively, at which level it will stay during 2003. The growth in competitors’ goods export prices presents a similar picture to that of goods imports price growth: a slowdown from 7.3% in 2000 to roughly 1.0% in the 2002-2003 period.

In conformity with agreements made within the ECB, estimates were based on policy interest and exchange rate levels as they were at the time the analysis was performed. Hence the estimates do not reflect a view on interest or exchange rates. Based on technical assumptions long-term interest rates in Germany and the United States are expected, in 2002, to maintain a level of 4.8% and 4.9%, respectively, and to reach a level of 4.9% in 2003 for both countries.

Domestic assumptions primarily relate to budgetary policy and other public sector areas. An important financial and economic issue is the implementation of the 2001 tax reform, involving considerable net tax relief. The implications of the tax reform for the Dutch economy will be discussed in the next paragraph. Another important factor in the estimates is the set of measures agreed in the Cabinet’s 2001 Spring Memorandum. Thirdly, any deviations from expected revenues are assumed to be reflected in the general government balance. Finally, the consequences of the BSE and foot-and-mouth crises were incorporated in the baseline estimates. By way of illustration, these effects will be discussed in the variants analysis section.

Baseline projection results 2001-2003

Table 2 summarises the main forecast results. Below, we will focus especially on the determinants of economic growth, on employment and on wage and price developments.

The Dutch economy in 2001

In 2001, the Dutch economy, as measured by GDP volume, is expected to grow by 2.5%, which constitutes a sharp fallback compared to the 4% annual economic growth enjoyed in the 1997-2000 period. The considerable slowdown compared to the previous year relates in one part to the weakening international business cycle and in another to domestic factors such as the foot-and-mouth and BSE crises. The economic implications of these livestock disease outbreaks will be discussed in detail in the variants analysis section. Despite the slowdown from last year, economic growth in 2001 is yet expected, at 2.5%, to exceed clearly the increase in GDP volume of 2.0% measured in the first quarter. However, the first quarter’s growth figure paints a somewhat distorted picture because, in anticipation of the 17.5% to 19% VAT rise by 1 January 2001, car sales especially were brought forward in the last quarter of 2000. With car sales ignored, consumption growth in the first quarter would be one and a half percentage points higher. GDP volume growth may yet turn out lower, however, if the world economic situation should deteriorate – for instance if the US economy recovers more slowly than projected. The uncertainties in this field are discussed in the variants analysis section.

For 2001 as a whole, a robust 3.4% volume growth in private consumption is projected, mainly as a result of the strong improvement in households’ purchasing power caused by this year’s tax reform. If this does not match the 1998 and 1999 growth figures of around 4 ¼%, it is both because of statistical distortion on account of anticipation effects and because wealth effects on consumption have evaporated as the strong upward tendency in house pricing appears to have run its course. The same is true of the robust upward movement of the stock markets: many stock prices are now lower than they were twelve months ago.

The growth of corporate investments is falling from 5.1% in 2000 to 0.4% this year, amid a climate of low capital goods stock utilisation, a deteriorating sales out-
look and declining corporate profits. Hence the sharp decline in investments is caused in large part by the downward movement in the business cycle. Other contributing factors include volatile entities such as investments in ships and airplanes, which grew last year by almost 30%, but is expected to show negative growth in 2001. The rise of the goods exports volume (excluding energy) is projected to fall sharply from 10.0% last year to 5.7% in 2001, which figure is 0.8 percentage point below the increase by volume of world trade relevant to the Netherlands. One reason for this is that meat exports are decreasing heavily compared to last year as a result of the foot-and-mouth outbreak. Another is the considerable deterioration of the Netherlands’ international price competitiveness, although partly offset by last year’s strong improvement. Volume growth of

Table 2  Key indicators as forecast by the baseline projection

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demand and production (volume)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private consumption</td>
<td>3.7</td>
<td>3.4</td>
<td>3.6</td>
<td>2.7</td>
</tr>
<tr>
<td>Gross corporate investment (excluding housing)</td>
<td>5.1</td>
<td>0.4</td>
<td>1.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Goods exports (excluding energy)</td>
<td>10.0</td>
<td>5.7</td>
<td>6.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Goods imports</td>
<td>9.9</td>
<td>6.0</td>
<td>5.8</td>
<td>5.5</td>
</tr>
<tr>
<td>Gross domestic product</td>
<td>4.0</td>
<td>2.5</td>
<td>2.9</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Wages and prices</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total wage costs per employee in the market sector</td>
<td>3.3</td>
<td>4.1</td>
<td>3.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Negotiated wage rates per employee in the market sector</td>
<td>4.0</td>
<td>4.8</td>
<td>4.5</td>
<td>3.9</td>
</tr>
<tr>
<td>Consumer price index</td>
<td>2.6</td>
<td>4.5</td>
<td>3.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Ditto, excluding indirect taxes</td>
<td>2.4</td>
<td>3.5</td>
<td>3.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Price competitiveness¹</td>
<td>1.9</td>
<td>-1.3</td>
<td>-0.9</td>
<td>-0.5</td>
</tr>
<tr>
<td>Price level of GDP</td>
<td>3.1</td>
<td>5.7</td>
<td>3.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Real disposable wage income per employee²</td>
<td>0.6</td>
<td>4.7</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Labour market</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment (fte)</td>
<td>2.5</td>
<td>1.9</td>
<td>1.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Labour supply (persons)</td>
<td>1.8</td>
<td>1.5</td>
<td>1.5</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Public sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General government balance (% of GDP)</td>
<td>2.2</td>
<td>0.4</td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Gross debt (year-end, % of GDP)</td>
<td>56.5</td>
<td>52.3</td>
<td>48.2</td>
<td>44.8</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current account (transactions basis; % of GDP)</td>
<td>5.6</td>
<td>5.9</td>
<td>6.3</td>
<td>6.4</td>
</tr>
<tr>
<td>Labour-to-income ratio (percentage)³</td>
<td>83.0</td>
<td>83.3</td>
<td>82.9</td>
<td>83.0</td>
</tr>
<tr>
<td>Capacity utilisation (percentage)</td>
<td>84.6</td>
<td>84.0</td>
<td>84.2</td>
<td>84.1</td>
</tr>
</tbody>
</table>

¹ Change in competitors’ export prices minus the change in export prices (excluding energy).
² Wage drift excluded.
³ Market sector excluding mineral production, real estate operation and public sector.
goods imports is expected to come down from 9.9% last year to 6.0% in 2001 because of slackening growth in both corporate investments and exports. Under the impact of strongly improved terms of trade, the current account surplus, despite diminishing meat exports, will increase to 5.9% of GDP.

The fact that export prices of goods and services are rising considerably faster than import prices (2.9% compared to 1.1%) is explained mainly by two factors. The relatively strong rise of the export price level relates first and foremost to the strong rise in unit wage costs, expressed in the deterioration of international price competitiveness. A second influence is that of energy prices: energy export prices take longer to respond to developments in the international markets than do energy import prices. Considering the movement of oil prices (from an average USD 17.9 for a barrel of Brent crude during 1999 via USD 28.3 in 2000 to USD 26.5 this year), the export price of energy may continue to rise in 2001, whereas import prices are coming down. The strong improvement in terms of trade also explains why the GDP price rise is turning out considerably higher, at 5.7%, than the price rise in domestic spending. The rise of the GDP deflator is almost double that of last year, when it exceeded the 3% level for the first time in 18 years.

The total wage costs per employee rises more strongly in 2001, by 4.8%, compared to last year’s 4.0% rise. The increase is mainly caused by the ever growing tightness on the labour market. The rise in negotiated wage rates is also steeper, at 4.1%, against 3.3% in 2000. The figure for this year is based on already concluded collective wage contracts. Table 3 provides more detailed information on the breakdown of wage costs. From this table it is shown that labour market tightness is also showing up in increasing wage drift, which contributed 1.0 percentage point in the rise in wage costs. The rise in the remuneration per employee is to some extent (0.3 percentage point) held back by the relief in employer-paid social insurance contribution. The growth of labour productivity is much lower this year, at 0.7%, in a clear break with the trend of the past few years. This fall is related to the cyclical slowdown, since it is usual for employment growth to be somewhat slow in responding to production growth. The bottom line is a 4.1% rise in unit wage cost in 2001, more than double the 2000 figure.

Under the impact of lower production growth, employment growth also diminishes, from 2.5% in 2000 to 1.9% this year. This growth is, however, sufficient to make up for the extra labour supply, so that unemployment is coming down by 19,000 to 169,000 persons on average in 2001, a decline in the unemployment rate from 2.6% to 2.3% of the labour force. This means that unemployment will decrease for the seventh year in succession. Concomitantly, the ratio of economically non-active to active persons, dubbed the i/a ratio, is decreasing further this year, turning out at 64.7%.

The inflation rate as measured by the consumer price index (CPI) is taking a steep rise, from 2.6% in the previous year to 4.5% in 2001 (Table 4). Notably, however, the inflation rate would have reached 3.0% last year without the downward distortion caused by the transfer of radio and TV licence fees to the general budget. The rise may also be attributed in no small part to the VAT increase from 17.5% to 19%. This increase, together with the rise in the ecotax, is contributing a full percentage point to the rise of consumer prices in 2001. Imports prices are rising considerably slower this year than in 2000, as reflected by a lower direct contribution of imports prices to the total price increase. However, last year’s strong price increases in imported commodi-

### Table 3  Breakdown of market sector unit wage cost

<table>
<thead>
<tr>
<th>Contributions in percentage points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Negotiated wage rates</td>
</tr>
<tr>
<td>Wage drift</td>
</tr>
<tr>
<td>Employers’ social security contributions</td>
</tr>
<tr>
<td>Total wage costs per employee</td>
</tr>
<tr>
<td>Labour productivity</td>
</tr>
<tr>
<td>Unit wage costs</td>
</tr>
</tbody>
</table>
ties were not entirely factored into consumer prices, as was reflected in heavily decreased profit margins. As part of these commodity price increases will be factored into this year’s prices, gross profit margins are expected to rise in 2001. This pattern illustrates the use of profit margins to absorb strong cost fluctuations, so that these fluctuations do not lead to correspondingly strong fluctuations in consumer prices. The result is that last year’s depreciation of the euro is reflected in this year’s rising CPI. A rise in the price of natural gas contributes 0.3 percentage point to the CPI rise. The reason is the delayed action of 2000 oil price rises on the 2001 price of natural gas. Housing rent and the price of public sector services together contribute 0.6 percentage point. Strongly risen unit wage costs makes a major 1.8 percentage point contribution (double the figure of last year) to the increase of the CPI. The high figure illustrates the risk of a wage-price spiral being set off. Contrary to the 2000 situation, cost increases in 2001 are not being absorbed by corporate profits. Not taken into account in the 4.5% inflation estimate for 2001 are the possible implications of the euro cash changeover. The Bank is conducting a thorough investigation into this matter, reporting its findings so far in the article Risk of substantial price increases due to euro conversion seems limited elsewhere in this Quarterly Bulletin.

Collective sector figures for 2001 show a decline of the government budget surplus according to the EMU definition to 0.4% of GDP. The decline is caused by the absence of UMTS proceeds from this year’s figures and by the relief of direct taxes under the 2001 tax reform. Additional spending as agreed in the 2001 Spring Memorandum has been taken into account. Expressed as a percentage of GDP, the gross debt ratio is strongly declining from 56.5% last year to 52.3% in 2001, wholly as a result of the denominator effect caused by the increase of nominal GDP. This is because the diminishing effect of the fiscal balance surplus on national debt is nullified by the increase caused by, among other factors, financial transactions not expressed in the fiscal balance. One such transaction taken into account by us was the purchase of TenneT shares (0.3% of GDP).

*The Dutch economy in 2002*

Economic growth is expected to accelerate slightly, from 2.5% this year to 2.9% in the next. However, when we adjust these figures for the implications of the foot-and-mouth and BSE crises, which distort growth figures downwardly in 2001 and upwardly in 2002, growth turns out to slow down in 2002. Important for the development of domestic spending in 2002 will be the delayed effect of the 2001 tax reform, causing volume growth of private consumption to remain at a relatively high 3½% level. This is because the 2001 rise in purchasing power due to the tax review of that year will not be fully expressed in extra consumer spending until 2002. Moreover, a statistical distortion by anticipatory effects is also manifesting itself, causing consumption growth to turn out lower this year, and higher in 2002. Important for foreign expenditure in 2002 will be the effect of our country’s deteriorating international price competitiveness, which is forcing down the growth of goods exports. The effect of this is to some extent masked by the resurgence of meat and dairy exports to almost their former level, which will boost the growth of export volume (by circa 0.6 percentage point). Yet the increase in goods exports, excluding energy, will, at 6.2%, still lag slightly behind the increase of relevant world trade. The current account surplus is growing from 5.9% of GDP to 6.2% of GDP, as a result of both volume and price developments in net exports.

Growth in contract wages is slowing down somewhat, from 4.1% this year to 3.7% in 2002. This is made

---

Table 4 Breakdown of consumer price rise

<table>
<thead>
<tr>
<th>Contributions in percentage points</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Imports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finished goods</td>
<td>1.0</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Commodities, energy, services</td>
<td>1.6</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Non-market sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indirect taxes</td>
<td>0.2</td>
<td>1.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Natural gas</td>
<td>0.2</td>
<td>0.3</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Housing rents</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Public sector services</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Wage costs</td>
<td>0.9</td>
<td>1.8</td>
<td>1.3</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Gross margin improvement</strong></td>
<td>-1.6</td>
<td>0.5</td>
<td>0.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Private consumption deflator</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer price index</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ditto, excluding indirect taxes</td>
<td>2.4</td>
<td>3.5</td>
<td>3.1</td>
<td>2.2</td>
</tr>
</tbody>
</table>

1 Including the cost of capital.
possible by lower inflation rates; real contract wages, by contrast, will rise more strongly. Despite the tax relief resulting from the new tax scheme, wage rises will still be robust owing to labour market tightness. Wage drift will contribute 0.8 percentage point to wage costs: the tight labour market forces employers to offer perks such as bonuses and extra wage increments in order to attract new workers and retain current employees. In contrast to the previous year, employers’ social insurance contributions will have no (downward) effect on the total wage costs per employee. Hence the growth of total wage costs per employee will decline by no more than 0.3 percentage point (4.5% in 2002, down from 4.8% this year). As labour productivity is rising by 1.7%, unit wage cost will increase by 2.8%. This, coupled with the delayed effect of this year’s strongly increased wage costs, will cause employment growth to decline further to 1.6%. This in turn will mean the end of the decline in unemployment as measured in persons. According to the MORKMON projections, an average of 171,000 persons will be unemployed in 2002 (2.3% of the labour force). The inactive-to-active ratio will come down to 64.3%.

Inflation in 2002 is expected to come down from 4.5% to 3.1%, largely through the disappearance of the contribution to inflation made this year by indirect taxes. Import price rises will contribute 0.5 percentage point to the rise in the CPI. Increases in natural gas prices, rents and public sector services will contribute 0.2, 0.4 and 0.2 percentage points, respectively, to price rises. Gross profit margins will increase in 2002, contributing 0.4 percentage point to the CPI rise. The contribution of the unit wage cost increase will, at 1.3 percentage point, continue to be considerable. In fact, it will be well above the one percentage point level for the second year running, something which has not happened in even a single year since the so-called Wassenaar Agreement was made (the maximum contribution in the entire 1983-2000 period being 1.1 percentage point).

The general government balance surplus will increase in 2002, from 0.4% to 1.6% of GDP. The increase is due in large part to the tax on capital return, introduced under the 2001 tax reform, of which most of which will first show up on the 2002 EMU fiscal balance. Another major factor contributing to the surplus growth is decreased interest service on debt outstanding. As mentioned at the outset, any and all revenue overshoots are assumed to benefit the fiscal balance. Thus the surplus may turn out lower if overshoots should be used to pay for additional cuts in taxation. The gross debt/GDP ratio is expected to decline further, from 52.3% to 48.2% of GDP, partly as a result of a nominal increase of GDP (the denominator effect).

The Dutch economy in 2003
In 2003, GDP volume growth will decline, from 2.9% to 2.5%. Consumption growth is coming down by a sharp 0.9 percentage point, to 2.7%, owing in part to the ebbing away of the spending impulse caused by the 2001 tax cut. The volume of goods exports (excluding energy) will grow by 6.1%, almost as fast as in 2002. It will still, however, lag behind the growth of relevant world trade, by almost a full percentage point, as a result of a further deterioration in the Netherlands’ price competitiveness. This in turn is caused by an increase in unit wage cost during the 2001-2003 period which clearly exceeds that in competing countries, thus wearing out the competitiveness of the Dutch economy. A closer look at the Dutch economy’s competitive power follows further down in this article. As a general tendency, the growth in total domestic and foreign spending will be slowing down, causing the volume growth of goods imports to decline to 5.5%.

The increase in contract wages will, in 2003, come down 0.6 percentage points from the 2002 figure, to 3.1%. Remuneration per employee will also decline by 0.6 percentage point, to 3.9%. The projected decline of the contract wage increase is linked to slower price rises. Amid continued labour market tightness, real contract wage increases will grow, however, from 0.6% in 2002 to 0.9% in 2003. With labour productivity growth at 1.6%, unit wage costs will rise by 2.3% in 2003, accompanied by a slight increase in the labour-to-income ratio, to 83.0%. Employment growth will continue to slacken, to 1.3%. As labour supply is also growing more slowly, unemployment will rise by only 12,000 persons to 183,000 persons on average, or 2.4% of the labour force. The inactive-to-active ratio is thus declining by 0.1 percentage point, much less rapidly than in previous years, to 64.2% in 2003. This will end the uninterrupted and rapid decline of this ratio since its 1994 peak, by a total of about 15 percentage points. Most of this decline may be put down to strong growth in the participation rate: the number of economically active has risen strongly, whereas the number of economically inactive remained relatively stable. The importance of an increase in labour supply will be discussed further down.

The inflation rate is expected to fall off, from 3.1% in 2002 to 2.2% in 2003. The 2003 CPI rise is caused in large part by a rise in remuneration per employee, which for the third year running will exceed labour productivity.
growth by more than 2 percentage points. Unit wage costs are therefore expected to contribute 1.1 percentage point to the 2003 price rise, and thus to make, again, by far the largest contribution to inflation. The share of import prices will be slightly smaller, at 0.4%. Rises in the price of natural gas, public sector services and rents will make a combined contribution of 0.6 percentage point to the rise of the private consumption price level.

Gross profit margins will be unchanged in 2003, after increasing for two years.

The collective sector balance surplus will improve slightly in 2003, to 1.2% of GDP. Main cause is the decrease in interest charges. Since 1996, the share of interest charges in public spending has come down by 3% of GDP, thanks in part to lower interest rates, but also to a government policy aimed at reducing the public debt ratio. That this is a self-amplifying process is made apparent by the fact that the improvement in the fiscal balance is in the same order of magnitude as the decline in interest charges. Ignoring interest charges, the balance surplus over the 1996-2003 period is expected to rise by only 0.1% of GDP. Amid these developments, the gross debt ratio will continue its steady decrease, from 48.2% to 44.8% of GDP, the denominator effect accounting for 2.2 percentage points. This means that in relation to the 1993 high point, the debt ratio has been almost halved.

Variants analysis

Certain risks attach to the projections described in the previous section. For an open economy like ours, some of these risks depend on developments abroad. Some risks or uncertainties, however, have domestic origins, such as the current labour market tensions. In what follows, we discuss, first, the implications of a later-than-projected recovery in the international business cycle; secondly, the economic effects of the foot-and-mouth and BSE livestock disease crises; thirdly, the implications of a stronger-than-expected increase in unit labour costs and the merits of a stronger growth in labour supply. As already mentioned, the baseline projection results already cover the implications of livestock disease crises. Hence the scenario presented here should be interpreted not as an uncertainty variant but as an illustration of the kind of economic developments which livestock disease outbreaks may cause and which have been taken into account here.

Delayed international recovery

Last year was a year of high-level economic growth worldwide. For the current year, the initial signs seem less buoyant. Economic growth in the United States has come down by more than half and growth projections for Asia and Europe have also been adjusted downward. Amid weakened economic growth, international trade will also develop less favourably than in 2000. The baseline projection assumes a stiff decline in the growth of world trade relevant to the Netherlands, from a high 11% level in 2000 to 6.5% or 7% in the projection period. Even so, the growth in world trade will still be above the long-term average, as is evident from Chart 1. This is partly because in the projection, US GDP volume growth is assumed to regain its rising trend as early as the sec-

**Chart 1  Correspondence between GDP and world trade**

Percentages

![Graph showing correspondence between GDP and world trade](image)

Source: Statistics Netherlands, CBS and DNB.
ond half of this year. Should economic recovery take longer to materialise, then the fall in world trade growth will be more pronounced.

In the scenario that follows, we analyse such a sharper fall in world trade growth caused by delayed recovery of the international economy. We assume that delayed recovery, especially in the United States, will influence the Dutch economy through world trade channel only, thus excluding any confidence or spillover effects in, for instance, the financial markets. If such effects do turn out to play a major role, then the consequences of delayed economic recovery in the US will be greater than presented here. In fact, we have assumed GDP volume growth in the United States to regain momentum not in the second half of 2001, but towards the end of 2002. This would cause US growth to turn out circa 0.5 percentage point lower for the entire year 2001, while for 2002 it would lag 1.5 percentage points behind the 2.5% assumed in the baseline projection. As a result, economic growth in Europe, Asia and the rest of the world will turn out lower, too. Historical evidence suggests that such a world-wide economic scenario could imply a world trade volume by end-2002 that is 6% below the present projection’s baseline assumptions. At the same time, we take into account the effects which such a decline in trade will have on import and export prices of goods, services and energy. The outcome of this scenario is presented in Table 5.

Because under this scenario international economic recovery is delayed, GDP volume growth in the Netherlands will also trail slightly behind the estimates in the baseline projection. As declining foreign expenditure affects the Dutch economy, domestic spending will also, turn out lower, albeit with some delay, with consequences for 2002 and 2003 clearly stronger. In these years, GDP volume will be 0.5 and 0.4 percentage points, respectively, below the baseline projection results. Lower production growth will lead to higher unemployment so that ultimately lower economic growth will lead to temperance in the rise of remuneration per employee. As a result of all these developments, the inflation rate in 2002 and 2003 will also turn out lower.

### Foot-and-mouth disease and BSE

Towards the end of 2000, many consumers in continental Europe cut back strongly on beef consumption in connection with the outbreak of mad cow disease (BSE). Although beef consumption in the Netherlands has seemed to hold its own fairly well, Dutch meat exports do feel the consequences of this development. In March of this year, however, another virus much more damaging to meat exports appeared on the scene in a number of countries including the Netherlands, in an outbreak of foot-and-mouth disease. Since this is a highly contagious disease – against which livestock has not been vaccinated – drastic measures were taken on discovery of its breaking out. Transport of and trade in farm animals was largely suspended. In some high-risk areas, the movement of persons was restricted as well, with adverse effects on the tourist and catering industries.

With its large factory farming industry, the Dutch economy is relatively sensitive to outbreaks of animal diseases. The statistical research bureau, Statistics Netherlands, has calculated that the 1997 outbreak of swine fever in the Netherlands had a direct negative impact of 0.3 percentage point on economic growth. The fact that meat exports largely recovered in May and the partial lifting of livestock transportation bans, however, raised hopes for a speedy conclusion of the foot-and-mouth crisis in the Netherlands. Yet it is too early to state the exact extent of the economic damage done by the crisis, if only because it is unclear for how much longer the consequences are going to make themselves felt.

Nevertheless, Table 6 presents a macroeconomic scenario designed to calculate the combined effect of both livestock disease outbreaks. The baseline projection takes this estimate of the economic effects into account, assuming, for this year, meat exports falling 37.5% and dairy exports falling 25%. We have also assumed that the BSE crisis has permanently damaged

---

**Table 5 Effects of slower world trade growth**

<table>
<thead>
<tr>
<th>Effects in year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered unemployment¹</td>
<td>-0.8</td>
<td>-3.8</td>
<td>-1.5</td>
</tr>
<tr>
<td>Growth of wage per employee (market sector)</td>
<td>0.0</td>
<td>-0.3</td>
<td>-0.4</td>
</tr>
<tr>
<td>Inflation rate</td>
<td>1.7</td>
<td>14.9</td>
<td>34.5</td>
</tr>
</tbody>
</table>

¹ Level, x 1,000 persons.
foreign consumer confidence in beef, resulting in meat exports remaining, even after the foot-and-mouth problems are over, 7.5% below the level expected if these problems had not happened. Despite minimal effects found so far, we have assumed meat consumption in the Netherlands to decrease by \( \text{N} \text{GL} 0.5 \) billion in 2001.

Negative effects on the tourist and catering industries were also put at \( \text{N} \text{GL} 0.5 \) billion in 2001. Since the onset of the foot-and-mouth outbreak, meat prices have risen more rapidly than the prices of other products. In our calculations, we have assumed that meat prices will turn out 5% higher this year than they would have been if the outbreak had not happened.

Based on these assumptions about the consequences of the foot-and-mouth disease, its negative impact on the Dutch economy in 2001 turns out to be not negligible. In this scenario, GDP volume growth will turn out 0.4 percentage point lower – a plausible figure. A recent, provisional and rough estimate by the Netherlands Bureau for Economic Policy Analysis (CPB), also assuming that the foot-and-mouth crisis is now ending, has economic growth turning out 0.3 percentage point lower. Earlier, more pessimistic calculations by the Bank, under the assumption that the foot-and-mouth outbreak would take longer to subdue, indicated damage twice as large (see the DNB annual report 2000, p. 28).

The Netherlands’ competitive strength: developments of wages and labour supply

In recent years, the Netherlands has become used to economic prosperity. Wage restraint and strong growth in the labour supply have acted as protagonists in this success story. Both, however, are now coming under great pressure. Present inflation figures (4.9% in May) carry the risk that a wage-price spiral is set off, leading to crumbling competitiveness. The risk is the more acute since, as a result of the demographic composition of the labour force, the growth of labour supply will fall sharply unless extra efforts are made.

Miracle ‘Polder model’ under siege

The very satisfactory economic performance of the past decade was made possible, in part, by the system of tripartite consultations by employers, employees and the government, as symbolised by the so-called Wassenaar Agreement. The Netherlands have for many years reaped the rewards of the wage restraint observed since the early nineteen eighties. Almost throughout the 1983-1995 period, employers’ unit labour costs in the Netherlands rose less steeply than those in its closest trade partner, Germany, as appears from Chart 2. This is one of the reasons why Dutch GDP volume has for

Table 6 Economic effects of livestock diseases

Effects in percentage points unless otherwise stated

<table>
<thead>
<tr>
<th>Effects in year</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assumptions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat products exports volume(^1)</td>
<td>-37.5</td>
<td>-7.5</td>
<td>-7.5</td>
</tr>
<tr>
<td>Dairy products exports volume(^1)</td>
<td>-25.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Consumer spending (NGL billions)</td>
<td>-0.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Tourism spending (NGL billions)</td>
<td>-0.5</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Meat prices (^1)</td>
<td>5.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>MORKMON forecast</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP volume growth</td>
<td>-0.4</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Private consumption volume growth</td>
<td>-0.3</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Goods and services exports volume growth</td>
<td>-0.8</td>
<td>0.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Goods and services imports volume growth</td>
<td>-0.6</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>Registered unemployment (^2)</td>
<td>7.9</td>
<td>10.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Inflation rate</td>
<td>0.1</td>
<td>-0.2</td>
<td>-0.1</td>
</tr>
</tbody>
</table>

\(^1\) Percentage deviation from base.

\(^2\) Level, x 1,000 persons.
years increased more rapidly than its German counterpart (Chart 2). In recent years, the polder miracle from the Netherlands has been made an example in many a foreign country, just as the Dutch disease had been the bogey of economists abroad in the early ’eighties. Now that circumstances have changed completely, the polder model is increasingly coming under siege. Since 1996, the wage cost advantage built up in previous years has to a significant extent evaporated. The same applies, by and large, if the Netherlands is compared to the euro area as a whole. The competitiveness of the Dutch economy is being harmed by these developments, which cannot fail to impact exporters’ international price competitiveness and hence market share.5

Adjustment processes and ambitions
In part, the ups and downs of unit labour costs sketched above are determined by the laws of economic development. In the early nineteen eighties, the Dutch economy had limited adaptability. Hence the Netherlands...
In very little time unemployment soared to record highs, so that wage restraint was, in a manner of speaking, forced on the country. Thus in the fall of 1982, the so-termed Wassenaar Agreement was closed. Now, the Dutch economic outlook has radically changed. Record numbers of unfilled vacancies indicate that labour demand is exceeding effective supply. In a climate like this, the laws of economic development demand a rise in the price of labour. Against a background of a generous – for the particular Dutch situation – monetary and budgetary policy, the price of labour acts, so to speak, as a valve which by lowering competitiveness allows economic pressures to dissipate. Thus one might say that sharp wage increases are the price the Netherlands is paying for labour market tightness. This is regrettable, considering the permanent high level of economic inactivity, and it would show lack of ambition if it should be looked upon as merely an inevitable consequence of the Dutch economy’s overheating. Activating the dormant labour potential, however, is primarily a matter of patience and perseverance. In the short run, therefore, care should be taken that adjustment processes caused by labour market tightness do not overshoot their mark, resulting in a hard landing of the economy. The high level of inactivity and the adjustment processes are discussed in the next paragraphs.

Labour potential

The present tightness in the labour market offers excellent opportunities to take an important step forward in regard to the reservoir of persons who are partly involuntarily economically inactive. Some 3.5 million persons in the 15 to 64 years’ age bracket are, at present, not considered by Statistics Netherlands as belonging to the labour force. This group includes persons who enjoy full-time education (mainly the young), recipients of disablement insurance benefits, those enjoying social assistance benefits or early retirement pensions and those living on private incomes or their partners’ earnings. According to a survey held by Statistics Netherlands, Enquête beroepsbevolking, as many as 700,000 persons in the non-labour force groups have a basic willingness to work. A large proportion of these persons falls outside the usual definitions of unemployment. A too narrow focus on unemployment figures in discussions about labour market tightness is keeping the reservoir of potential workers from view.

Consequences of excessive wage rises

Activating the existing dormant labour potential will take time, but employers and workers feel the constraints of the labour market now. Soaring wages, however, eat into the creation of new jobs and hence the job opportunities of the groups of inactive persons referred to above. Illustrating the consequences of more sharply

<table>
<thead>
<tr>
<th>Assumption</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth of wage per employee (market sector)</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Table 7  Decline in competitiveness**

Effects in percentage points unless stated otherwise

<table>
<thead>
<tr>
<th>Assumption</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP volume growth</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Exports volume growth¹</td>
<td>-0.1</td>
<td>-0.1</td>
<td>-0.1</td>
<td>-0.2</td>
</tr>
<tr>
<td>Consumption volume growth</td>
<td>0.1</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Employment growth</td>
<td>0.0</td>
<td>-0.2</td>
<td>-0.2</td>
<td>-0.3</td>
</tr>
<tr>
<td>Registered unemployment²</td>
<td>4.6</td>
<td>16.3</td>
<td>33.4</td>
<td>54.3</td>
</tr>
<tr>
<td>Inflation rate</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
</tr>
</tbody>
</table>

¹ Goods and services.

² Level, x 1,000 persons.
rising unit wage cost, Table 7 presents the effects of a single percentage point extra annual rise in the remuneration per employee. It is shown that wage rises trigger substantially higher inflation. The price rises result in lower export volumes caused by deteriorating international price competitiveness. Offsetting this is an increase in consumer spending owing to improved purchasing power. On balance, GDP will come down. This simulation also shows that high wage rises slow down job creation. Although this may quickly end the tensions on the labour market amid the currently projected decline in growth, it is an undesirable course of events and an opportunity lost for those who would like a paid job but for one reason or another are unable to make the switch right now.

**Encouraging labour supply**

The growing tensions on the labour market may be relieved by increasing effective labour supply. For the success of the past decade could only materialise thanks to a combination of wage restraint and a sharp increase in labour supply. Since 1987, the annual growth in labour supply has averaged 1.8%, which is considerably more than the rate at which the population between ages 15 and 64 increased (0.5% per year, on average). During these years, then, the non-working population came down by about 800,000 persons to the 3.5 million persons, as is shown by Chart 4. At the same time, the participation rate rose by 10 percentage point to 67% in 2000, and is expected to continue upward to 69% in 2003.

Table 8 shows the effects of a stronger rise in participation, by an extra 0.2% annually. The extra labour supply will swell the working population, and at the present level of labour demand, unemployment will initially rise, so that wage restraint will, in a sense, be enforced by the market. Under the influence of job creation and the concomitant improvement in competitiveness, economic growth will turn out higher and the additional labour supply will, with some delay, be absorbed. In the longer run, employment will be unaffected. But on balance, there will be more economic growth, lower inflation rates and a decline in the number of economically inactive persons. The inflation rate will turn out roughly 0.5 percentage points lower, while the economy will grow 0.2 or 0.3 percentage points faster, on average.

This scenario thus demonstrates the economic and social advantages of a policy firmly aimed at encouraging labour supply. The government has already taken several initiatives in this direction. First, this year’s tax review has made working more attractive in relation to not-working. Secondly, the Disability Act emendations made in 1994 have been found by Statistics Netherlands to have had clear positive effects on labour supply, spread evenly over a number of years. Recently, a research commission led by Prof. Donner has published a report containing ideas to further curb the growing number of persons on disabled benefits. Finally, facilities created by the government, such as health care leave or incentives to establish daycare centres also aim to encourage labour participation. According to the Netherlands Bureau for Economic Policy Analysis (CPB) all these policy measures combined have effected a rise in labour supply of 0.4 or

---

**Chart 4: Population and labour force**

Thousands of persons (ages 15-64)

Source: Statistics Netherlands and DNB.
0.5 percentage point on a yearly basis. No amount of measure-taking, however, is expected to prevent the aging of the population from pushing down the growth of labour supply to around 1% a year. These simulation results thus illustrate the importance of a policy firmly focused on education, incentives and terms of employment so as to encourage labour participation.

Conclusions

In the years 2001-2003, according to the MORKMON model, the Dutch economy will enter a period of relative calm. After a few years of buoyant economic growth in the 4% region, growth will fall back to 2.5% this year, to which figure it will return in 2003, after 2.9% growth in 2002. Considering a not unfavourable development in world trade and a robust purchasing power injection of some NLG 8 billion in this year, these are modest growth rates, caused in part by the declining international competitiveness resulting from an expected rise in unit labour costs far greater than those in competing countries.

The rise is also reflected in the projected inflation rates, which will be sharply higher throughout this period than the expected figures for the euro area as a whole. Inflation is, for this year, projected to reach a peak at 4.9%, reflecting the influence of one-off events such as the VAT and ecotax increases, but also the delayed effect of both the rise in oil prices and the declining euro exchange rate which occurred last year. Nevertheless, there is a risk that the – for the Netherlands – unusually high inflation figures (4.9% in May, compared to 2.1% on average over the past 20 years) set off a wage-price spiral. This would boost inflation in 2002 and 2003 to levels well above the respective 3.1% and 2.2% currently projected, resulting in a further decline in competitiveness and possibly a hard landing for the Dutch economy.

That would be a regrettable outcome, considering the continued high level of involuntary economic inactivity in the Netherlands. Various policy measures have, according to estimates of the Netherlands Bureau for Economic Policy Analysis, already speeded up the growth of labour supply over a number of years, by an extra half of a percentage point. The long-term effect which these measures have had on labour supply growth will continue to be felt in the coming years. Despite this successful policy, however, the problems and risks described, and the fact, for instance, that 700,000 economically inactive persons of working age have indicated a willingness to accept paid jobs, indicate that a policy focussing even more firmly on education, incentives and employment terms would be welcome.

Table 8  Labour supply encouragement
Effects in percentage points unless stated otherwise

<table>
<thead>
<tr>
<th>Assumption</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour participation rate (level)</td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>MORKMON forecast</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP volume growth</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Employment growth</td>
<td>0.0</td>
<td>0.0</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Registered unemployment(^1)</td>
<td>23.2</td>
<td>39.0</td>
<td>44.1</td>
<td>42.5</td>
</tr>
<tr>
<td>Growth of wage per employee (market sector)</td>
<td>-0.2</td>
<td>-0.8</td>
<td>-1.0</td>
<td>-0.7</td>
</tr>
<tr>
<td>Inflation rate</td>
<td>-0.2</td>
<td>-0.5</td>
<td>-0.6</td>
<td>-0.5</td>
</tr>
</tbody>
</table>

\(^1\) Level, x 1,000 persons.
market squeeze is felt now, giving rise to sharp wage increases eating away at non-active persons’ labour market opportunities. However, activating a significant part of the dormant labour potential will take time. If the timing problem can be solved, there will be ample opportunity in the coming years to continue low inflation combined with rapid economic growth. As this requires efforts on the part of employers, employees and the government, this task may rightly be termed the ultimate challenge of the polder model.

1 See the economic projections for the euro area compiled by ESCB staff and published in the ECB Monthly Bulletin of June 2001.
2 The new Dutch tax law assumes a fixed annual return on capital of 4%, which is taxed at a 30% rate.
3 The Netherlands are not unique in this: the adverse effects of BSE and foot-and-mouth on economic growth in Ireland and the United Kingdom may run to 1 and 0.3 percentage points, respectively, says the OECD in its Economic Outlook.
4 According to estimates by the Landbouw Economisch Instituut (LEI), exports could be affected to an amount of NLG 12 billion in 2001. Our own exports estimates work out at roughly half that amount. See the report MKZ, Quick scan economische gevolgen, Landbouw Economisch Instituut, 16 March 2001.
5 According to OECD estimates, unit labour costs will rise almost 4 percentage points faster than those for the euro area. By way of reference, the effects on growth and inflation were projected for unit labour costs running in parallel with those for the euro area. The benefits would be significant: up to almost half a percentage point faster growth, with an inflation rate almost a full percentage point lower, in the second year. See also the DNB Annual Report 2000, page 27.
No. 60 Underlying Inflation Measures in Spain
L.J. Álvarez and M.L.L. Matea

Applying the concept of underlying inflation can be thought of as an attempt to capture the general trend in inflation more accurately than with readily available data on headline inflation. In this paper a number of approaches to the analysis of underlying inflation are examined from a unifying standpoint, stressing their complementary nature, and empirical results are presented for the Spanish economy. Different measures differ from each other in the information set which is considered to be relevant for estimating the underlying rate of inflation. We first examine the simplest of the procedures that amounts to ignoring price developments in the most volatile sub-components of the CPI and then consider limited-influence estimators that take advantage of the information contained in the cross-sectional distribution of individual prices. Statistical methods of extracting the trend component of inflation are also discussed. Finally, measures that allow for the interplay of other economic variables are considered.

Keywords: core inflation, Spanish inflation, trimmed means, structural VAR, underlying inflation.

JEL Codes: C4, E3.

No. 61 The Use of Robust Estimators as Measures of Core Inflation
L. Aucremanne

This paper examines robust estimators of core inflation for Belgian historical CPI data, and for euro area Harmonised Indices of Consumer Prices. Evidence of fat tails in the cross-sections of price changes is provided by traditional measures, as well as by a robust measure of the tail weights that is not vulnerable to the masking phenomenon. Trimmed means are considered in the first instance. We introduce a new estimator where the optimal trimming percentage is the lowest percentage for which the hypothesis of normality of the trimmed samples cannot be rejected on the basis of the Jarque-Bera statistic. Two variants are considered one with a constant and one with a time-varying optimal trimming percentage. The latter has a higher breakdown point. Symmetric and asymmetric trimming are considered as well. Another robust estimator, the one-step Huber-type skipped mean, which is less vulnerable to the masking phenomenon, is also examined. It is shown that the robust estimators outperform the traditional core inflation measures found in the literature. However, as traditional measures, they lag rather than lead observed inflation. This was particularly so in the 70s and the 80s when the oil price shocks had substantial second-round effects on Belgian inflation.

Keywords: Inflation, Core inflation, Relative prices, Robust estimators of central tendency.

JEL codes: C43, E31, E52.

No. 62 Asset Prices in the Measurement of Inflation
M.F. Bryan, S.G. Cecchetti and R. O’Sullivan

The debate over including asset prices in the construction of an inflation statistic has attracted renewed attention in recent years. Virtually all of this (and earlier) work on incorporating asset prices into an aggregate price statistic has been motivated by a presumed, but unidentified transmission mechanism through which asset prices are leading indicators of inflation at the retail level. In this paper, we take an alternative, longer-term perspective on the issue and argue that the exclusion of asset prices introduces an ‘excluded goods bias’ in the computation of the inflation statistic that is of interest to the monetary authority.

We implement this idea using a relatively modern statistical technique, a dynamic factor index. This statistical algorithm allows us to see through the excessively ‘noisy’ asset price data that have frustrated earlier researchers who have attempted to integrate these prices into an aggregate measure. We find that the failure to include asset prices in the aggregate price statistic has introduced a downward bias in the U.S. Consumer Price Index on the order of magnitude of roughly 1/4 percentage point annually. Of the three broad assets categories considered here – equities, bonds, and houses – we find that the failure to include housing prices resulted in the largest potential measurement error. This conclusion is also supported by a cursory look at some cross-country evidence.
No. 63 Performance of Core Inflation Measures
C.K. Folkertsma and K. Hubrich

This paper assesses the performance of core inflation measures based on the structural VAR approach. Since core or monetary inflation is not directly observable, we develop a monetary general equilibrium model that fits real aggregated European data and use this model to generate time series for headline as well as core inflation. For five different schemes which attempt to identify core inflation within a VAR framework it is investigated whether the estimated core inflation series recover the true series sufficiently precise in order to be useful for monetary policy.

Keywords: SVAR-models, core inflation, stochastic general equilibrium model, Monte-Carlo simulation.

JEL Codes: E31, C32, C15.

No. 64 Asset Prices, Monetary Policy and Macroeconomic Stability
H. Genberg

Prepared for the conference on ‘Measuring Inflation for Monetary Policy Purposes’, organized by De Nederlandsche Bank, Amsterdam, November 21-23, 2000. This paper draws heavily on a book written together with Stephen Cecchetti. John Lipsky, and Sushil Wadhwani [Cecchetti, Genberg, Lipsky, and Wadhwani (2000)]. Their indirect contribution to this paper should therefore be obvious. At the same time, opinions expressed in this paper that are not contained in the book should not be construed to represent their views.

No. 65 What Weight Should be Given to Asset Prices in the Measurement of Inflation?
C. Goodhart

Besides the theoretical (Alchian/Klein, 1973) case for including asset prices in measures of inflation, there is also a practical case, that some asset prices, notably housing, are closely associated with the main trends in inflation, and via ‘bubbles and busts’ with output disturbances. Attempts to use the pure Alchian/Klein methodology in practice give excessive weight to unstable asset prices, but there are more appropriate weighting schemes, derived either from econometrically measured relationships or from final expenditures. Either way, the statistical treatment of housing is crucial, and is being discussed in Eurostat.

Keywords: Inflation, Asset Prices, Housing, Price Indices, Inflation Targets.

JEL Codes: E3, E4, E5, G0.

No. 66 Evaluating Core Inflation Indicators
C.R. Marques, P.D. Neves and L.M. Sarmento

This paper proposes testable conditions that core inflation measures should satisfy. Trend inflation indicators calculated by Banco de Portugal are tested against this background. The major conclusion is that the so-called ‘underlying inflation’, the ‘10% trimmed mean’, and the ‘25% trimmed mean’ do not meet the proposed conditions. However, they are satisfied by the ‘37-month centred moving average’, the ‘first principal component’ and the ‘standard deviation weighted CPI’ indicators. Yet, only the last two indicators can be used as useful core inflation measures, as the first one is not computable in real time.

Keywords: core inflation measures, trimmed mean.

JEL Codes: E31, C4.

No. 67 Core Inflation and Monetary Policy
M. Nessén and U. Söderström

What are the implications of targeting different measures of inflation? We extend a basic theoretical framework of optimal monetary policy under inflation targeting to include several components of CPI inflation, and analyze the implications of using different measures of inflation as target variable – core inflation, CPI excluding interest rates, and headline CPI inflation. Our main results are the following. (i) Barring the interest rate component, temporary shocks to inflation do not affect optimal monetary policy under any regime. (ii) Indirect (second-round) effects of disturbances on goal variables need to be accounted for properly. Simply excluding seemingly temporary disturbances...
from the reaction function risks leading to inappropriate policy responses. (iii) It may be optimal to respond to changes in one measure of inflation even if the target is defined in terms of another. (iv) The presence of the direct interest rate component in the CPI tends to push optimal monetary policy in an expansionary direction. The net effect, considering also the traditional channel, however, depends on the nature of the initial disturbance.

*Keywords: Inflation targeting, underlying inflation, CPI, CPIX.*

*JEL Codes: E50, E52, E58.*