

BANK OF GREECE

# MONETARY POLICY

2001 - 2002



MARCH 2002



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REPORT ON  
MONETARY  
POLICY  
2001-2002



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## To the Greek Parliament and the Council of Ministers

The present Report on Monetary Policy is submitted to the Greek Parliament and the Council of Ministers, as required by the Statute of the Bank of Greece. The Report examines and assesses monetary developments and the course of the economy in 2001, the first year of Greece's participation in the euro area. It also refers to the launching, as of 1 January 2002, of the euro banknotes and coins, which marked the final stage of the introduction of the single currency. Finally, it estimates the economic outlook for the euro area and Greece in 2002.

The Report provides a detailed account of money, credit and capital market developments, the course of inflation and economic activity in the euro area and Greece, as well as the state of the world economic environment in 2001, a year that was marked by a slowdown in economic growth in the euro area and worldwide. This slowdown, however, had only limited repercussions on the Greek economy. Towards the end of the first half of 2001, the annual rate of inflation began to subside in the euro area as a whole and in Greece, even though the average annual rate of inflation was higher in both cases than in 2000.

The year 2001 was also the second year of implementation in Greece of the Eurosystem's single monetary policy, whose primary objective is to achieve and maintain price stability in the euro area over the medium term. So long as the achievement of this objective is not jeopardised, this policy also supports the general economic policy targets of the European Union. The single monetary policy is formulated by the ECB Governing Council, of which the Governor of the

Bank of Greece is a member, and is implemented by the euro area national central banks. The Report analyses the monetary policy that was conducted from January 2001 through early March 2002 and deals extensively with the shift in monetary policy stance since last May.

The introduction of the euro area banknotes and coins in Greece and the concurrent withdrawal of the drachma were very successful. The new currency was readily accepted by the public, as shown by the large volume of transactions carried out in euro from the very first days of the changeover. By end-January, euro banknotes represented 74% of the banknotes in circulation in Greece, compared with an average 68% in the euro area. By 28 February, the last day of the dual circulation period in Greece, some 2.7 trillion drachmas (or 90% of the drachmas in circulation at the end of 2001) had been withdrawn from circulation. As mentioned above, the preparation and successful realisation of the changeover in Greece and the contribution of the Bank of Greece are described in detail in a separate chapter.

With regard to the economic outlook for 2002, economic activity in the euro area is expected to gradually recover, while inflation is projected to decrease and remain below 2%. Turning to Greece, the present Report concludes that inflation will decrease slightly this year, but will continue to exceed the euro area average. The rate of economic growth, though expected to slow marginally, will remain considerably higher than the euro area average, thus leading to further real convergence. Last, the Report discusses

how the fiscal and structural policy mix, on the one hand, and the behaviour of the social partners, on the other, can help ensure price stabil-

ity and speed up real convergence, which remains Greece's primary economic objective.

Athens, March 2002

Lucas Papademos  
Governor

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# I. Summary

The Eurosystem's single monetary policy,<sup>1</sup> implemented in Greece since early 2001, aims primarily at maintaining price stability in the euro area as a whole over the medium term. The European Central Bank (ECB) maintained its key interest rates unchanged during the first four months of 2001, as inflationary pressures remained relatively strong and the Governing Council judged that risks to price stability had not been eliminated. In the period from the beginning of May until the beginning of November the ECB lowered its key interest rates on four occasions, by a total of 150 basis points. Following the last adjustment, the minimum bid rate on banks' main refinancing operations stood at 3.25%, the marginal lending facility rate at 4.25% and the deposit facility rate at 2.25%. This change in the stance of the single monetary policy was based on the assessment that monetary developments did not signal risks to price stability over the medium term, on a drop in inflation from June and on an improved outlook that inflation would continue to fall to a level below 2%. A deceleration of the growth rate of economic activity and wage restraint were also taken into account. From the beginning of November 2001 until early March 2002 the ECB did not change further its key interest rates, judging that their level was consistent with maintaining price stability over the medium term.

Cuts in the key interest rates of the ECB and market expectations concerning the evolution of short-term interest rates caused a significant drop in money market rates as well as bank rates during 2001. Yields on long-term securities followed a generally downward course until October, but then started to rise. The yield curve therefore became steeper, as uncertainty stemming from

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<sup>1</sup> The Eurosystem consists of the European Central Bank and the national central banks of the European Union Member States that have adopted the euro.

the 11 September events subsided and, at the same time, market expectations concerning the outlook for global economic recovery improved.

After March 2001, the annual growth rate of M3 accelerated significantly in the euro area and reached 7.6% in the last quarter of 2001, from 4.2% in the last quarter of 2000. This was mainly due to the transfer of funds to assets included in M3, owing partly to the decline in the differential between interest rates on securities not included in M3 and yields of M3 components. It was also due to increased uncertainty in stock markets, particularly after the 11 September terrorist attack, as well as to larger cash holdings for transactions (owing to price increases in the previous period). Falling uncertainty in stock markets and rising differentials between long-term and short-term interest rates towards the end of 2001 helped to contain the growth rate of M3 in December 2001 and January 2002. Moreover, a sustained deceleration of credit expansion to the private sector (the rate fell to 6.9% in the last quarter of 2001, from 10.5% in the last quarter of 2000) was observed in 2001, underpinning the assessment that monetary developments did not imply inflationary risks in the medium-term.

As regards monetary developments in Greece, the annual growth rate of money, which is the Greek component of M3 in the euro area, slowed gradually to 6.7% in the fourth quarter of 2001, from 12.8% in the last quarter of 2000, mainly owing to the slowdown in credit expansion. Despite its significant decline, the growth rate of M3 in Greece exceeded that of the euro area up to and including August 2001. This development largely reflected higher credit expansion in Greece relative to the euro area. The M3 rate of increase in Greece accelerated to 9.9% in December, as the repayment of Greek government bonds, together with the absence of new

issues in this month, caused an expansion of private deposits. This rate returned to previous levels in January 2002 (6.8%).

Bank rates in Greece continued to converge towards euro area rates in 2001, while they were affected also by cuts in ECB rates. The weighted average of deposit and repo rates fell by almost 2 percentage points, while that of lending rates fell by about 2.5 percentage points. Consequently, the differential between lending and deposit rates decreased further during 2001, reflecting stronger competition and the greater effectiveness of bank intermediation.

Total credit expansion decelerated significantly in 2001 (to 15.9%, from 20.2% in 2000). This is attributed to a limited increase in credit to general government (2001: 10.7%, 2000: 15.9%), as well as a small deceleration of the annual growth rate of bank loans to businesses and households (2001: 24.8%, 2000: 27.6%). However, the fact that credit expansion to companies and households was at a high level in 2001 was due to a relatively sharp drop in interest rates. The continued high growth rate of economic activity and limited fund raising through the Athens Stock Exchange (ASE) also contributed to strong demand for bank loans. On the supply side, high credit expansion was facilitated to some extent by the gradual release (following the harmonisation in 2000 of the Bank of Greece reserve requirement regime with that of the Eurosystem) of a substantial amount of bank deposits with the Bank of Greece. Loans to businesses increased by 18.6% in 2001, a lower rate than in 2000 (24.9%), while housing and consumer loans to households increased at a very high and accelerating rate in 2001 (40%, 2000: 34.8%). Loans to households reflect both the drop in interest rates and strong competition between banks in these particular areas. At the end of 2002, the outstanding bal-

ance of loans to households represented 18% of GDP, compared with 13.8% in 2000.

Euro banknotes and coins were put into circulation on 1 January 2002. The process of introducing the single European currency was thus completed and a new monetary environment was established, which is expected to have a favourable effect on stability conditions and development prospects throughout the euro area. The changeover to the euro went smoothly, since the people became familiar with the new banknotes and coins quite soon and the national currencies were withdrawn mostly before the end of the dual circulation period (which was different for each country). Greece, with only one year at its disposal until the date of circulation of the new currency (compared with three years for the other 11 euro area countries), completed the necessary preparations in time, thereby making the changeover to euro banknotes and coins an absolute success. The introduction of the euro proceeded rapidly and the bulk of transactions were already being conducted in euro before the end of January 2002, while a lot of the drachmas had been withdrawn. By the end of the dual circulation period, on 28 February, almost 90% of the drachmas in circulation on 31 December 2001 had been withdrawn. Finally, in the euro area as a whole, as well as in Greece, circulation of the single currency and pricing of goods and services in euro had a slight upward effect on consumer prices, which is estimated not to have exceeded 0.1-0.2% in January.

\* \* \*

The overall upward trend of inflation in the euro area since autumn 1999 was reversed during 2001 and the Harmonised Index of Consumer Prices (HICP) rose by 2.0% in December. The average annual rate of HICP inflation accelerated slightly to 2.5%, from 2.3% in 2000. From an aver-

age 3.4% in 2000, the annual GDP growth rate in the euro area kept falling during 2001 and stood at 1.5% for the year as a whole. There are indications, however, that economic conditions ceased deteriorating by the end of the year.

Average annual HICP inflation in Greece was 3.7% in 2001. Average annual CPI inflation reached 3.4%, slightly higher than in 2000 (3.2%). Annual CPI inflation accelerated until June 2001, then fell steadily until November (2.4%). In December 2001 and January 2002 inflation rose sharply (mainly because of a very steep rise in the prices of fresh fruit and vegetables, which was due to bad weather conditions, as well as an increase in fuel prices) to 3.0% and 4.4%, respectively, but then fell to 3.4% in February. The average annual level of core inflation rose noticeably in 2001, but began to decelerate after July and reached 3.1% in February 2002, the lowest level since November 2000.

The fact that inflation in Greece remained at relatively high levels in 2001 is mainly due to indirect and lagged effects that the rise in international oil prices and the simultaneous drop in the euro and drachma exchange rates in 2000 had on the prices of goods (other than oil) and services. To a lesser extent, the relatively high level of inflation is associated with a slight pick up of the growth rate of unit labour costs in the corporate sector in 2001. Moreover, while a decrease in lending and deposit rates owing to the transition to the single monetary policy had a marked expansionary effect on demand, it did not seem to make an overall contribution to the increase in inflationary pressures (though it may have prevented them from falling). This is because, on the one hand, a considerable part of the increase in consumer demand was channelled to imported products and, on the other hand, the favourable impact of growing import price competition partly offset the

effect of credit expansion and low interest rates on total demand and prices.

According to recent provisional NSSG estimates, GDP increased by 4.1% in 2001 (same as in 2000). The increase was achieved notwithstanding the effects of the September events on Greek exports and tourist activity, as well as on the confidence climate and, through that, on domestic consumer and investment demand during the last four months of 2001. Available short-term indicators suggest that in 2001 the annual rate of increase in private consumer demand remained at high levels, albeit lower than in 2000. During the year, however, private consumption fell from a particularly high level in the first two months to its lowest level in October, and recovered in November. The growth rates of secondary production, exports and imports of goods, as well as – according to anecdotal evidence – certain investment categories showed stronger deceleration. On a whole, investment demand is estimated to have grown at a slower pace than in 2000. Nevertheless, the unemployment rate fell and the number of salaried workers increased.

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The inflation outlook for 2002 is favourable in the euro area, although the annual rate of HICP inflation reached 2.7% in January this year, which was almost entirely due to factors considered to have a temporary effect. On the basis of some assessments and assumptions, the ECB expects that inflation will drop below 2% this year and will remain at levels consistent with price stability. In particular, the ECB estimates that monetary conditions still do not signal imminent or medium-term risks to price stability. Moreover, it is assumed that average annual oil prices will fall and that the average annual level of other raw material prices will remain almost unchanged in

the world market. At the same time, in order to keep inflation in the euro area below 2% in the medium-term, the Governing Council of the ECB assumes that – apart from the self-evident contribution of the single monetary policy, which aims primarily at ensuring price stability – it is necessary for collective bargaining to result in agreements based on wage restraint. Furthermore, the Governing Council of the ECB expects Member States to stay focused on fiscal targets, that is, to avoid excess deficits and to reduce public debt, which means that the budgetary position has to be close to balance or in surplus in the medium-term. Finally, the importance of rapid and decisive promotion of basic structural reforms is emphasised, which will enhance productivity and the dynamics of economic development in the euro area. Since the fundamentals of the European economy remain robust in general, financing conditions for households and corporations are favourable and the boosting of real income (owing to the recent as well as the expected fall in inflation) will support aggregate demand, the GDP growth rate is forecast to accelerate gradually during 2002 and the ECB estimates that it will reach about 2.5% in the last quarter. According to estimates by international organisations, the average annual growth rate of euro area GDP will be 1.2-1.4% in 2002.

In Greece, the adverse effects of external factors on Greek exports and on the domestic economic climate may be largely offset by the favourable impact of other factors. In the first place, available short-term indicators show that the effects of the September events on the Greek economy were temporary. This fact, without stopping the deceleration trend observed during 2001, supports the estimate that the slowdown will be limited, although it may continue. This estimate is also supported by other factors, such as favourable bank credit conditions for households and corpo-

rations, the expected sharp increase in private and public investment (connected to receipts from the 3rd Community Support Framework and preparations for the 2004 Olympic Games) and, finally, the positive effects of the tax measures package announced by the government in November on consumer and investment demand, as well as on competitiveness. Having regard to the above, the Ministry of Economy and Finance forecasts that GDP will increase by 3.8% in 2002. However, uncertainty about the external factors affecting the course of the Greek economy has not been fully eliminated, while there are elements of uncertainty linked to internal factors (such as the time and degree of realisation of the investment projects of private corporations, as well as the final labour cost and its impact on the competitiveness of the economy). Therefore, it cannot be excluded that the GDP growth rate may come to a lower level than forecast by the government. On the basis of available data and indications, it is quite probable that the GDP growth rate will be around 3.5% in 2002. The forecasts made by international organisations range from 3% to 4%.

It is estimated that prices in Greece will be influenced positively by the projected drop in inflation in the rest of the euro area and in industrial countries in general. Furthermore, it is assumed that the average annual price of oil will fall, while the average annual level of prices of other imported raw materials will remain practically unchanged. It is also assumed that the effective exchange rate of the euro will stabilise. The prices of imported products in the domestic market are expected to have a dampening effect on inflation in Greece in 2002, by reducing the cost of intermediate goods for the manufacture of Greek products and by containing the increase in the prices of imported finished products. The expected deceleration of the average annual growth rate of aggregate demand is

an additional reason for businesses to pursue a policy of price restraint. Inflationary pressures will be reduced also by the exhaustion of the upward effect exerted with a time lag on consumer prices by the steep rise — during 2000 — in fuel prices and in the exchange rate of the US dollar against the euro. Finally, the continued deregulation of the telecommunications market (in particular fixed telephony services) and the expected normalisation of conditions in the fruit and vegetables market will also have a dampening effect on inflation. By contrast, the growth rate of unit labour costs in the whole economy is expected to pick up this year, but it could be restrained to almost 3% (against 2.5% in 2001), while the corresponding rate for the euro area is expected to decelerate.

On the basis of the above assumptions and estimates and taking into account the increase in prices during the first two months of this year, *average annual* inflation is expected to be around 3% in 2002. After falling to 3.4% in February, the annual rate of inflation is expected to decelerate further during the year and to fluctuate between 2.5% and 3% in December 2002. Consequently, inflation in Greece in 2002 is going to exceed the level considered to be compatible with price stability (i.e. growth rate below 2%), which is expected to be achieved in the euro area as a whole this year. Apart from the obvious influence of oil price developments, the forecast for inflation in 2002 is based on, among other things, two basic conditions and assumptions: first, that there will be no (or limited) speculative phenomena in the pricing of products in euro after the end of the obligatory dual price period and, second, that the growth rate of unit labour costs in the whole economy will be around 3%. This means that the increase in workers' earnings should not be excessive and that the productivity growth rate should not be substantially lower than the average in recent years.



It is important to stress that workers' real earnings may increase steadily at high rates without adverse effects on inflation (and the purchasing power of nominal earnings), so long as productivity also increases correspondingly. For this reason, structural reforms must be expedited that will lead to a more effective operation of markets and to high rates of productivity growth. This will prevent an increase in unit labour costs (relative to Greece's European partners and other competitor countries) and a concomitant deterioration of competitiveness. Hence, the social partners can and should contribute to the enhancement of the international competitiveness of corporations, to the achievement of a high rate of economic growth in Greece and to a decrease in unemployment. Consequently, there will be stable and continuous improvements in workers' real income, through agreements on wage increases that are not incompatible with these targets.

To approach and maintain price stability and, at the same time, accelerate real convergence, companies must implement prudent pricing policies. They must also take innovative and modernising initiatives concerning their organisational setup and technological infrastructure. Moreover, it is necessary to pursue an appropriate economic policy mix in the medium-term. Given the stance of the single monetary policy, it is required that, in addition to the contribution of the social partners, national fiscal policies should keep fiscal consolidation as their basic medium-term target. Fiscal consolidation serves the country's interests, since

it is a prerequisite of macroeconomic stability and growth and an obligation of the Stability and Growth Pact. Therefore, it should be ensured that fiscal surpluses are achieved and public debt is reduced, as provided for in the Updated Stability and Growth Programme. Within this framework, it is essential to set clear and binding targets for current primary expenditure and, at the same time, strengthen expenditure assessment and control mechanisms. Furthermore, it is advisable to expedite tax reforms. A reform of the social security system is also necessary, not only to ensure the viability of the pension system and a fair allocation of the financial burden between generations, but also to secure fiscal stability in the long-run. Finally, faster implementation of structural reforms should enhance the more effective operation of the markets and the government and improve productivity and competitiveness. In this way, a high and sustainable rate of economic growth combined with price stability will be supported and, thus, real convergence will progress.

In summary, inflation in Greece is forecast to decline a little this year, although it will remain above the average level of inflation in the euro area. The growth rate of economic activity will show a limited deceleration, but will remain significantly higher than in the euro area, thus resulting in further progress towards real convergence in 2002. In the medium term, the pace at which real convergence is achieved will depend on the choice and effective implementation of a suitable mix of fiscal and structural policies, as well as the behaviour of the social partners.

## II. The international economic environment of the euro area in 2001

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### 1. Overall developments

The growth rate of world GDP decelerated significantly in 2001. All international economic organisations repeatedly revised downwards their estimates of global economic activity in 2001. According to the latest estimates by the International Monetary Fund (IMF),<sup>1</sup> world GDP growth fell to 2.4% in 2001, from 4.7% in 2000. The IMF forecast for 2001, only eight months earlier, had been rather more optimistic (3.2%). The slowdown of global economic activity started in the second half of 2000, almost at the same time in all the major advanced economies,<sup>2</sup> and was marked by the tragic events of 11 September in the USA, which only worsened an already weakened world economy.

International trade of goods and services has been one of the main channels for the transmission and acceleration of negative developments in world economic activity. The volume of trade increased by just 1% (in the advanced economies it decreased by 0.3%), against a steep rise of 12.4% in 2000. Negative developments in 2001 were worsened by factors conducive to the high growth rate of the global economy over the last two years, primarily driven by the US economy. Such factors were the high degree of international interdependence and consolidation of the markets for products, money and capital, as well as a more synchronised – compared with the past – change in macroeconomic aggregates in the major economies. Underlying these developments were mainly the following: (i) a drastic

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<sup>1</sup> See IMF, *World Economic Outlook*, 18 December 2001.

<sup>2</sup> The group of advanced economies, according to the IMF classification, includes the economies of 29 countries: the 15 European Union Member States, the 4 Asian new industrial countries (Korea, Singapore, Taiwan, Hong Kong) and the USA, Japan, Canada, Australia, Switzerland, Iceland, Israel, Cyprus, Norway and New Zealand.

downward revision of expectations and a decline in new investment and profitability in high-technology sectors (chiefly those related to electronic trade, the Internet, information technology and telecommunications), a development that started in the USA but inevitably expanded throughout the world, (ii) at the same time, a subsequent deterioration of the financial situation of both households and corporations, mainly in the advanced economies, owing to a decline in their asset value, (iii) a significant drop in raw material prices, with a negative effect on many, mostly developing, economies, (iv) the preceding large increase (116%) in the average annual level of crude oil prices (US dollars per barrel) between 1998 and 2000,<sup>3</sup> which had a lagged effect on the total expenditure of the world economy, (v) during the same period, the lagged effect of a gradual increase in central bank key interest rates in most of the major economies, primarily in 2000, in order to constrain inflationary pressures exerted by the continued rise in oil prices and the US dollar (for non-US economies) and by the high growth rates, and (vi) the terrorist attacks of 11 September 2001 in the USA, which further reduced business and consumer confidence, increased uncertainty and volatility in international money, foreign exchange and capital markets, and hit economic activity and employment internationally, particularly in industries such as air transport and tourism.

The growth rate of economic activity in 2001 has been the lowest in the last eight years. A synchronised deceleration was observed in the USA and the euro area, as well as a decrease in GDP in Japan, that is, in economies totalling 45% of world output. It is difficult to discern the impact on the economy following the tragic September events in the USA, both directly and in the long run, among general developments which had already been particularly negative before the

beginning of September. Most of the downward revision of estimates for 2001 and of forecasts for 2002 is attributed to information excluding the impact of the 11 September events. However, three months after these events, the IMF revised downwards the rate of economic growth of the world economy by 0.2 percentage point for 2001 (from 2.6% to 2.4%) and by 1.1 percentage points for 2002 (from 3.5% to 2.4%). Finally, according to more recent data, the annual GDP growth rate in 2001 was 1.2% in the USA, 1.5% in the euro area (see Chapter III) and 2.4% in the UK, while GDP fell by 0.5% in Japan.

Inflation, as measured by the change in the CPI, remained unchanged in 2001, both in advanced economies (2.3%) and in developing economies (around 6%), while further decreasing in transition economies (16%, from 20% in 2000). In advanced economies, a significant decline in the growth rate of productivity in manufacturing to 1.5% (2000: 5.9%) is estimated to have contributed to the increase in unit labour costs (2.9%, from a 1.4% drop in 2000). The international average crude oil price, after rising continuously from December 1998 to November 2000 by a total of 211%,<sup>4</sup> ranged between \$23 and \$28 per barrel until the September events. However, after the 11th of September, crude oil prices initially rose sharply owing to uncertainty, then fell below \$20 per barrel (from an average of \$28.2 per barrel during 2000). The large decline in world demand (owing to a drop in industrial production, air transport etc.), together with the inability of oil-producing countries to reach an agreement on a noticeable reduction in oil prices, maintained crude oil prices at \$18-\$19 per barrel until the

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<sup>3</sup> IMF, *International Financial Statistics*.

<sup>4</sup> IMF, *International Financial Statistics*. It is the increase in the average price of different kinds of crude oil (December 1998: \$10.41, November 2000: \$32.34).

end of 2001.<sup>5</sup> The composite index of raw material prices, excluding oil, moved downwards throughout the year and the average annual level fell by 5.5%<sup>6</sup> in 2001.

The monetary policy pursued in 2001 in the major advanced economies, except the euro area, broadly aimed at either preventing a possible downturn or facilitating a recovery, ensuring price stability at the same time. The key interest rates of central banks in the US, the UK and Japan stood at the lowest levels in about 40 years by the end of the year (see Chart 1). The US Federal Reserve Bank, starting from a relatively more favourable position regarding the use of interest rate policy, and facing the largest –relative to other economies– deceleration of GDP, pursued an aggressive policy of continued reductions in key interest rates throughout the year (cumulative drop of 475 basis points), while the Bank of Japan further reduced its already low rediscount rate. The Bank of England also pursued an accommodating monetary policy. Following the terrorist attack in the USA, the cuts in key interest rates by the US Fed, the ECB and the central banks of Canada, Switzerland, Sweden, Japan and England aimed at dealing with additional risks to growth and at signalling stability and confidence to the markets. The cuts in interest rates were combined with the enhancement of liquidity, in order to maintain normal conditions in money, foreign exchange and capital markets.

The year 2001 saw a worsening of the fiscal positions of non-euro area advanced economies, as well as of developing and transition economies. As regards some of the larger advanced economies, this development is attributed to the impact of the business cycle, as well as the increase in the structural *deficit*,<sup>7</sup> with the exception of Japan. In the USA and the UK, the structural *surplus* as a percentage of GDP is estimated to have been practi-

cally zero in 2001. In Japan, however, the structural deficit fell (by almost one percentage point). In the USA, it is estimated that the refund of part of the tax revenue in June and the extraordinary public expenditure approved after the terrorist attack practically reduced the general government surplus to zero, as a percentage of GDP, in 2001 (from 1.5% in the previous year). Gross public debt as a percentage of GDP, however, continued its downward course and is estimated to have fallen by about 2 percentage points in 2001 (from 57.4% in 2000). In Japan, a strongly expansionary fiscal policy in recent years and the subsequent building up of high interest expenditure kept exerting upward pressures on the total budget deficit, despite a significant decline in the primary deficit. The total deficit is estimated to have fallen to 7.2% of GDP in 2001, from 7.9% in 2000, while gross public debt as a percentage of GDP is estimated to have risen by another 11 percentage points, reaching 140.8% of GDP. In the UK, the fiscal surplus fell to 0.5% of GDP in 2001, from 3.9% in the previous year, while gross public debt fell to 38.3% of GDP.

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## 2. Developments by main economic region

The US economy, after ten years of continued and strong economic growth (the longest in the post-war period), entered a deceleration phase in the second half of 2000. According to more recent data,<sup>8</sup> GDP grew by 1.2% in 2001, against 4.1% in the previous year. This slowdown was mainly due to a significant decrease in gross private investment and to a decline in exports. By contrast, private consumption was particularly resistant to economic shocks. Economic slow-

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<sup>5</sup> Oil prices returned to \$21-\$22 during February this year.

<sup>6</sup> IMF, *International Financial Statistics*.

<sup>7</sup> Estimated as a percentage of potential GDP, not real GDP.

<sup>8</sup> Announcement by the Bureau of Economic Analysis, 28 February 2002.

down continued up to and including the third quarter of 2001, when a 0.34% decline in GDP was registered, compared with the previous quarter.<sup>9</sup> In the last quarter of the year, however, GDP grew by 0.35% compared with the previous quarter.<sup>10</sup> Despite this development, the official estimate that the USA is in a recession since March 2001 (when the period of economic expansion that began in March 1991 came to an end) has not been revised yet.<sup>11</sup> However, the manufacturing activity index of the Institute for Supply Management (ISM)<sup>12</sup> rose continuously from November 2001 onwards and reached 49.9 in January this year (against 39.5 in October 2001). Actually, in February it exceeded 50 (the boundary line between a contraction and an expansion of economic activity) for the first time after July 2000, reaching 54.7.<sup>13</sup> Moreover, the respective index of the ISM for the services sector (non-manufacturing activities), which had dropped to almost 40 in October 2001, started rising and stood at 58.7 in February, from 49.6 in January, suggesting a marked expansion of economic activity. The unemployment rate, from a historically low level in October 2000 (3.9%), rose gradually to 4.9% in August 2001 and increased significantly after the September events, reaching 5.8% in December. However, it fell slightly to 5.6% in January this year and to 5.5% in February.

Extraordinary measures to enhance demand (tax cuts and higher public expenditure), as well as the establishment of more relaxed monetary conditions by the US Federal Reserve Bank, which reduced its interbank money market intervention rate<sup>14</sup> on 11 occasions during the year, have also had an inhibitory effect on economic slowdown. Thus, the intervention rate stood at 1.75% on 11 December, from 6.5% at the beginning of the year. The rise in the value of residences was also supportive to household expenditure, as they are the main assets

of medium-income households. (By contrast, high-income households' expenditure was adversely affected by the decline in the current value of equities.) On the other hand, the limited duration and strength of the economic downturn — according to current evidence — is mainly attributable to the increased flexibility of the economy, which reflects certain structural changes that have been brought about, such as the capability of corporations to access real-time information concerning market conditions, extensive liberalisation of certain industries during the last 25 years, as well as liberalisation of the financial sector together with significant innovations introduced recently (new financial products, etc.).<sup>15</sup> At the same time, owing to the adaptability of the labour market, the growth rate of productivity remained relatively high and decelerated less (1.9% in 2001, from 3.4% in 2000) than the GDP growth rate. Despite the relaxation of monetary policy, the decline in economic activity contributed to the slowdown of the annual rate of CPI inflation to 2.8% in 2001, from 3.4% in 2000. The current account deficit as a percentage of GDP fell to 4% in 2001, from 4.5% in 2000.

The economy of Japan entered a downturn in 2001, which has been the third and longest one in

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<sup>9</sup> If annualised, this rate accounts for an increase of 1.3%.

<sup>10</sup> If annualised, this rate accounts for an increase of 1.4%.

<sup>11</sup> NBER Business Cycle Dating Committee, 11 February 2002. The definition of a downturn according to the NBER is different from the one widely accepted (i.e.: decrease in GDP for two consecutive quarters) and includes information produced by another series of variables, such as employment, real disposable income, sales volume and industrial production.

<sup>12</sup> The Institute for Supply Management (ISM) is the new name of the National Association of Purchasing Managers (NAPM). Values of the Purchasing Managers' Index (PMI) below 50 suggest a decline in economic activity.

<sup>13</sup> Following a steady decline for 14 months, the industrial production index remained practically unchanged (-0.1%) in January this year, compared to December, but its level was 5.2% lower than in January 2001.

<sup>14</sup> Federal funds rate.

<sup>15</sup> See the testimony by Alan Greenspan before the competent committees of the House of Representatives (27 February 2002) and the Senate (7 March 2002) on the submission of the US central bank report on monetary policy.

the last ten years. The restructuring and consolidation efforts of various sectors of the economy did not have the desired results. Business confidence indicators kept deteriorating up to and including December, industrial production fell significantly in the last months of 2001 (at a rate of 13% annually in November and 15% in December) and the unemployment rate increased to 5% in 2001 (from 4.7% in the previous year). GDP decreased continuously for three quarters by a total of 0.5% in 2001 (average annual change),<sup>16</sup> following an increase of 2.2% in the previous year. A decline in output was a result of negative developments both in domestic demand and in exports. Combined with the effort to enhance demand through fiscal measures, the Bank of Japan reduced three times its already exceptionally low rediscount rate, which reached 0.10% on 18 September. The inflation rate remained negative for the third successive year (-0.7% in 2001). The current account surplus, as a percentage of GDP, fell to 2.2% in 2001, from 2.5% in the previous year.

In the UK, the impact of a deceleration of export growth is estimated to have been offset by domestic demand, which grew at a satisfactory pace. The slowdown of GDP growth has been relatively limited (2001: 2.4%, 2000: 3.0%).<sup>17</sup> The Bank of England reduced on seven occasions the main interest rate of repurchase agreements (repos), which stood at 4.0% on 8 November (from 6.0% at the beginning of the year). The CPI<sup>18</sup> inflation rate remained unchanged (2.1%, same as in 2000), while the unemployment rate kept falling and reached 5.2% in 2001, from 5.6% in the previous year. The current account deficit is estimated to have dropped slightly.

In the transition economies,<sup>19</sup> the economic transformation continued in 2001. The smaller, relative to other European economies, degree of international integration of their markets, i.e. the smaller

inter-dependence between companies and the financial sector on the one hand and the markets of the advanced economies on the other, supported high – albeit lower – growth rates of economic activity (2001: 4.9%, 2000: 6.3%). The inflation rate, from 43.9% in 1999 and 20% in 2000 is estimated to have fallen to 16%, the lowest rate in the last ten years. The GDP growth rate in the countries of the Commonwealth of Independent States was higher than that of central and eastern European countries in 2001 (6.1%, against 3%). The Russian economy, taking advantage of developments in the international energy market in the previous two years, achieved high output growth also in 2001 (5.8%, against 8.3% in the previous year), while the current account surplus fell, but remained high (11% of GDP, from 18% in the previous year).

The economies of the accession countries<sup>20</sup> as a whole registered lower GDP growth and higher inflation rates in 2001. These developments largely reflect the particular weight of Turkey in this total. In Turkey, following the financial crisis in December 2000 and February 2001, a devaluation of the currency (which, against the US dollar, reached a total of 59% in September 2001) and then free floating of the exchange rate were chosen. The devaluation contributed to an increase in international competitiveness. As a result, the cur-

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**16** Announcement, 8 March 2002.

**17** Press release, 27 February 2002.

**18** Retail Price Index, excluding mortgage interest (RPIX). The annual growth rate of the HICP accelerated from 0.8% in 2000 to 1.2% in 2001.

**19** According to the IMF classification, 28 economies, divided in two sub-groups: the central and eastern European countries (16 countries: Hungary, Poland, Czech Republic, Albania, Bosnia, Bulgaria, Yugoslavia, Croatia, Romania, FYROM, Slovakia, Slovenia, Estonia, Latvia, Lithuania and Belarus) and the countries of the Commonwealth of Independent States (11 countries of the former USSR plus Mongolia).

**20** EU accession countries: Hungary, Poland, Czech Republic, Estonia, Latvia, Lithuania, Bulgaria, Romania, Slovenia, Slovakia, Malta, Cyprus and Turkey.

rent account balance turned from a deficit in 2000 to a surplus in 2001 (1.3% of GDP). GDP is estimated to have fallen by 6.1% in 2001 and inflation reached 54%, but a relative decline of inflation (though it will remain high) is forecast for 2002, along with a recovery of activity and an increase in GDP around 3%. On 4 February this year, the IMF approved the supply of stand-by credit (gradually, within three years), reaching \$16 billion, to Turkey. In its announcement,<sup>21</sup> the IMF praises the bold and comprehensive economic reforms programme compiled and implemented by Turkey, which is expected to help overcome the crisis. It refers particularly to the improvement in the fiscal position and progress towards restructuring the banking sector, reforming the public sector and preparing for privatisations.

The situation in the emerging market economies in Asia<sup>22</sup> was strongly influenced by international developments, mainly regarding international demand for information and telecommunications technology products. Already since mid-2000, a deceleration in industrial production and exports had been recorded in these countries. Among them the strongest impact on the GDP growth rate was recorded in the new industrial economies<sup>23</sup> (2001: 0.4%, 2000: 8.2%). The deceleration of the GDP growth rate in China, which was officially accepted by the World Trade Organisation in 2001, was limited (7.3%, from 8% in 2000). The current account surplus in China decreased (2001: 1% of GDP, 2000: 1.9%).

The financial crisis in Argentina, with the GDP falling for the third consecutive year in 2001 (-2.7%), has only affected neighbouring countries. Even there, however, the effects have been relatively limited (with the exception of Uruguay), because events evolved rather slowly and international markets had taken the crisis for granted. Argentina managed to achieve stabilisa-

tion with high growth rates in the 1991-1998 period. During the three years 1996-1998 inflation fell almost to zero, while the average GDP growth rate was 5.8%. In 1999 the economy took a downturn. The choice to establish a currency board back in 1991 in order to peg the peso to the US dollar (1:1), though initially facilitating stabilisation, caused a drop in the international competitiveness of the economy. The subsequent decline in economic activity and tax revenue, combined with the international economic juncture, gradually led to a deterioration of the country's financial position. At the beginning of 2001, the government applied to the IMF for a loan and assumed the obligation to implement an austerity programme in order to prevent a threatened moratorium on payments. The negative development of economic aggregates, despite assistance from the IMF (announced on 12 January 2001), worsened political instability in the country, making economic consolidation and the overcoming of the crisis even harder. Continuous downgrading of the country's credit rating by international agencies caused significant cash withdrawal, an outflow of funds, rocketing of interest rates and a steep drop in tax revenue in the summer of 2001, while on 7 September 2001 the IMF approved an increase in stand-by credit. Following the October elections, an emergency plan was set in motion to restructure public debt and restrictions were applied on withdrawal of bank deposits and on currency transactions. The situation worsened in December, when the government, in order to be able to negotiate for further financing with the IMF, had to take new measures to ensure additional revenue. These measures (such as imposing a ceiling on

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<sup>21</sup> Press Release, 4 February 2002.

<sup>22</sup> According to the IMF classification, developing Asian economies, new industrial Asian economies and Mongolia are included.

<sup>23</sup> Four economies included in the advanced economies group: Hong Kong (SAR), Korea, Singapore and Taiwan (province of China).

the withdrawal of deposits up to a monthly \$1,000 and blocking 90% of insurance funds' reserves with banks) increased uncertainty concerning the maintenance of the exchange rate regime. On 6 January this year, free floating of the peso in international foreign exchange markets and pulling out of the currency board regime were announced. Under the new regime, two exchange rates were adopted: a fixed rate (1.4 pesos per US dollar, which means a 29% devaluation) for exports and certain financial transactions, and a floating rate, to be determined by the market and to concern mainly tourism. At the same time, in order to subdue inflationary pressures, prices of social services and certain goods were frozen. Furthermore, the zero deficit policy of the previous government was abandoned, but no precise timing for public debt servicing was set. At the beginning of February, restrictions on withdrawal of deposits were partly lifted and then fully free floating of the peso exchange rate was implemented. At the beginning of March, the visit of a special IMF mission was announced, aiming to comprehensively assess the economic situation and to offer assistance to the authorities in drawing up a viable economic programme.<sup>24</sup>

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### 3. Foreign exchange, bond and capital markets

#### *Foreign exchange markets*

Uncertainty regarding the size, as well as the duration of the slowdown in the US economy and its relation to corresponding developments in the euro area and Japan significantly affected the course of exchange rates of major currencies in 2001. Revisions of long-term data and forecasts, as well as changing expectations regarding the timing and strength of the reduction of key interest rates by central banks in the major

economies (see Chart 1 concerning the development of key interest rates) were mirrored in the exchange rate changes, in particular the euro/US dollar. The euro, after a rise against the US dollar in the last two months of 2000, followed a steep downward course throughout the first half of 2001, reaching a historically low level of \$0.838 per euro at the beginning of July. It has been recovering ever since. The average exchange rate in August stood at \$0.901 per euro. At the beginning of September, the exchange rate fell slightly, though it rose temporarily after the 11 September events. However, pessimistic estimates of economic activity in the euro area in the last quarter of the year, despite the underlying uncertainty concerning developments in the American economy, halted the rising trend of the euro. As a result, the average exchange rate of the euro against the US dollar stood at \$0.892 per euro in December, 0.5% lower than in December 2000 (see Chart 2). The average annual level of the euro exchange rate against the US dollar fell by 3.1% in 2001.

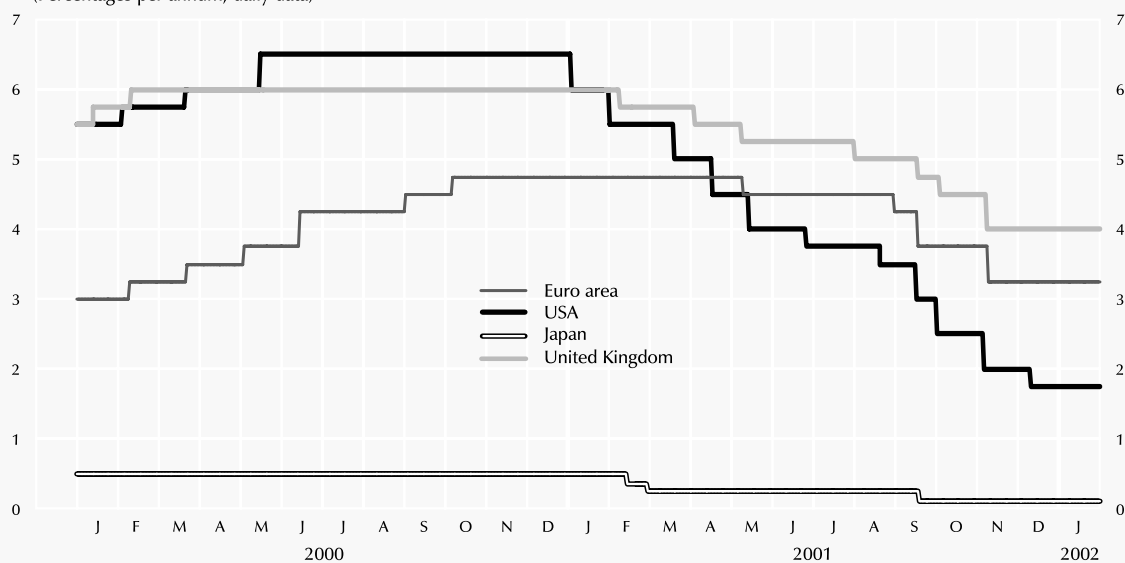
Initially, the euro strengthened against the Japanese currency in January 2001, then fell during the May-June period, and started rising again gradually, especially during the last months of the year (see Chart 2). This development was directly attributed to the decline of the yen against most major currencies, owing to adverse developments in the Japanese economy. During 2001 the euro appreciated by 12.7% against the yen. In the same period, it appreciated by 1.2% against the pound sterling, while it depreciated by 2.1% against the Swiss franc. At average annual levels, the euro appreciated by 9.3% against the yen and by 2.1% against the pound sterling, while it depreciated by 3.1% against the Swiss franc (see Chart 3).

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<sup>24</sup> IMF Press Release, 4 March 2002.



Chart 1  
Central bank key rates  
(1 January 2000 - 31 January 2002)  
(Percentages per annum, daily data)



**Sources:** For the euro area: ECB, minimum bid rate on main refinancing operations. For the USA: Federal Reserve, intended federal funds rate. For Japan: Central Bank of Japan, official discount rate. For the United Kingdom: Bank of England, repo rate.

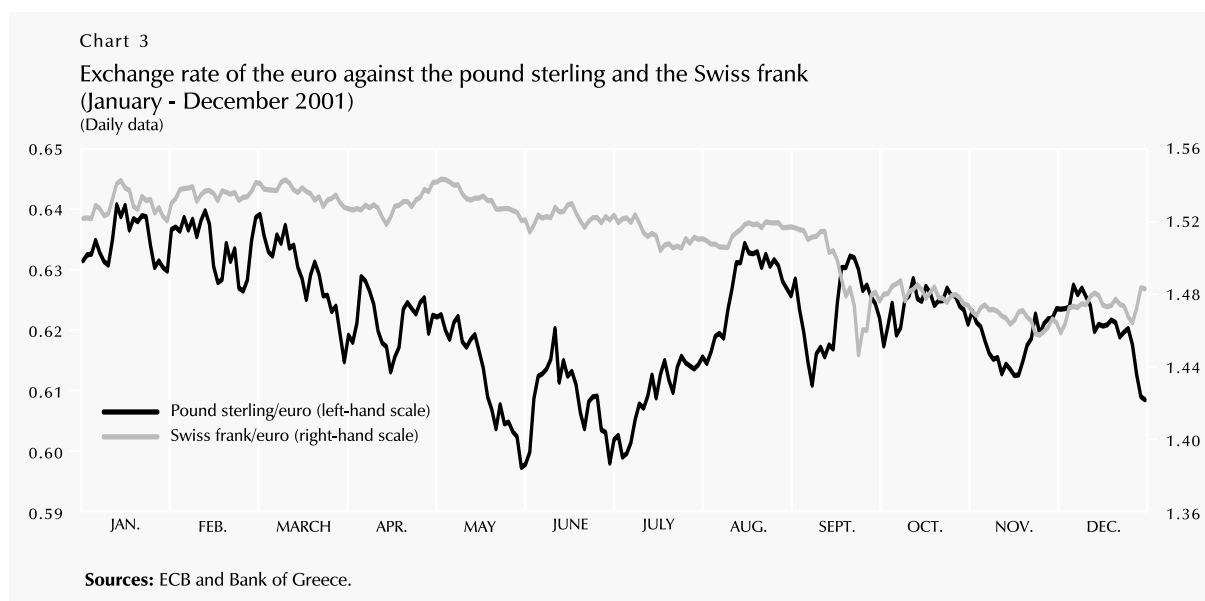
Chart 2  
Exchange rate of the euro against the US dollar and the Japanese yen  
(January - December 2001)  
(Daily data)



**Sources:** ECB and Bank of Greece.

These developments, together with the course taken by the rest of the bilateral euro exchange rates, resulted in a 3.2% appreciation of the euro's nominal effective exchange rate index in 2001 (average annual levels). The real effective exchange rate (based on the CPI) of the euro rose by an average annual 2.1%, fluctuating only slightly during 2001.<sup>25</sup>

<sup>25</sup> Nominal effective exchange rates are the weighted average of various bilateral exchange rates on the basis of their significance for the external trade of each country (in this case, the euro area as a whole). Real effective exchange rates are nominal effective exchange rates deflated by a weighted average of prices or costs in a foreign country in relation to prices or costs in the domestic market. For this reason, they are used to measure the competitiveness of an economy regarding prices and costs. An appreciation of the real effective exchange rate index of the euro suggests a worsening of the competitiveness of the euro area (as a whole) relative to its trading partners.



### *Bond and capital markets*

Heightened uncertainty and the relative investment risk aversion contributed to a shift of capital from equities to bond markets in 2001. Increased interest in bonds caused euro area, US and Japanese ten-year bond yields to fall to lower levels in the first ten months of 2001. By the end of the year, the restoration of the confidence climate and the better outlook for a recovery in 2002 reversed the trend and thus increased bond yields. The average annual level of US ten-year bond yields fell by 102 basis points to 5.01% in 2001, the corresponding euro area yields by 41 b.p. to 5.03% and Japanese yields by 42 b.p. to 1.34%. In the euro area, bond yields were larger than those in the US during the months March and July to November. The differential between the two yields was limited in the first seven months of the year, but started increasing in August in favour of the euro area bonds, and the largest differential was observed at the end of September (around 40 b. points). In December, however, the differential became negative again. The average euro area ten-year bond yield was 4.96%, while that of the US was 5.07%. The yields

on corresponding Japanese bonds showed a small fluctuation during the year (between 1.2% and 1.5%) and stood at 1.35% in December.

Stock market indices kept falling in 2001 worldwide, reflecting international economic developments, mainly regarding the drop in investment and profitability and the downward revision of expectations concerning the course of the “new economy” companies. Gradual correction of stock price “bubbles” of companies in the technology, information and telecommunications sectors decisively affected the course of all individual indices in all international stock markets. The day before the terrorist attack in the USA, both Standard & Poor’s 500 and Nasdaq indices were at levels 17.2% and 31.4% lower than at the end of 2000. During the same period, the Japanese Nikkei 225 index fell by 25.3%. In Europe, Dow Jones EURO STOXX fell by 25.8% until 10 September 2001, while the comparatively better performance of the British economy was reflected in the smaller decline of the FTSE-100 index (-19.1%) during the same period. The September events had a significant but temporary overall effect on the already established trend in international capital markets.

The drop in stock prices and their increased volatility were inevitable. Particularly for air transport, hotel and recreation services, the decline reached 40% during the first weeks after 11 September. The initial “overreaction” of stock markets moderated in the following weeks and

was reversed in most cases by the end of the year. On the whole, during 2001 Nikkei 225 (–23.5%), Nasdaq (–21.1%) and Dow Jones EURO STOXX (–19.7%) recorded the steepest drop, while Standard & Poor’s 500 (–13.0%) and the British FTSE-100 (–16.2%) fell less markedly.

### III. Inflation and economic activity in the euro area and Greece in 2001

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#### 1. Inflation in the euro area

The general upward tendency that had been evident in inflation in the euro area since the autumn of 1999 was reversed during 2001. Specifically, the rate of increase in the Harmonised Index of Consumer Prices (HICP) rose to its highest level in recent years (3.4%) in May. Then it began to slow down, falling to 2.0%<sup>1</sup> in December (see Chart 4). Nevertheless, the average annual inflation rate in the euro area in 2001 was eventually slightly higher than in 2000 (2.5%, compared with 2.3%). These developments during the year were mainly a reflection of the *direct* effects of international crude oil prices, the exchange rate of the euro and, to a lesser degree, unprocessed food prices.<sup>2</sup>

In contrast, the *indirect* effects (with a time lag) of the increase in oil prices in the last months of 1999 and in 2000 on the prices of other goods and services led initially to a *slow* rise in *core inflation* (as measured on the basis of the HICP excluding unprocessed food and energy) during 2000. Core inflation continued to rise without interruption and at a noticeably *higher* rate during 2001, with the result that it reached 2.5% in December 2001 (the highest level since 1996), compared with 1.5% in December 2000 and 1.1% in December 1999 (see Chart 5).<sup>3</sup>

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<sup>1</sup> In line with Eurostat practice, to calculate the twelve-month rate of change in the HICP for 2001, the level of the index in the 11-member euro area (minus Greece) for the year 2000 was taken into account, and for 2001 the level of the 12-member euro area (including Greece) was used. If, for reasons of comparability purposes, Greece were included in the calculation of the HICP in the euro area for the year 2000, there would have been only minor differences in the twelve-month rates of change (in the order of 0.1 percentage point).

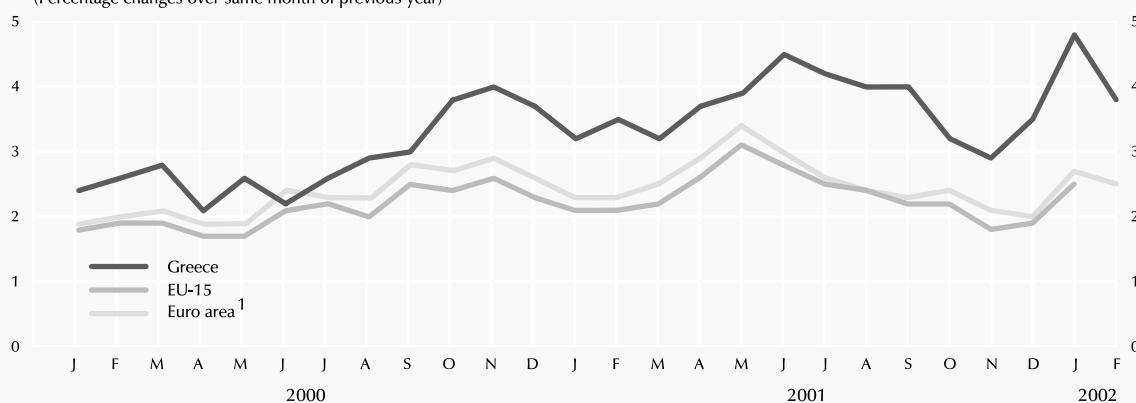
<sup>2</sup> Apart from fresh fruit/vegetables, unprocessed food includes fresh meat and fish. The prices of meat and fish were affected by changes in eating habits as a result of BSE and foot and mouth disease, while the prices of fresh fruit/vegetables were affected (periodically) by adverse weather conditions.

<sup>3</sup> The average annual level of core inflation was 2.0% in 2001, against 1.2% in 2000 and 1.1% in 1999.

Chart 4

### Harmonised index of consumer prices in Greece, the euro area and the European Union (January 2000 - February 2002)

(Percentage changes over same month of previous year)



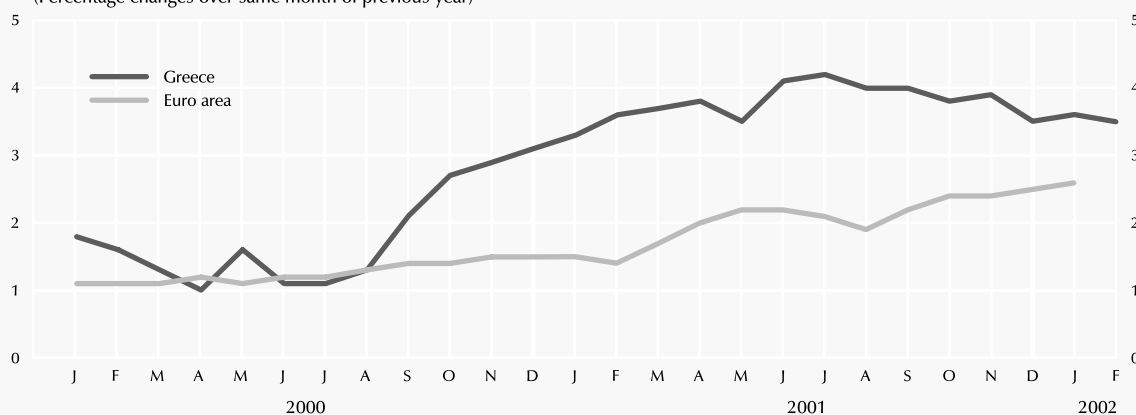
1 Euro area: EU-11 up to December 2000, EU-12 from January 2001.

Sources: NSSG and Eurostat (provisional estimate for the euro area for February 2002).

Chart 5

### Core inflation in Greece and the euro area on the basis of the HICP excluding energy and unprocessed food prices (January 2000 - February 2002)

(Percentage changes over same month of previous year)



Sources: NSSG and Eurostat.

The considerable acceleration of the annual rate of increase in unit labour costs in the whole economy, from 1.1% in 2000 to 2.4% on average in the first three quarters of 2001, is thought to have contributed, albeit to a limited extent, to the rise in core inflation in the euro area. Indeed, account must be taken of the fact that compensation per employee increased during the first three quarters of 2001 at an average annual rate of 2.5% (the same rate as in 2000). As a result, the acceleration of the rate of increase in unit labour costs was due entirely to the

cyclical downturn and to the fall of productivity increase almost to zero.<sup>4</sup> This drop in turn reflected the fact that the rate of increase in GDP decelerated far more than the growth rate of employment.

<sup>4</sup> The average annual rate of increase in productivity in the euro area was just 0.1% (in the first three quarters of 2001), while in 2000 it was 1.4% (see ECB, *Monthly Bulletin*, February 2002, Table 5.4, page 48\*). In contrast, employment levels in the USA adjusted more rapidly to changes in economic activity. As a result, productivity continued to rise at a relatively high rate (according to the latest estimates – 7 March 2002 – from the Bureau of Labour Statistics, this rate was, on average, 1.9% in 2001 in the business sector, compared with 3.4% in 2000).

Table I

## Harmonised index of consumer prices: Greece and the EU (2000-2002)

(Annual percentage changes)

Country	Dec. 2000	2000 (year average)	Dec. 2001	2001 (year average)	Jan. 2002	Feb. 2002
Austria	1.8	2.0	1.8	2.3	2.0	3.8
Belgium	3.0	2.7	2.0	2.4	2.6	
Denmark	2.3	2.7	2.1	2.3	2.5	
Finland	2.9	3.0	2.3	2.7	2.9	
France	1.7	1.8	1.4	1.8	2.4	
Germany	2.3	2.1	1.5	2.4	2.3	
Greece	3.7	2.9	3.5	3.7	4.8	
Ireland	4.6	5.3	4.4	4.0	5.2	
Italy	2.8	2.6	2.2	2.3	2.4	
Luxembourg	4.3	3.8	0.9	2.4	2.1	
Netherlands	2.9	2.3	5.1	5.1	4.9	
Portugal	3.8	2.8	3.9	4.4	3.7	
Spain	4.0	3.5	3.0	3.2	3.1	
Sweden	1.3	1.3	3.2	2.7	2.9	
United Kingdom	0.9	0.8	1.0	1.2	1.6	
European Union	2.3	2.1	1.9	2.3	2.5	
Euro area	2.6	2.3	2.0	2.5	2.7	2.5

Source: Eurostat (euro area for February 2002: provisional estimate).

Hence, while the slowdown in economic activity led to an acceleration of the rise in unit labour costs, contributing to an increase in inflation on the cost side, it also helped to restrain inflation on the demand side.

## 2. Price developments in Greece

Inflation in Greece in 2001 generally followed the same course as inflation in the euro area as a whole, though at a *higher level*. In more detail, HICP inflation (which is used for comparisons) rose from 3.7% in December 2000 to 4.5% in June 2001, but fell steadily thereafter until November (2.9%), rising again in December to 3.5% (see Chart 4) owing to conjunctural factors.<sup>5</sup> The differential between inflation in Greece and in the euro area fluctuated from 0.5 to 1.7 percentage points during 2001 (the average was 1.2 percentage points<sup>6</sup>). In December, when the differential stood at 1.5 percentage points, inflation in Greece was the fourth highest in the euro area (after the Netherlands, Ireland and Portugal –

see Table I). Core inflation (when measured on the basis of the HICP excluding energy and unprocessed food to facilitate comparison with the euro area) rose significantly until July (4.2%), but then fell steadily to 3.5% in December.

Inflation based on the national CPI reached its highest level in June and July, although throughout the year it did not exceed the level reached in December 2000 (3.9%). After July it fell significantly, reaching 2.8% in October and 2.4% in November, owing to the fall in fuel prices,<sup>7</sup> while

<sup>5</sup> See below the report concerning the corresponding development of the national CPI.

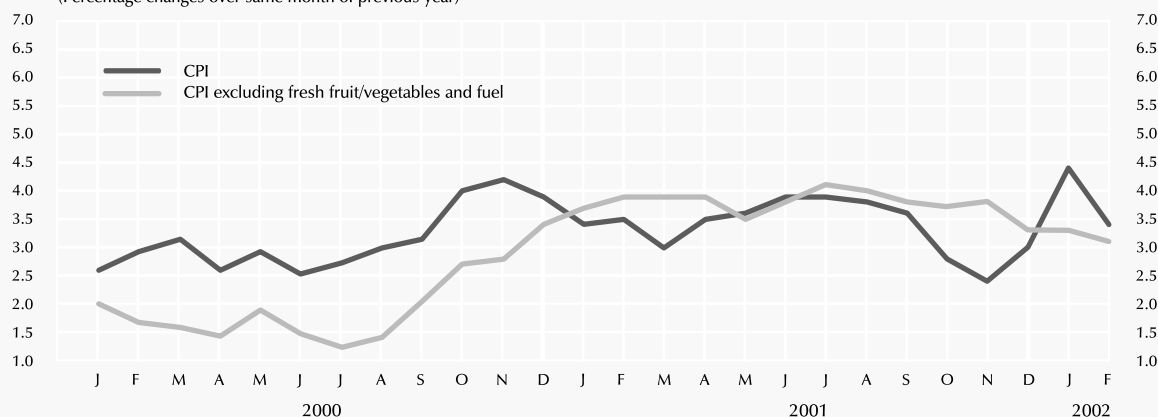
<sup>6</sup> In 2001, the average annual inflation rate based on the HICP was 3.7% in Greece and 2.5% in the euro area.

<sup>7</sup> The sharp fall in inflation in October and November reflects the fact that, using the standard methodology employed by the NSSG, when drawing up the CPI for the period between the end of April and mid-October (i.e. for the summer period), the price of heating oil – which is seasonal in nature – is considered to remain fixed at the level reached at the end of April. Therefore, the large cumulative fall in fuel prices during the same period in 2001 – as far as heating oil is concerned – was recorded from 15 October onwards. As a result, half of the impact on the CPI became noticeable in October and the other half in November 2001.

Chart 6

### Consumer price index and core inflation in Greece (January 2000 - February 2002)

(Percentage changes over same month of previous year)



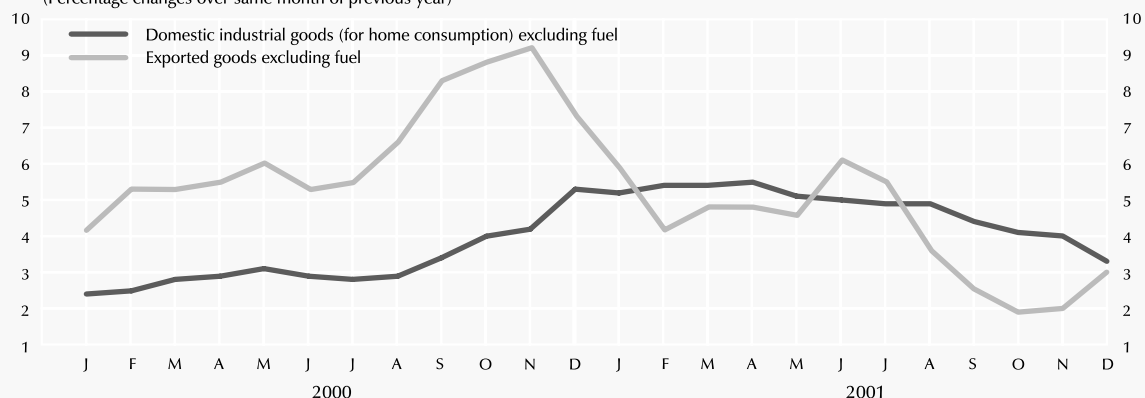
Source: Calculations based on NSSG data.

Chart 7

### Wholesale price index

(January 2000 - December 2001)

(Percentage changes over same month of previous year)



Source: Calculations based on NSSG data.

in December it rose again (3.0%), mainly because of a large rise in the prices of fresh fruit/vegetables.<sup>8</sup> In contrast, core inflation (measured on the basis of the national CPI excluding fuel and fresh fruit/vegetables), which reached its highest level in July (4.1%), fell steadily in the following months to reach 3.3% in December (see Chart 6).<sup>9</sup>

The annual rate of change in the price index for domestic industrial products for home consumption (the main index at the wholesale level) slowed significantly during 2001 (from 7.0% in December

2000 to 0.3% in December 2001), chiefly because of favourable developments in fuel prices.<sup>10</sup>

<sup>8</sup> Prices rose because of exceptionally poor weather conditions in December. Another factor which contributed to the acceleration of inflation in December was the fact that the fall in fuel prices during the month was smaller than the one noted in December 2000.

<sup>9</sup> The average annual rate of increase in the national CPI was 3.4% (against 3.2% in 2000), while the average annual level of core inflation (CPI excluding fuel and fresh fruit/vegetables) was 3.8% (compared with 2.0% in 2000).

<sup>10</sup> The rate of change in industrial producer prices decelerated in the euro area (from 5.4% in December 2000 to 0.7% in September) and in Greece (from 6.8% to 0.7% respectively). The rate subsequently turned negative, standing in December at -1.1% in the euro area and -0.3% in Greece.

Table II

## Export price index and effective exchange rate of the drachma: 2000-2001

(Percentage changes over same month of previous year)

	Effective exchange rate of the drachma	Wholesale prices of exported products			
		Total		Excluding fuel	
		In drachmas	In foreign currency	In drachmas	In foreign currency
2000 Jan. ....	-5.6	8.1	2.0	4.2	-1.7
Feb. ....	-6.4	10.3	3.2	5.3	-1.5
March ....	-6.6	10.6	3.3	5.3	-1.7
April ....	-6.1	9.1	2.4	5.5	-1.0
May ....	-7.1	10.5	2.7	6.0	-1.5
June ....	-6.1	10.4	3.7	5.3	-1.1
July ....	-6.0	9.2	2.7	5.5	-0.8
Aug. ....	-6.4	9.7	2.7	6.7	-0.2
Sept. ....	-6.6	12.8	5.4	8.3	1.2
Oct. ....	-6.7	13.7	6.0	8.8	1.5
Nov. ....	-6.2	12.8	5.8	9.2	2.5
Dec. ....	-4.6	8.6	3.7	7.3	2.4
2001 Jan. ....	-3.1	6.1	2.8	5.8	2.6
Feb. ....	-2.5	4.2	1.6	4.3	1.7
March ....	-1.7	3.8	2.1	4.8	3.1
April ....	-1.0	5.3	4.2	4.8	3.7
May ....	-0.7	4.8	4.1	4.6	3.9
June ....	-1.9	4.9	2.9	6.1	4.1
July ....	-1.5	4.2	2.7	5.5	4.0
Aug. ....	0.1	2.3	2.3	3.6	3.7
Sept. ....	1.1	-0.1	1.0	2.4	3.5
Oct. ....	1.8	-2.2	-0.5	1.9	3.8
Nov. ....	1.4	-2.1	-0.7	2.0	3.4
Dec. ....	0.9	0.5	1.5	3.0	3.9

Source: Calculations based on NSSG and Bank of Greece data. On the term "effective exchange rate of the drachma" in 2001, see footnote 16.

*Excluding fuel*, the wholesale prices in question increased at an almost constant rate in the first four months of 2001, approximately twice as fast as they had in the same period in 2000. Afterwards, however, the rate of increase dropped back to 3.3% in December (compared with 5.3% in December 2000 – see Chart 7). The fall in the rate of increase in the drachma prices of exported goods (excluding fuel) was even greater (from 7.3% in December 2000 to 3.0% in December 2001), although the rate of increase in these prices in *foreign currency terms* rose from 2.4% in December 2000 to 3.9% in December 2001 (see Table II for prices of exported goods).

### 3. Determinants of inflation in Greece

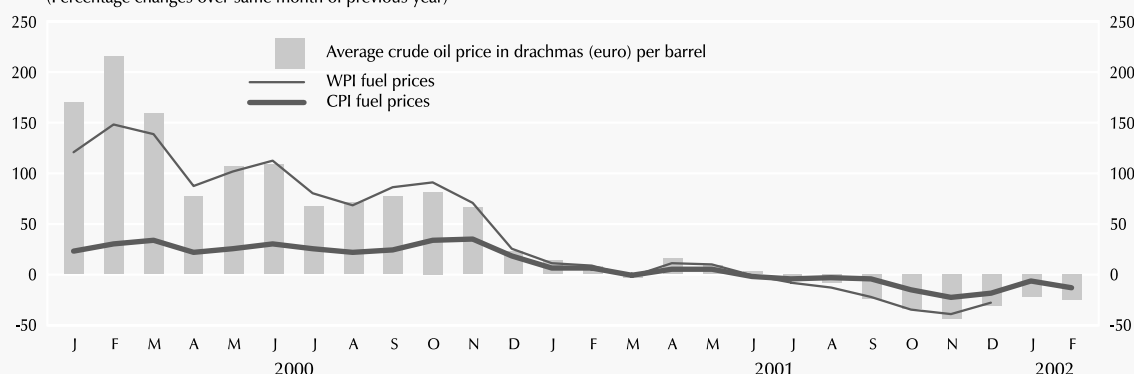
During 2001, CPI inflation fluctuated in line with corresponding fluctuations in the rate of change in domestic retail prices for fuel and fresh fruit/vegetables. Nevertheless, the annual rate of increase in the CPI did not exceed the level it had reached in December 2000. Until the end of November, however, core inflation remained at higher levels than in December 2000, despite the fact that, as already stated, the trend was downward after July.

The increase in core inflation in 2001 in Greece was mainly due to the indirect and lagged impact



Chart 8

Evolution of CPI and WPI fuel prices and of the price of crude oil in drachmas (euro)  
(January 2000 - February 2002)  
(Percentage changes over same month of previous year)



Source: Calculations based on NSSG data, as well as on US Energy Department data on crude oil prices (average of Brent, Arab Light and West Texas Intermediate).

on the prices of domestically produced and imported final products and services of the rise in international fuel prices and the fall in the exchange rate of the euro (and, to a lesser extent, in the exchange rate of the drachma against the euro) which had been recorded in 2000.<sup>11</sup> This impact began to diminish gradually after July.<sup>12</sup> By contrast, the generally downward trend in international prices of fuel and other raw materials during 2001 (see Charts 8 and 9),<sup>13</sup> the limited fall (in comparison with 2000) in the average annual level of the bilateral exchange rate of the euro against the dollar<sup>14</sup> and the entry into force, on 1 January 2001, of the irrevocably fixed conversion rate of the drachma against the euro, all made a direct contribution towards restraining domestic fuel prices<sup>15</sup> and the rate of CPI increase in 2001.

It should be remembered that, from 1 January until the end of 2001, the central exchange rate of the drachma (340.75 drachmas to the euro) was the fixed exchange rate of the drachma against the euro, as determined irrevocably by the ECOFIN Council on 19 June 2000. From that date, the development of the drachma exchange rate against other currencies except the euro was

the same as the development of the euro exchange rate against those currencies. However, during 2001, a differentiation appeared in the annual rates of change, owing to the drachma's divergence from its central exchange rate in the previous year (2000). The development of the

<sup>11</sup> The same factors are behind the acceleration in the average annual rate of increase in wholesale prices of domestic industrial goods excluding fuel (to 4.8% on average in 2001, from 3.3% in 2000) and the relatively small slowdown in the rate of increase in imported final products excluding fuel (from 5.0% in 2000 to 3.3% in 2001).

<sup>12</sup> It is worth noting that the stiff competition existing in the deregulated telecommunications market led to a drop in prices for mobile telephony services, which are still continuing to fall. The drop in these prices in July and August contributed to limiting the rise in core inflation by 0.1 percentage point.

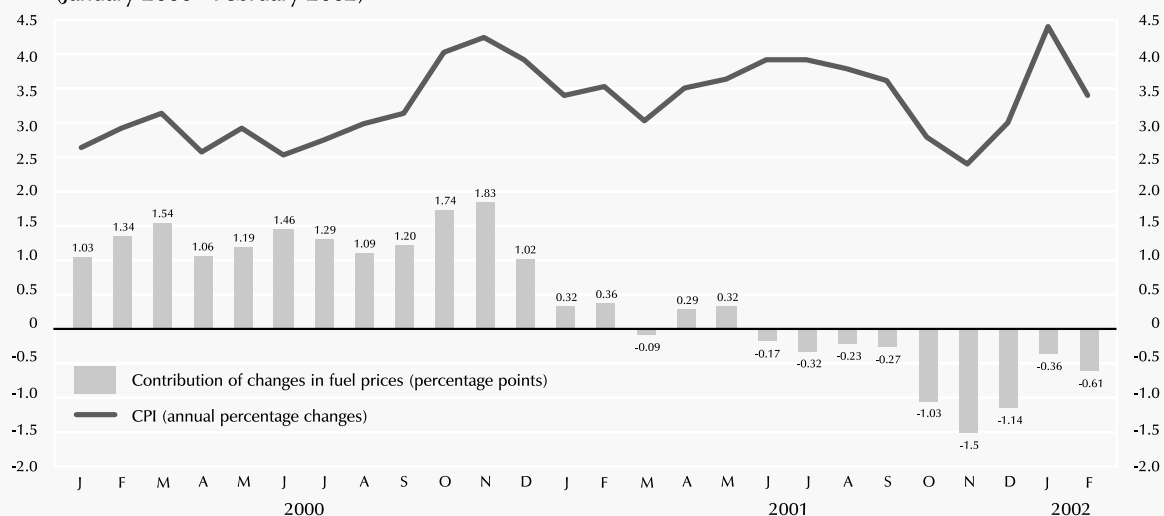
<sup>13</sup> The price of Brent oil was €21.5 in December 2001, compared with €28.8 in December 2000. In addition, prices for raw materials excluding energy (in euro) fell at an annual rate of 12.3% in December 2001, while in December 2000 they had increased at a rate of 6.1% (revised figures, see ECB, *Monthly Bulletin*, January and February 2002, Table 4.2, page 43\*). Following the September 2001 events, the price of crude oil, which at first rose sharply, later went on to fall significantly. This was because, on the one hand, the likelihood of any repercussions which would have jeopardised oil supplies was felt to have diminished and, at the same time, the deceleration in the growth rate of global economic activity began to lead to a reduction in oil demand.

<sup>14</sup> The average annual level of the exchange rate was \$1.066 per euro in 1999, \$0.924 in 2000 and \$0.896 in 2001. See ECB, *Monthly Bulletin*, February 2002, Table 10, page 68\*.

<sup>15</sup> Fuel prices included in the CPI fell at an average annual rate of 4.8% in 2001, compared with a 26.8% increase in 2000. In addition, fuel prices included in the Wholesale Price Index (WPI) fell at an average annual rate of 11.2% in 2001, compared with an increase of 87.0% in 2000.

Chart 9

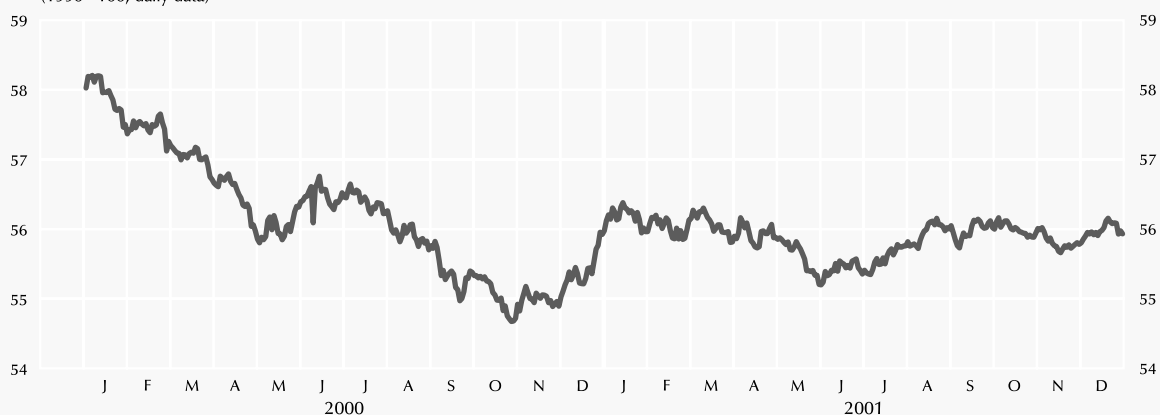
Inflationary contribution of changes in fuel prices  
(January 2000 - February 2002)



Source: Calculations based on NSSG data.

Chart 10

Index of the "effective exchange rate of the drachma"  
(January 2000 - December 2001)  
(1990=100, daily data)



Source: Bank of Greece. On the term "effective exchange rate of the drachma" in 2001, see footnote 16.

euro's bilateral exchange rates against currencies outside the euro area resulted in the average annual level of the "effective exchange rate of the drachma"<sup>16</sup> falling by 0.6% in 2001, while the corresponding fall in 2000 was 6.2% (see Charts 10 and 11).

According to revised estimates, the rate of increase in unit labour costs, which is also a key determinant of inflation, declined slightly

**16** The nominal effective exchange rate is the price of a representative basket of foreign currencies, each of which is weighted according to how important it is to the country's external trade. Until the end of 2000, the effective exchange rate of the drachma was arrived at by weighting the various bilateral exchange rates of the drachma against the other currencies at the rate reached on the international money markets. From the beginning of 2001, the drachma became simply a subdivision of the euro, and its relationship to the other currencies was arrived at by combining its irrevocable exchange rate against the euro (1 euro = 340.75 drachmas) with the euro's bilateral exchange rates against other currencies outside the euro area. Weighting the drachma towards other currencies continued to take place on the basis of the country's external trade (commercial transactions excluding fuel). Accordingly, it would be more accurate to use the term "national competitiveness index in nominal terms" from the beginning of 2001, rather than to refer to the nominal "effective exchange rate of the drachma".

Table III

## Employees' earnings, productivity and labour costs (1999-2001)

(Annual percentage changes)

	1999	2000	2001 (estimate)
<b>Average gross earnings (nominal):</b>			
– whole economy	4.5	6.2	5.7
– central government <sup>1</sup>	3.5	7.1	7.1
– public enterprises	4.8	10.5	6.2
– banks	13.1	6.8 <sup>4</sup>	6.0
– non-bank private sector	4.4	5.0	5.3
Minimum earnings	3.5	4.2	3.5
<b>Net<sup>2</sup> income of an employee with average earnings</b>			
(nominal)	3.6 <sup>5</sup>	8.2 <sup>5</sup>	4.3
(real)	1.0 <sup>5</sup>	4.8 <sup>5</sup>	0.9
<b>Total compensation of employees including employers' social security and other contributions</b>	<b>6.3</b>	<b>7.0</b>	<b>6.7</b>
<b>GDP</b>	<b>3.6</b>	<b>4.1</b>	<b>4.1</b>
Output per person-hour in manufacturing	1.9	3.2	3.0
<b>Unit labour costs:</b>			
– whole economy	2.6	2.8	2.5
– business sector <sup>3</sup>	2.7	2.1	2.4
– manufacturing	2.5	2.2	2.4

1 Compensation per employee.

2 Gross earnings less employees' social security contributions less income tax.

3 The business sector comprises private and public enterprises and banks.

4 Excluding a major bank, where average earnings decreased by around 7.5% owing to the retirement of a large number of high-salaried employees (originating from a merged smaller bank), average earnings of bank employees rose by about 10%.

5 Including tax refunds (in December 1999) to civil servants; the rest of wage earners were refunded by 15 January 2000, which affected disposable income in 2000. Also including the reduction (as of 1 September 2000) in social security contributions of minimum wage earners.

**Sources:** NSSG (provisional data for the 1999-2001 GDP, 13 March 2002), Bank of Greece estimates (for the other annual aggregates).

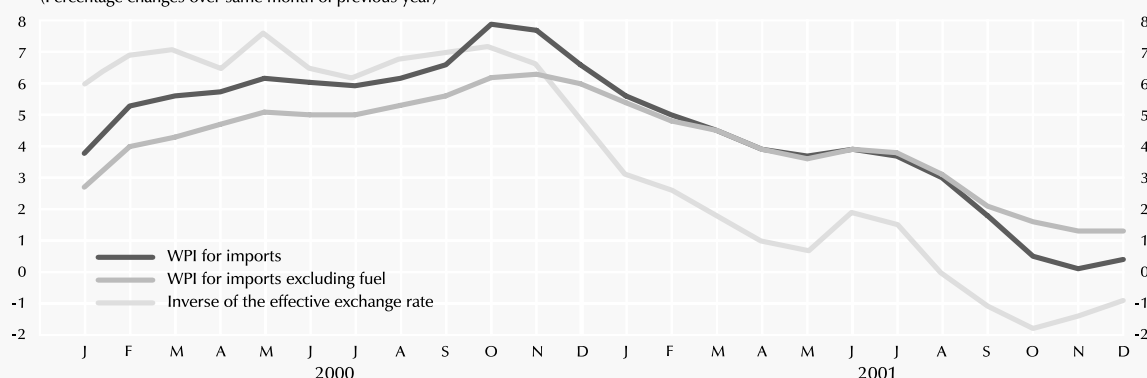
in the whole economy, reaching 2.5% (compared with 2.8% in 2000 – see Table III).<sup>17</sup> However, in the business sector, (i.e. private and public enterprises and banks), where this figure has a more direct effect on prices, it has been calculated that the rate of increase accelerated slightly to 2.4% from 2.1% in 2000. According to revised estimates, it has been calculated that unit labour costs in manufacturing rose by 2.4%, against 2.2% in 2000. This conclusion is supported by estimates that the rate of increase in both average earnings and productivity in manufacturing remained more or less stable in 2001 (5.5% and 3.0% respectively, i.e. approximately the same as in 2000).<sup>18</sup> Consequently, these developments in unit labour costs in the business sector contributed to a limited degree to the acceleration of average annual inflation.

**17** According to estimates by the Macroeconomic Analysis and Forecast Department of the Ministry of Economy and Finance (which were included in its recent Half-Yearly Report – December 2001 – on current developments and prospects for the Greek and the international economy), unit labour costs in the whole economy rose by 2.2% in 2001, against 1.4% in 2000. The difference between these estimates and those contained in the present Report is due only in part to the different definition used. It is in the main a reflection of the figures concerning the change in total employment in 2000 which were used to calculate the change in productivity (GDP per employee) in the same year. If the figures are amended to make them comparable (see below, Section 4 of this chapter, footnote 72), then the rate of increase in unit labour costs (on the basis of the definition used by the Ministry of Economy and Finance) in 2000 must be adjusted to 2.1% (from 1.4%). This bears out the conclusion that, in 2001, the rate remained in effect unchanged.

**18** It is estimated that the rate of increase in production per hour of work remained more or less stable at the level it had reached in 2000 (3.0% compared with 3.2%), despite the fall in the rate of increase in manufacturing output (from 6.1% in 2000 to 1.7% in 2001). This estimate appears paradoxical *prima facie*, given that the data available show that the number of employees in manufacturing rose by approximately 2% in 2001 (at an average annual rate of 2.3% over the first nine months of the year), while it had fallen in 2000 (by 0.5%). It must also be taken into account, however, that the average number of hours worked per week, which had risen in 2000, is estimated to have fallen sharply from April 2001 owing to the implementation of the provisions of Law 2874/2000, on the basis of which extra working hours ("overtime"), were severely curtailed, from 8 to 3 hours a week, while the cost of extra working hours, as with overtime costs, rose sharply. It is therefore calculated that total person-hours, which had increased in 2000, fell in 2001.

Chart 11

Import price index and the inverse of the effective exchange rate of the drachma  
(January 2000 - December 2001)  
(Percentage changes over same month of previous year)



Sources: NSSG and Bank of Greece. On the term "effective exchange rate of the drachma" in 2001, see footnote 16.

It is worth noting that the upward divergence<sup>19</sup> of the rate of increase in unit labour costs in Greece over that of the euro area was eliminated in 2001. This reflects not only the significant slowdown in the rate of increase in the figures for Greece in recent years (from approximately 11% in 1994 to 2.5% in 2001), but also a sharp acceleration of the rate of increase in labour costs in the euro area in 2001 (owing to the conjunctural zero increase in productivity – see Section 1 of this chapter). Nevertheless, the rate of increase in average earnings or compensation per employee in Greece in 2001 continued to be more than double that of the euro area (5.7% against 2.5%).<sup>20</sup>

Total domestic (consumer and investment) demand relative to supply always has a direct or indirect impact on inflation. It is particularly important to examine this impact in relation to 2001, the year of transition to the single monetary policy and a year marked by a significant drop in interest rates and increased liquidity.

In particular, private consumer demand for goods, which can have a direct effect on consumer prices, is calculated to have declined during the year. In the first eleven months of 2001,

however, it is estimated to have grown at a high average annual rate (4.2%), although this was lower than in the corresponding period of 2000 (6.0%). Consumer demand for services also increased in most cases at a lower rate than in 2000 (see Section 4 of this chapter for details). In the same period of 2001, domestic production of industrial consumer goods grew by 3.2%,<sup>21</sup> while the volume of total imports of consumer goods<sup>22</sup> rose at a noticeably higher rate (in the order of 4.5% – see Section 5 of this chapter). Increased household borrowing, the result of a rapid expansion of consumer credit,<sup>23</sup>

<sup>19</sup> During the three years 1998-2000, the annual rate of increase in labour costs in the euro area fluctuated between 0.2% and 1.3%, while in Greece the figure was between 2.6% and 4.5%.

<sup>20</sup> During the three years 1998-2000, the annual rate of increase in average nominal earnings in the euro area was between 1.4% and 2.5%, while in Greece the figure was between 4.5% and 6.3%. This is examined more closely (in terms of wage policy and policies aimed at enhancing competitiveness) in Chapter VI.2.

<sup>21</sup> In the first eleven months of 2001, production of consumer non-durables grew at an average annual rate of 3.6%, while the rate for durable goods (a much smaller proportion of the total) dropped by 4.3%. The corresponding rates for the whole of 2001 were 3.2% and -5.0% (increase in total production of consumer goods: 2.8%).

<sup>22</sup> Including cars, computers, mobile telephone equipment and other consumer durables.

<sup>23</sup> Throughout 2001, the annual growth rate of total consumer credit was more or less at the same level or higher than in December 2000 (42.7%), and in December 2001 it stood at 42.5%.

is estimated to have played a substantial role in maintaining the high level of growth in consumer demand. Credit expansion was in turn the result of lower lending rates<sup>24</sup> and stiff competition between banks.<sup>25</sup> At the same time, there are indications that the average propensity to save continued to fall.<sup>26</sup>

As far as investment demand is concerned, it is worth noting that demand for housing increased rapidly in 2001, according to estimates which take into account the accelerated rate of increase in dwelling prices and the level of private building activity, assessed on the basis of building permits (see Section 4 of this chapter). This could add to inflation in 2001. Nevertheless, according to the data available from the NSSG, the “construction cost index for residential building” rose by just 2.3% during 2001.

Under certain conditions, maintaining a high rate of growth in domestic demand could lead to a widening of corporate profit margins. However, the annual financial reports of “listed” companies on the Athens Stock Exchange for the financial year 2001<sup>27</sup> actually show a drop in operating profits, with the exception of companies which benefit from excess demand conditions (such as construction companies and companies involved in the production of building materials). This development was linked primarily with stiffer price competition from imported final products (see Chart 11)<sup>28</sup> and with domestic businesses’ efforts to maintain their share of product sales in the home market (this share, at least in the case of manufactured consumer goods, was threatened, as imports were rising at a faster rate than domestic production of goods destined for the home market). In addition, it appears in some cases that the substantial increase in sales enabled businesses to realise satisfactory profits despite lower margins.

According to the above information, the reduction of lending rates and faster credit expansion supported the high growth rate of demand, but did not contribute, at least not immediately, to an increase in inflationary pressures. This happened because a substantial part of the increase in consumer demand was met by imported goods and because the impact of credit expansion and low lending rates on total demand was partly offset by the pricing policies pursued by the businesses involved in producing and marketing domestic products. These companies were obliged to contain or even reduce their operating profit margins in order to cope with price competition from imports. It is of course reasonable to assume that *without* the reduction in interest rates and high credit expansion, it is perhaps possible that inflationary pressures would have actually *subsided* (instead of simply *not increasing*).

Finally, it is worth pointing out that the deregulation of certain markets (or the prospect of their being deregulated) and the further integration of other

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<sup>24</sup> In 2001, the average annual level of the average interest rate on consumer loans was 3.65 percentage points lower than in 2000.

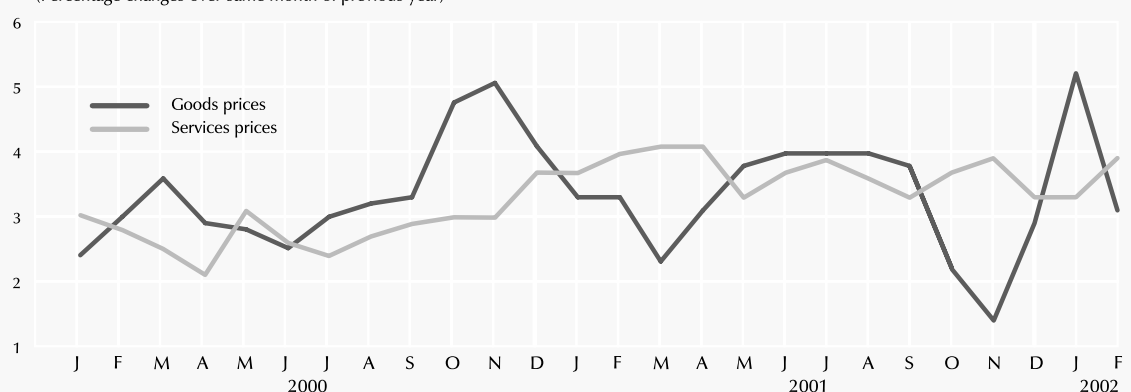
<sup>25</sup> See also Chapter IV.2 below.

<sup>26</sup> For the relationship between these developments, and for other factors which have a positive or negative effect on consumer demand, see Section 4 of this chapter.

<sup>27</sup> “Listed” companies on the ASE are not fully representative of business in general (though they have become more representative than they were in the past, precisely because of the listing of many important companies on the ASE). For other companies, the details available are inadequate, but it is estimated that profit margins moved in the same direction throughout the corporate sector. Therefore, according to the annual financial results of “listed” companies (excluding investment companies and banks), operating profits rose in 2001, but did not increase as much as the value of sales. Total profits (net profits before tax), which reflect losses incurred on stock market trading, fell. Operating profit margins also declined in industry (by a significant amount owing to a large reduction in refineries’ results), which contrasted with the upward trend evident, with the exception of 1996 and 2000, from 1992 onwards (see also A. Tortopidis *et al.*, *Greek industry in the decade 1990-2000*, Industrial News and Research, 2001).

<sup>28</sup> It should be recalled that in 2001 the average annual rate of increase in wholesale prices for imported end-products (excluding fuel) was 3.3%, i.e. lower than the corresponding rate for domestic industrial goods (excluding fuel) for home consumption (4.8%).

Chart 12  
CPI goods and services prices  
(January 2000 - February 2002)  
(Percentage changes over same month of previous year)



Source: Calculations based on NSSG data.

markets into the single European market have caused some goods, especially services, to become more marketable on a cross-border level than they were before. This is conducive to a faster rise in productivity and stronger competition in services sectors, where previously the lag in productivity (compared with other sectors of the economy) or inadequate competitive conditions had led to faster price increases and helped to raise Greek inflation to a level above that enjoyed by our European partners.<sup>29</sup> While the prices of services included in the CPI were rising faster than the prices of goods until 1999, the opposite was the case in 2000. In 2001 the prices of services rose at an average annual rate only slightly higher than that of the prices of goods (3.7% against 3.2% – see Chart 12).

The main conclusion to be drawn from the above is that inflation remained at a relatively high level in 2001. This was chiefly due to the fact that the rise in international oil prices and the depreciation of the exchange rate of the euro against the drachma in 2000<sup>30</sup> had an indirect impact on the prices of goods (excluding fuel) and services. To a lesser degree, the relatively high level of inflation is linked to the (limited) acceleration of the rate of increase in unit labour costs in the business sec-

tor. Moreover, the reduction of interest rates owing to the transition to the single monetary policy stimulated demand noticeably, but does not appear to have contributed to the increase in inflationary pressures, though it may have helped prevent the *easing* of such pressures. Nevertheless, the inflationary impact of the reduction in interest rates was smaller than had been forecast by a number of international organisations.

<sup>29</sup> See "The contribution of the Balassa Samuelson effect to inflation: cross-country evidence," in IMF, *Greece: Selected Issues*, December 1999, and *Greece, Staff Report*, November 1999. Also, "Inflation Differentials in a Currency Union", ECB, *Monthly Bulletin*, October 1999. Balassa and Samuelson argue that, in countries which are in a process of economic convergence, the productivity growth rate in sectors which produce internationally marketable goods rises and leads to high salary increases, without adversely affecting unit labour costs and prices (in the same sectors). However, when large pay increases "seep" into sectors that do not produce marketable "goods" (chiefly in the services sector), where the productivity growth rate remains lower, prices in these sectors rise more quickly and general inflation increases, though without affecting competitiveness (since price increases concern non-marketable products). According to a study by the International Monetary Fund, this phenomenon placed a significant burden on inflation in Greece. Specifically, in the period 1960-90, it is estimated that the burden was one percentage point per year (with an average annual inflation rate of 11.8%). In the more recent period 1990-1996, this burden grew to 1.7 percentage points (with an average annual inflation rate of 14%). A study comparing various European countries showed that, in the latter period, a significant part of the inflation differential between Greece and these countries (1.2 percentage points) was attributable to the "Balassa-Samuelson effect."

<sup>30</sup> Increased prices of fresh fruit/vegetables also contributed to the relatively high level of inflation at the end of 2001.

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#### 4. Economic activity, employment and unemployment

##### *Developments in the euro area*

The annual growth rate of GDP in the euro area averaged 3.4% in 2000 but fell during 2001<sup>31</sup> to 1.5%<sup>32</sup> for the year as a whole. The slowdown in the annual rate of increase in GDP in Germany was particularly significant (from 3.0% in 2000 to 0.6% in 2001),<sup>33</sup> but in France, Italy and Spain it was less pronounced.

An examination of each category of total demand shows that the most significant slowdown occurred in the annual rate of change in exports of goods and services, which fell from an average of 11.9% in 2000 to 5.6% in the second quarter of 2001. In the fourth quarter it turned negative (-1.8%), largely because of adverse developments in the US economy. Fixed capital formation, which had increased by 4.4% in 2000, grew at an annual rate of just 0.3% in the second quarter of 2001 and decreased at an annual rate of -1.9% in the fourth quarter. However, the deceleration in the annual rate of increase in private consumption was relatively limited (from 2.6% on average in 2000 to 1.7% in the second quarter of 2001 and 1.6% in the fourth), reflecting the basically stable rate of increase in income from salaries and the small drop in the growth rate of other household income. The rate of increase in public consumption fluctuated between 1.8% and 2.1% (compared with 1.9% on average in 2000). Domestic production was hit mainly by the slower increase in exports, while the slowdown in domestic consumption and investment demand had a negative impact chiefly on demand for imported goods. This is indicated by the fact that the annual rate of change in imports of goods and services, which was positive and

high in 2000 (+10.7% on average), initially slowed (to 0.2% in the third quarter of 2001) and then turned negative (fourth quarter: -3.7%).<sup>34</sup> The deceleration in domestic consumption demand and mainly in investment demand was partly linked to the rapid spread of negative expectations concerning the global economic outlook. In particular, growing uncertainty about the progress of the US and the world economy after the events of 11 September had an adverse effect, although only temporarily, on economic sentiment in the euro area and on the short-term prospects for economic activity.

The Purchasing Managers' Index (PMI) for manufacturing in the euro area, which had stood at less than 50 since April (indicating reduced levels of activity), fell further to 42.9 in October, i.e. the lowest point for the last four years. However, in November it showed a clear, continuous rise (reaching 44.1 in December 2001<sup>35</sup>), though it did not exceed 50. Additionally, the corresponding NTC Research Index for the services sector in the euro area fell for the first time<sup>36</sup> below 50 in September and October (46.7). This index too began to rise from November and reached 49.2 in December 2001.<sup>37</sup> Finally, the European

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<sup>31</sup> More specifically, in comparison with the immediately preceding quarter, GDP in the euro area (according to seasonally adjusted figures) was 0.5% in the first quarter of 2001, 0.1% in the second quarter, 0.2% in the third quarter and -0.2% in the fourth. The annual rate of increase fell to 2.4% in the first quarter of 2001, 1.6% in the second, 1.4% in the third and 0.6% in the fourth.

<sup>32</sup> Eurostat press release, 12 March 2002. This rate corroborates previous estimates by the OECD (1.6%, *Economic Outlook*, December 2001) and the International Monetary Fund (1.5%, *World Economic Outlook* update, 18 December 2001).

<sup>33</sup> Press Release from the German Statistics Service, 17 January 2002.

<sup>34</sup> For the role played by each factor in increasing GDP in the euro area in 2001, see Table 8 of the Eurostat Press Release, No. 29 (12 March 2002).

<sup>35</sup> In January 2002, it rose to 46.3 and in February to 48.6.

<sup>36</sup> Since July 1998, when the index was first compiled.

<sup>37</sup> In January 2002, it reached 51.0, indicating an increase in levels of activity, and in February it reached 51.5, a return to its pre-September 11 level.

Commission's<sup>38</sup> Economic Sentiment Indicator dropped continually from the beginning of the year until November (January: 103.4, August: 100.1, November: 98.6). It picked up in December, however, rising to 98.9.<sup>39</sup>

The slowdown in the growth rate of economic activity grew was more pronounced in the secondary sector than in the services sector.<sup>40</sup> This is evident from the fact that the industrial production index fell by 4.1% between December 2000 and December 2001. However, here, too, there are clear signs of an upturn: based on seasonally adjusted figures, industrial production rose by 0.8% in December compared with the immediately preceding month, while in November it had dropped by 0.7% and in October by 1.6%. With a time lag, these developments also had an impact on employment in the euro area (whose growth rate decelerated). They also halted the downward trend of the unemployment rate. Unemployment rose at an annual rate of 1.9% in the first quarter of 2001 (slightly lower than the average for 2000), but then fell to 1.6% in the second and 1.3% in the third quarter.<sup>41</sup> The unemployment rate, which had fallen by one percentage point in 2000 (average annual level 8.9% against 9.9% in 1999), remained unchanged during 2001, standing at 8.4% in December (against 8.5% in December 2000).<sup>42</sup>

### *Developments in Greece*

According to recent provisional estimates produced by the NSSG,<sup>43</sup> GDP increased by 4.1% in 2001<sup>44</sup> (the same figure as in 2000 – see Table IV). On the basis of these estimates, the Greek economy's growth rate in 2001 was the second highest in the euro area (after Ireland). This increase was achieved despite the negative impact of the 11 September events on Greek exports, tourism and the general climate of confidence (and, thereby, on domestic consumption

**Table IV**  
Demand and gross domestic product (2000-2001)

(at constant 1995 market prices)

(Annual percentage changes)

	2000	2001
Private consumption	3.3	3.2
Public consumption	0.7	1.8
Gross fixed capital formation:	7.8	7.4
By investor		
– General government	4.7	7.4
– Other sectors <sup>1</sup>	8.4	7.4
By type		
– Dwellings	–4.3	2.9
– Other constructions	7.5	12.0
– Equipment	17.2	5.2
– Other investment	0.0	10.6
Stocks and statistical discrepancy (percentage of GDP)	(0.1)	(–0.0)
Domestic final demand	4.1	3.8
Exports of goods and services	18.9	2.3
Exports of goods	11.8	1.4
Exports of services	24.0	2.9
Imports of goods and services	15.0	1.9
Imports of goods	15.8	2.9
Imports of services	12.3	–1.6
Gross domestic product at market prices	4.1	4.1

1 Including investment by public and private enterprises, and by households (mainly residential investment).

Source: Revised estimates by the NSSG/National Accounts Directorate (March 2002).

**38** The revised indicator combines the confidence indicators derived from surveys carried out for industrial, construction and retail trade businesses and consumers. See *European Economy, Supplement B*, issue 8/9, August/September 2001, and *Business and consumer survey results*, February 2001.

**39** The indicator continued to rise in January 2002 (99.1) and in February (99.2).

**40** In the primary sector, the stagnation noted in 2000 continued in 2001.

**41** According to available indications, this rate fell further in the fourth quarter.

**42** In January 2002, the unemployment rate was still 8.4%.

**43** On 13 March 2002 the NSSG released its revised estimates concerning GDP on a quarterly and yearly basis for the period 1999-2001. The annual rate of increase in GDP dropped from 5.1% in the first quarter of 2001 to 4.0% in the second and 3.5% in the third quarter. However, it picked up again slightly in the fourth quarter to reach 3.7%.

**44** The European Commission ("Autumn Economic Forecasts," November 2001) and the International Monetary Fund (*World Economic Outlook* update, December 2001) have also accepted this estimate, while the OECD estimates that the increase was limited to 3.9% (*Economic Outlook*, December 2001).



Table V

## Indicators of consumer demand (2000-2002)

(Annual percentage changes)

	2000	2001 (available period)	2002 (available period)
Volume of retail sales <sup>1</sup>	5.4	4.8 (Jan.-Nov.)	
Food	5.3	2.7 ( » » )	
Clothing-footwear	4.3	4.1 ( » » )	
Furniture-household appliances	6.0	4.7 ( » » )	
Books-newspapers-office equipment	5.2	5.8 ( » » )	
Index of business expectations in retail trade	-0.5	-8.0 (Jan.-Dec.)	-7.1 (Jan.-Feb.)
New registrations of passenger cars	12.7	-4.4 ( » » )	-13.2 (Jan.)
Olympic Airways (passenger-kms)	6.7	-5.0 ( » » )	
Piraeus Port Authority (OLP) passengers	6.8	9.2 (Jan.-Oct.)	
Tax revenue from mobile telephony flat fees	40.3	48.2 (Jan.-Dec.)	30.6 (Jan.)
Travel receipts in drachmas of constant purchasing power	21.7	0.3 (Jan.-Nov.)	
Outstanding balance of total consumer credit extended by commercial banks	42.7 (Dec.)	42.5 (Dec.)	

1 New NSSG-Eurostat index, 1995=100.

Sources: Calculations based on data from NSSG-Eurostat (retail sales), NSSG (cars), IOBE (expectations), Bank of Greece (consumer credit and travel receipts), Ministry of Economy and Finance (tax revenue from mobile telephony), Olympic Airways and OLP.

and investment demand) in the last four months of 2001.<sup>45</sup>

The available *short-term* indicators suggest that the *annual rate of increase* in private consumer demand in 2001 (at least as far as goods are concerned) remained high, albeit lower than in 2000. However, during the year, private consumption fell from the especially high *level* achieved in the first two months, reaching the lowest point in October before picking up again in November. A sharper slowdown was noted in the growth rates of secondary production, exports and imports of goods and also, according to anecdotal evidence, certain categories of investment. Nevertheless, the unemployment rate fell and the number of employees rose. As far as the impact of 11 September on confidence is concerned, the Economic Sentiment Indicator (ESI) in Greece, which is compiled by the European Commission, remained unchanged at 101.8 in September, then

dropped slightly to 101.6 in October and 101.7 in November, with a slight rise to 101.9<sup>46</sup> in December. The overall trend of the ESI in 2001 was downward, with the average annual level at 102.0, from 103.4 in 2000.

With particular regard to private consumption (see Table V and Charts 13 and 14), the volume of retail sales (NSSG – Eurostat index, which does not include cars and motorcycles) increased at an average annual rate of 4.8% in the eleven months from January to November 2001 (compared with 5.4% in the corresponding period in 2000). The annual rate of increase in the index was particularly high in the first two months of 2001 (which may be linked to the sharp cuts in interest rates at the end of 2000 and to the effect of joining the euro area on the economic

<sup>45</sup> For the possible effects in 2002, see Chapter VI.2.

<sup>46</sup> This improvement continued in January of the current year, when the ESI rose to 102.0. In February, however, it fell to 101.7.

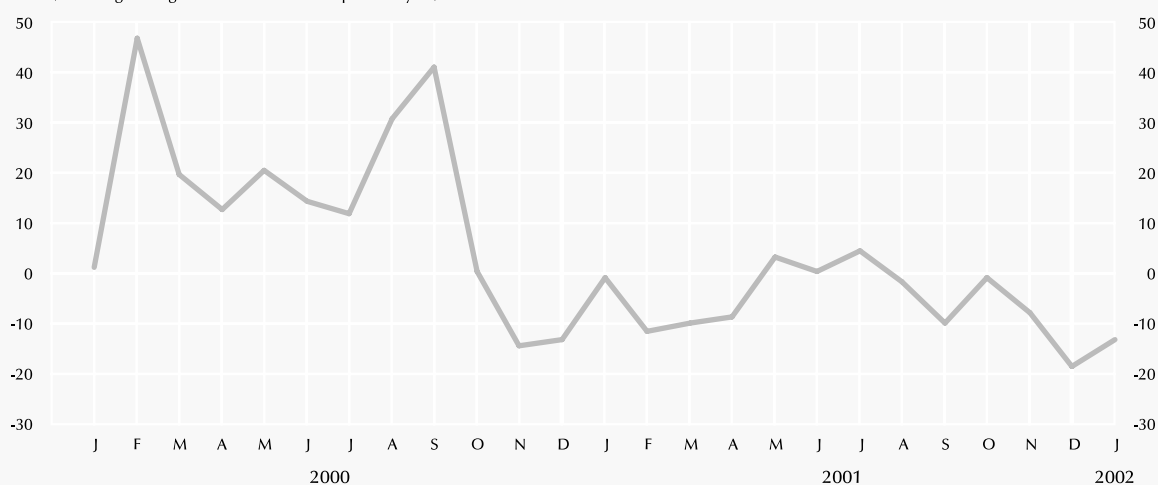
Chart 13

### Consumer demand (January 2000 - February 2002)

A. Retail sales volume and business expectations  
(Percentage changes over same month of previous year)



B. New passenger car registrations  
(Percentage changes over same month of previous year)



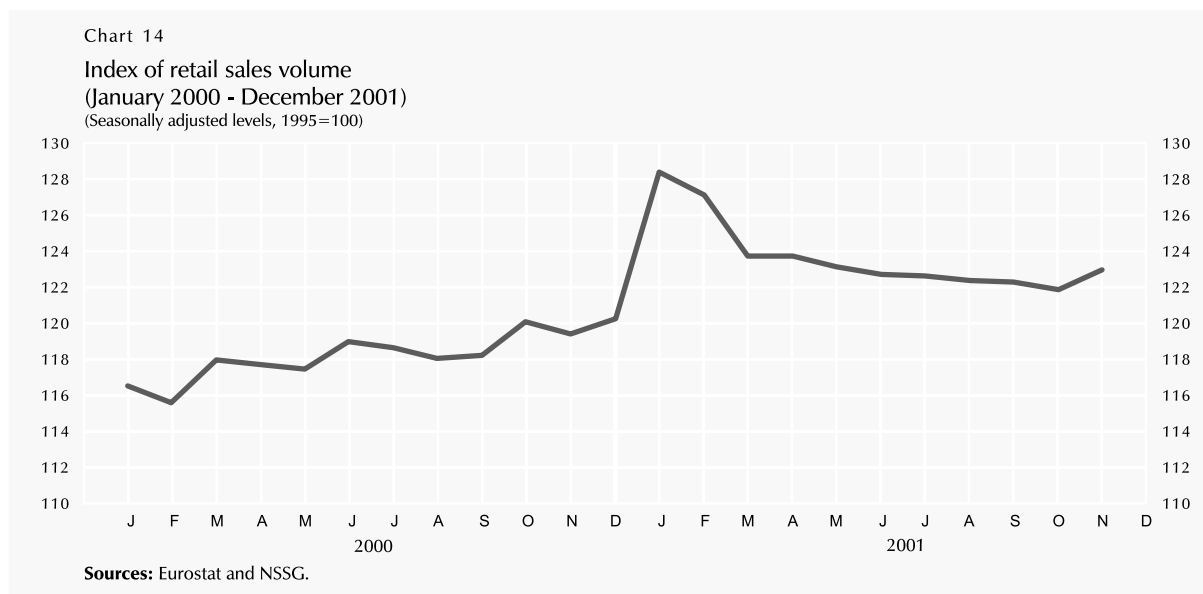
**Source:** Calculations based on NSSG (retail sales and cars) and IOBE data (business expectations). The index of business expectations is calculated on the basis of business firms' estimates of sales and stocks, as well as their forecasts of business activity over the next six months.

sentiment). Overall, the rate tended to slow down from March (it had fallen to 3.4% by September, while in October it dropped sharply to 0.3%). This fall was reversed in November (+3.4%).<sup>47</sup> Moreover, new passenger car registrations decreased in 2001 by 4.4% (as was to be expected following the 12.7% increase in 2000). If developments in both these

indices are taken into account,<sup>48</sup> it can be seen that the average annual rate of increase in private con-

<sup>47</sup> In the euro area, the annual rate of change in the same index was 1.6% in September, -0.3% in October, 1.6% in November and 0.4% in December.

<sup>48</sup> Bearing in mind that passenger cars represent approximately 7% of private consumer demand for goods.



sumption of goods was 4.2% in the first eleven months of 2001, compared with 6.0% in the corresponding period of 2000. It is estimated that the rate of increase for 2001 as a whole stood at 3.6% (against 5.9% for 2000 as a whole).<sup>49</sup> Lastly, consumer demand for services grew at a rate which, in most cases, was lower than in 2000.<sup>50</sup>

Households increased their borrowing owing to the rapid expansion of consumer credit. As mentioned previously, this helped to maintain consumer demand at a high level. By contrast, the growth rate of certain categories of household income appears to have been limited.

In particular:

- The increase in average pre-tax earnings per employee (in nominal and real terms) is estimated to have been slightly lower than in 2000, while the effect of tax relief measures<sup>51</sup> was also less pronounced. As a result, the real net earnings of average wage-earners (after the deduction of income tax and social security contributions) rose at the slower rate – according to approximate calculations – of 0.9% in 2001, compared with 4.8% in 2000 (see Table III).<sup>52</sup> If the increase in the

number of employees is taken into account, it is estimated that the rate of increase in *total net income from earnings* decelerated to 2-3% in 2001, from around 5.5% in 2000, in real terms.

- Household income from interest decreased. This is a reflection of lower interest rates on bank deposits<sup>53</sup> and on government paper.<sup>54</sup>

<sup>49</sup> The business expectations index in retail trade (IOBE) suggests a sharper slowdown, as it shows an average annual decrease of 8.0% in 2001 (in comparison with a fall of just 0.5% in 2000).

<sup>50</sup> Travel receipts (calculated in drachmas of constant purchasing power) increased at an annual rate of 0.3% in the eleven months from January to November 2001 (against 21.3% in the corresponding period of 2000). During the same period, total travel payments decreased. This reflects a substantial drop in the number of Greeks travelling abroad, as stressed by travel agents. However, State revenue from fixed monthly duties payable for mobile telephones rose by 48.2% in 2001, compared with 40.3% in 2000, while the increase in business turnover reported by mobile telephony companies was also very substantial.

<sup>51</sup> See Bank of Greece, *Annual Report 2000*, Chapter IV.2.

<sup>52</sup> Note that net income from earnings is not the same as wage earners' disposable income, as the latter must include transfers to employees.

<sup>53</sup> In 2001, the average interest rate on savings deposits and time deposits was 3.3 and 2.8 percentage points lower (respectively) than in 2000.

<sup>54</sup> The government's interest payments in 2001 decreased by 2%. This is one of the main reasons behind the improved fiscal situation, i.e. the appearance of a small general government *surplus* in 2001, compared with a *deficit* of 0.8% of GDP in 2000, according to the introductory report on the budget.

– Sufficient data are not available concerning profits distributed by businesses. Since net corporate profits rose substantially in 1999 but fell in 2000, it is reasonable to assume that dividends for the year 2000 (which formed part of household income in 2001) were less in comparison with dividends for the year 1999 (which formed part of household income in 2000).

– There was a rise of 1.4% in real income from agricultural activities per employee in 2001, according to recent estimates by Eurostat.<sup>55</sup> If the estimated 2.9%<sup>56</sup> fall in employment in the agricultural sector is taken into account, *total* income from agricultural activities (including income subsidies) dropped by 1.5% (according to these same estimates).

– Finally, insufficient data are available concerning the income of the self-employed in urban areas, the income derived from black market activities, and transfers to households (including pensions). While it would be normal to expect income from these categories to rise faster than net income from wages, it has been estimated that when the other income categories mentioned are taken into account, the rate of increase in total nominal disposable household income slowed in 2001 and – moreover – was lower than the rate of increase in private consumption at current prices.

This estimate leads to the conclusion that the decrease in the average propensity of households to save (i.e. the fall in the percentage of disposable income which appears not to correspond to consumer spending)<sup>57</sup> continued in 2001. It should also be noted that, to a significant extent, the recorded decrease is due to the way in which disposable income and savings are defined and measured.<sup>58</sup> At the same time, however, the considerable drop in interest rates on deposits, increased confidence concerning the economy's prospects and the efforts of households to approach con-

sumer patterns in other European Union countries may well have led to a reduction in the propensity to save, regardless of the method of measurement.

Changes in the value of households' assets also affect to some degree their consumption and saving behaviour. More specifically, the continuing decrease in the current value of shares held by households<sup>59</sup> had a direct negative impact on consumption. This negative impact was limited by the

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<sup>55</sup> See Eurostat, *Statistics in Focus*, Theme 5-25/2001 (December).

<sup>56</sup> Employment is measured in equivalent units of full time employment.

<sup>57</sup> According to estimates by the National Statistical Service of Greece (NSSG), gross savings by households as a percentage of their gross disposable income had dropped – with the exception of 1997 – almost continually from 1995, when they were equal to 16.2%, to 2000, when they reached 11.6%. (For the purpose of comparison, note that over the same period, the percentage of saving also fell in the euro area, but less markedly so, from 17.6% to 14.9%.) If the figures are adjusted to exclude depreciation from gross disposable income and instead to add social non-monetary transfers to such income (and to consumption), then the percentage of saving drops from 10.6% in 1995 to 5.3% in 2000. National accounting estimates are not yet available for 2001. According to estimates from the Ministry of Economy and Finance, for the private sector as a whole (*households and business*), the percentage of saving did not change in comparison with 2000.

<sup>58</sup> In fact, while disposable income includes interest income (which decreased), it does not by definition include borrowed funds (which not only rose, but also facilitated increased consumer spending, particularly since falling lending rates mean lower liabilities for householders in the future). Also, savings are not measured directly. The figure for savings is taken to be the balance (i.e. the difference between disposable income and consumer spending). For certain methodological problems involved in measuring saving trends, see also the study "Saving and investment: determinants and policy implications," (Box IV.1, "Conceptual issues regarding the measurement of saving in the national accounts"), in OECD, *Economic Outlook*, December 2001.

<sup>59</sup> The ASE's composite index of share prices fell by 23.5% between the end of December 2000 and the end of December 2001 (the index dropped by 25.1% between the end of December 2000 and 10 September 2001, but rose by 2.1% between 10 September and the end of December). Useful information about share ownership by households is provided by two sample surveys carried out by ICAP (*Greek households: estimates for 1999 and expectations for 2000*, December 1999, and *Greek households: estimates for 2000 and expectations for 2001*, July 2001). According to these surveys, the percentage of households which invested in shares or share-based mutual funds in 2000 fell to 12.8%, from 15.3% in 1999. In 1999, 2.6% of households declared that their financial situation had improved owing to profits they had made on the ASE. However, this figure fell to 0.3% in 2000, while just 0.1% said that they were expecting improved returns from this source in 2001. Similarly, no household (0%) stated that its financial situation had worsened owing to losses sustained on the ASE in 1999, but this figure rose to 2% in 2000, though only 0.7% of households expected worse returns from this source in 2001.

Table VI

## Indicators of investment demand (2000-2002)

(Annual percentage changes)<sup>1</sup>

	2000	2001	2002 (available period)
Capital goods output	8.2	2.0	
Investment expenditure (at current prices) of private industrial firms <sup>2</sup>	30.0 <sup>3</sup>	-31.9 <sup>4</sup>	38.3 <sup>4</sup>
Capacity utilisation rate in the capital goods industry	(80.6)	(81.4)	78.3 (Jan.-Feb.)
Disbursements out of the public investment budget	11.3	7.3	
Volume of private construction activity (on the basis of permits issued)	5.7	13.4 (Jan.-Nov.)	
Cement production	4.5	4.6	
Construction business expectations index	4.1	-5.6	0.9 (Jan.-Feb.)
Outstanding balance of total bank credit to housing	31.2 (Dec.)	38.9 (Dec.)	

1 Excluding capacity utilisation.

2 Estimates of firms participating in the IOBE investment survey.

3 Estimate of the March-April 2001 survey.

4 Estimate or forecast of the October-November 2001 survey.

**Sources:** NSSG (capital goods output, cement production, volume of private construction activity), IOBE (capacity utilisation rate, investment survey, business expectations index), Bank of Greece (disbursements out of the public investment budget, housing loans).

steep rise in property prices<sup>60</sup> (hence also in current house value, which is a key element of household wealth), which boosted household expectations concerning available resources in the future, thereby mitigating the negative impact of falling share prices and indirectly facilitating consumption (or even recourse to borrowing).

As for investment demand, a slowdown was noted in the rate of increase in some categories of investment and an acceleration in other categories (see Table VI). On the whole, available data suggest that investment demand grew at a lower rate than in 2000.

With specific regard to *business investment excluding housing*, the level of investment programmes for which funding was approved under Law 2601/98 increased by 11.7% in 2001. Production of capital goods, however, finally grew by just 2% for the year as a whole, after initially rising at a relatively satisfactory average annual

rate (3.4%) in the first eleven months of 2001. This figure of 2% was noticeably lower than the figure for 2000 (8.2%). In addition, during the first eleven months of 2001, the rate of increase in the volume of imported capital goods was low and slower than in 2000. This fact should be evaluated in conjunction with the considerably higher rate of increase in 2000, which may have led to the creation of reserves (see Section 5 of this chapter). By contrast, the rate of capacity utilisation in the production of capital goods rose to 81.4 in 2001, from 80.6 in 2000, which is quite remarkable considering the cumulative increase in pro-

<sup>60</sup> According to information provided by the Bank of Greece, the *annual rate of increase* in house prices in provincial urban centres accelerated between the fourth quarter of 2000 (7.9%) and the fourth quarter of 2001 (10.8%). However, *in comparison with the previous quarter*, the increase in prices was 3.7% in the first quarter of 2001, 2.4% in the second, 1.5% in the third and 2.8% in the fourth quarter. Also, according to the Propindex, prices of houses on sale in the Athens-Piraeus area rose by 15.7% in November 2001 compared with November 2000. Note that, according to the 1999 Household Budget Survey, 79.6% of all households own their house (72.7% in urban areas).

duction capacity in recent years. Finally, according to an investment survey by the IOBE <sup>61</sup> in October-November 2001, estimates by private industrial firms relating to investment expenditure (at current prices) were considerably lower at the end of the year compared with forecasts made in March. Whereas an increase of 7.4% had been predicted (in March) for 2001, the October-November survey showed a drop of 31.9% (compared with an expected increase in investment expenditure of 30.0% in 2000).<sup>62</sup> According to the IOBE, this sharp reversal in the trend indicates “a significant downward revision of investment programmes,” which “is definitely associated with the high degree of uncertainty that prevailed at the time the survey was carried out (...), in the immediate wake of the disruption caused to the markets by the events of 11th September.” However, given that these same businesses forecast a 38.3% increase in investment expenditure in 2002, the IOBE emphasises that “such a revision is the result of a feeling of being on hold, with decisions being put off until a more suitable time arrives, rather than reflecting any drastic reversal of the upward trends which have prevailed in recent years.”

Regarding the sources of funding for private business investment, it should be pointed out that 2001 saw a drop in *total* profits, as already noted, (on the basis of the annual results of “listed” companies). This development reflects mainly the losses sustained by businesses from stock market transactions, while fund raising through the ASE was considerably reduced.<sup>63</sup> At the same time, of course, bank credit (and especially the cost thereof) is no longer a restrictive factor, following the large cut in lending rates.<sup>64</sup> The deceleration in the annual rate of increase in the balance of credit to industry, from 12.8% in December 2000 to 6.7% in December 2001, was mainly due to the reduced *demand* for credit.

The progress of *investment in the construction industry* appears to have been more favourable, although all available indicators are not moving in the same direction. Firstly, it is significant that cement production, which mirrors the overall trends in private and public construction activity, increased by 4.6% in 2001, i.e. as much as in 2000 (4.5%). According to a conjunctural survey carried out by the IOBE, construction company estimates concerning their current projects remained positive throughout the year. In contrast, their estimates on their future prospects (“work scheduled to be carried out”) were negative, ultimately causing the business expectations index for the industry, compiled by the IOBE, to fall by 5.6% in 2001.<sup>65</sup>

*Public sector investment expenditure* (which to a significant degree concerns construction) showed a pronounced decline in the annual rate of change until April, after which it rose again to show a 7.3% increase for the whole of 2001 according to disbursement data. The budget forecast was for an increase of 9.9%.<sup>66</sup> Negative developments during the first few months of 2001 are attributable to the changeover from the 2nd to the 3rd Community Support Framework and to the resultant delay in the approval of jointly funded pro-

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<sup>61</sup> See the IOBE Press Release of 12 February 2002.

<sup>62</sup> Account must of course also be taken of the fact that the details are not completely comparable as the companies replying to the survey every six months are not the same. The figures are heavily influenced by changes in the composition of the sample of responses.

<sup>63</sup> In 2001, companies other than financial institutions raised just 276 billion drachmas on the ASE (compared with 2,267 billion in 2000). Industrial enterprises raised 101 billion drachmas (compared with 649 billion in 2000).

<sup>64</sup> The average annual interest rate on short-term loans to businesses dropped by 3.7 percentage points, while interest rates on long-term loans recorded a fall of 2.9 percentage points.

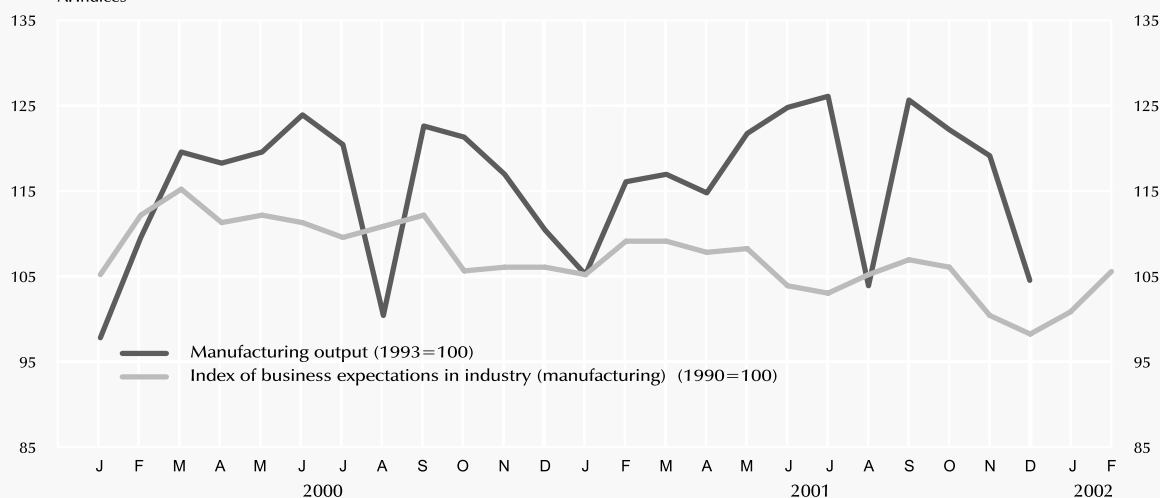
<sup>65</sup> Nonetheless, the index rose significantly in the three months from November 2001 to January 2002, although it fell sharply in February.

<sup>66</sup> The Ministry of Finance estimates that the initial forecast for 2001 may have been accurate if account is taken of the extension of the fiscal year, which is in force for the investment budget.

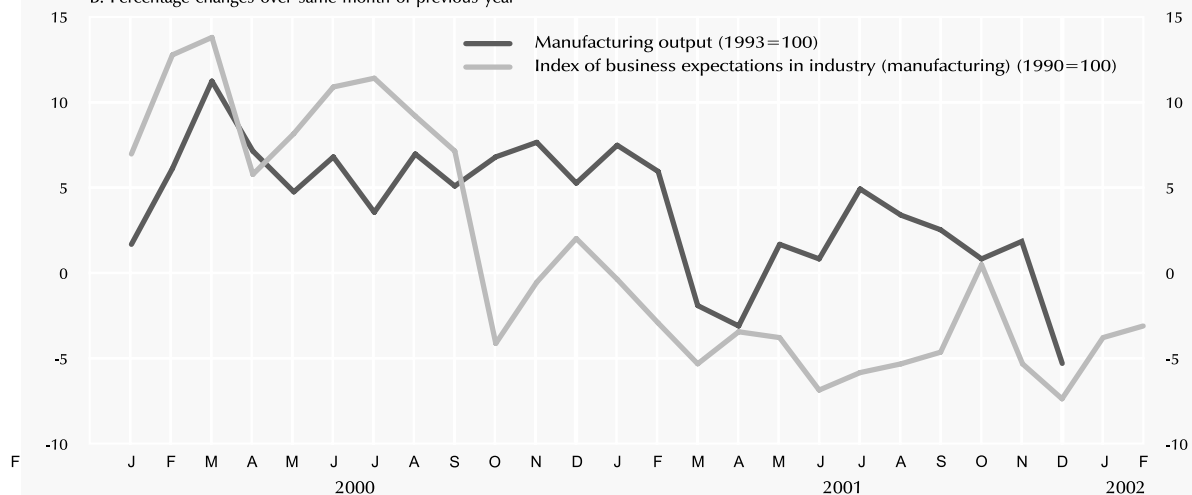
Chart 15

## Output and business expectations in manufacturing (January 2000 - February 2002)

A. Indices



B. Percentage changes over same month of previous year



**Sources:** NSSG (output) and IOBE (business expectations). The index of business expectations is calculated on the basis of business firms' estimates on aggregate demand and stocks, and of output forecasts for the next 3-4 months.

grammes. This is reflected in a survey of the economic conjuncture carried out by the IOBE: estimates concerning current projects being carried out by construction companies involved in public works were negative until April and then positive during the months thereafter (except December).

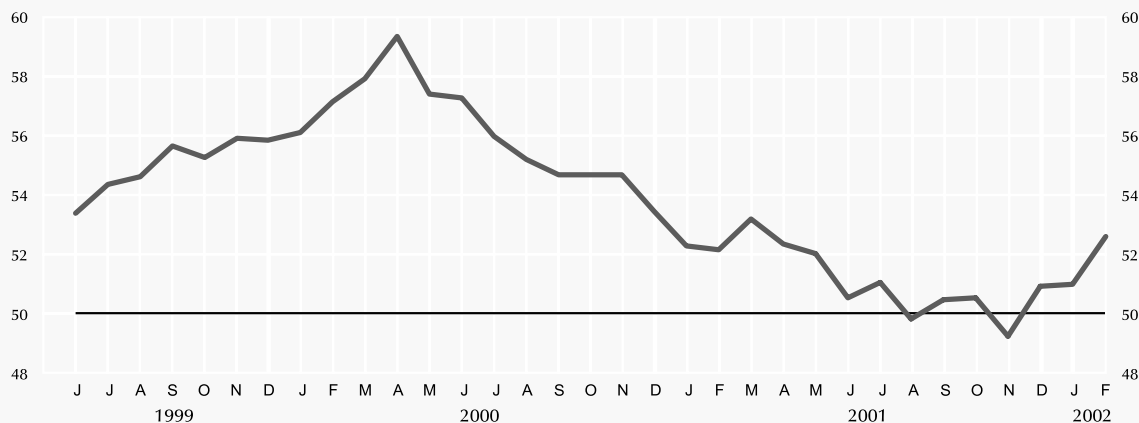
Finally, the volume of private building activity based on the number of building permits issued, which is a leading indicator of investment in housing and other buildings, increased at an

annual rate of 13.4% over the first eleven months of 2001 (against a 5.7% increase in 2000 as a whole).<sup>67</sup> Also, both estimates and forecasts by businesses involved in housing construction were

<sup>67</sup> In the early months of 2001, this index benefited both from the issue of permits to build industrial plants in areas outside Attica and from the issue of permits to construct housing in Attica areas which had been struck by the earthquake. In addition, the large increase in objective values from 5 March 2001 probably led interested parties to obtain their permits within the first two months of the year, i.e. earlier than originally planned.

Chart 16

Purchasing Managers' Index (PMI) for manufacturing (June 1999 - February 2002)  
(Seasonally adjusted index, positive deviations from the value of 50 indicate an expansion of economic activity)



Sources: Hellenic Purchasing Institute and NTC Research.

on the whole positive in 2001. Investment in dwellings benefited from cuts in interest rates on housing loans<sup>68</sup> and the rapid expansion of housing credit.<sup>69</sup> The supply of housing was affected favourably by the rise in house prices.

The annual rate of increase in secondary production showed a clear slowdown in 2001. More specifically, the general index of industrial production rose by 1.0% in 2001 (against 7.7% in 2000). This development is a reflection firstly of the major slowdown in the rate at which manufacturing output grew, down to 1.7% (compared with an increase of 6.1% in 2000). It is also a reflection of the 1.7% decline in mining activity and the 0.3% drop in the production of electricity, natural gas and water (in comparison with large increases of 14.0% and 11.3% respectively in 2000).<sup>70</sup> It is, however, a positive sign that, despite the slowdown in the general index in 2001, 12 of the 22 branches of manufacturing, which represent 68% of the total in the weighting of the index, increased their production, while 7 branches (33% in the weighting of the index) reported an improved performance, i.e. a larger increase or a smaller decrease in production, compared with 2000. This fact indirectly corroborates the existence of a

dynamic corporate sector. The slower growth of manufacturing output is evident from the index of business expectations in industry (see Chart 15) and from the Purchasing Managers' Index (PMI), which is compiled by NTC Research (see Chart 16). The PMI's average annual level in 2001 was 51.2, compared with 56.2 in 2000 (note that a value of 50 represents the dividing line between a rise and a fall in production). According to this index, the events of 11 September had a limited effect.<sup>71</sup>

The fast growth of economic activity in recent years, together with the programmes aimed at

<sup>68</sup> In 2001, the average interest rate on housing loans was 3.3 percentage points lower than in 2000.

<sup>69</sup> The annual growth of total bank lending for housing was 38.9% in December 2001, compared with 31.2% in December 2000. Obviously, housing loans do not simply facilitate the construction of new dwellings, but also the purchase of older properties.

<sup>70</sup> In the euro area, the general industrial output index dropped at an annual rate of 0.5% in September, 2.7% in October, 4.2% in November and 4.1% in December.

<sup>71</sup> More specifically, the PMI stood at 50.5 in September and October, up from 49.8 in August. In November, it fell to 49.2, and from November showed a steady increase (up to 50.9 in December 2001, 51.0 in January 2002 and 52.3 in February). The annual rate of increase in manufacturing, which on average was 2.4% in the first eight months of 2001, remained at relatively satisfactory levels during the following months (September: 2.6%, October: 1.2%, November: 2.3%), but it dropped sharply in December (-5.3%), chiefly as a result of poor weather conditions, which prevented production plants from operating normally.



Chart 17

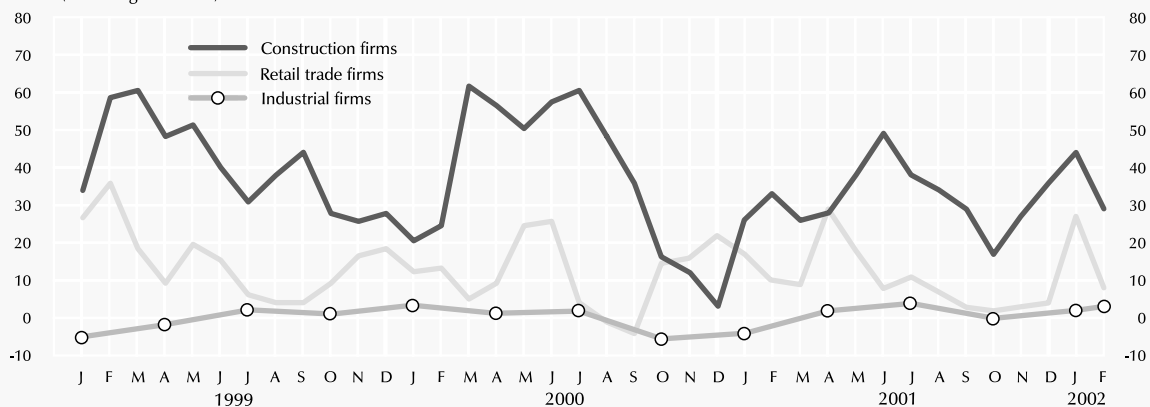
Total unemployment rate (1999 - 2001)  
(Percentage points)



Source: NSSG, Labour Force Survey.

Chart 18

Business forecasts<sup>1</sup> for employment (January 1999 - February 2002)  
(Percentage balances)



<sup>1</sup> Firms' responses concern the prospect of an increase in the number of employees in the forthcoming period.

Source: IOBE, Business Surveys.

raising employment and –to a lesser extent– the introduction of reforms to increase flexibility in the labour market, began to have a beneficial, albeit delayed, effect on both employment and unemployment. As early as 2000, the average annual rate of unemployment had fallen to 11.1%, from 11.9% in 1999 (see Chart 17). In 2000, average annual *total employment* remained unchanged (according to the NSSG, this was due to the use of a newly-defined category, “assistants in family businesses”, which reduced the number of registered employed people by 50,000<sup>72</sup>), but the average annual figure for wage

earners rose by 1.3%. In the first nine months of 2001, the average unemployment rate fell further to 10.4% (compared with 11.3% in the corresponding period of 2000),<sup>73</sup> while the number of long-term unemployed as a percentage of total

<sup>72</sup> This new term came into use from the second quarter of 1999. If the figures are amended so as to exclude the effect of the use of the new term, average annual employment shows a rise of 0.3-0.4% in 2000, rather than stabilisation.

<sup>73</sup> Regarding unemployment figures recorded by the Greek Manpower Employment Organisation (OAED) for 2001, the only figures available show that the number registered as out of work remained unchanged (+0.1%) in the first quarter of 2001, compared with the corresponding period in 2000.

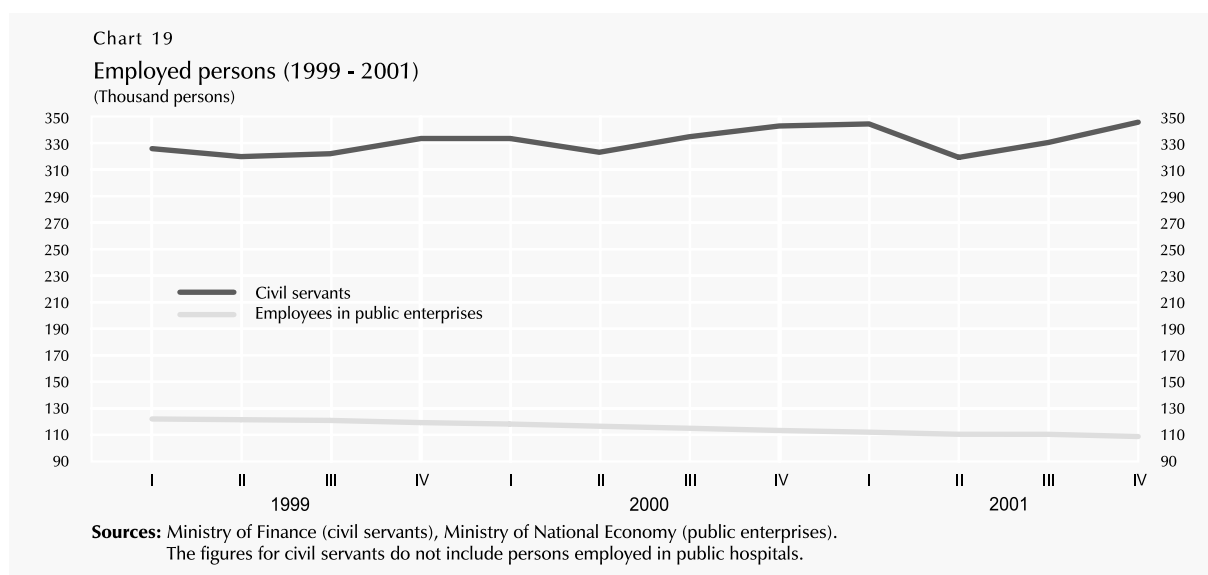


Table VII  
Private sector employment flows

	Year		
	1999	2000	2001
New job registrations	886,168	978,266	1,033,085
Labour contract terminations	477,166	534,805	597,575
Voluntary quits	277,725	341,195	386,043
Net balance (new jobs)	131,277	102,266	49,467

Sources: Manpower Employment Organisation (OAED) and Ministry of Labour.

unemployment decreased noticeably to 53.7% (from 57.2%). However, total employment dropped at an average annual rate of 0.5%, as the 2.7% rise in the number of wage earners was offset by the fall in the number of self-employed workers and “assistants in family businesses”, particularly in the agricultural sector.

During 2001, employment estimates/forecasts by businesses (IOBE – see Chart 18) indicated a marked increase in the construction industry, a rise in retail trade and a very slight recovery in manufacturing. It is worth noting that, according to the survey for the PMI, employment in manufacturing increased continuously during 2001 (with the exception of November), but at a lower

rate than in 2000.<sup>74</sup> It is also interesting to note that purchasing managers reported in July that “the new regulations to reduce paid overtime [Law 2874/2000, the implementation of which began in April] had obliged them to increase employment levels in order to maintain production.” Also, in 2001, employment in central government (including public hospitals) grew at an average annual rate of 0.6%, while in public enterprises it fell by 4.6% (see Chart 19).

Furthermore, the number of new job registrations in 2001 (by private firms) with the OAED

<sup>74</sup> The figure continued to rise during the first two months of 2002.

increased by 5.6%, labour contract terminations (lay-offs) by 11.7%, and voluntary retirement by 13.1% – all evidence of greater mobility in the labour market (see Table VII). In absolute figures, during 2001, recruitment in the private sector exceeded the number of lay-offs and voluntary quits by approximately 49,467. This points to an equivalent rise in the number of new jobs.<sup>75</sup> Nevertheless, according to the same data, the increase in the number of vacancies was less than it had been in the previous two years (2000: +102,266, 1999: +131,277).<sup>76</sup>

Finally, the new procedure to confer legal status on illegal immigrants (in accordance with Law 2910/2001) is expected to lead to an increase in officially registered employment (from the last months of 2001 onwards) as happened – under similar circumstances – in 1998. More specifically, 351,000 applications for legal status were submitted within the time permitted (5 June-2 August 2001).

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## 5. Greece's balance of payments

### *Current account*

The current account deficit in the eleven months from January to November 2001 stood at €7,094 million, i.e. it was €260 million or 3.5% less than in the corresponding period of the previous year (according to details<sup>77</sup> collected and processed by the Bank of Greece – see Table 4 of the Statistical Appendix). The deficit for the eleven-month period corresponds to 5.4% of annual GDP, compared with 6% in the same period of 2000. This development is the result both of the reduction in the trade deficit and the increase in the surplus recorded in the services balance and the transfers balance. In contrast, the deficit in the income account increased significantly.

In the eleven months from January to November, the *trade deficit* decreased by €570 million or 2.8%, in comparison with that recorded in the corresponding period of 2000.<sup>78</sup> This improvement was almost entirely due to the non-oil trade balance, while the oil trade deficit fell marginally. The average dollar price for crude oil, the value of which accounts for more than two thirds of total

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<sup>75</sup> Data from the Labour Inspectorate reveal an increase in the number employed in the private sector in 2001. (The data were released by the Ministry of Labour on 9 October 2001.) According to the data, the people employed in a sample of relatively large businesses increased by 1.9% compared with 2000.

<sup>76</sup> It is worth pointing out that these data do not exactly match data on employment from the NSSG survey. More specifically, analysis of employment flows in the private sector shows that 131,000 jobs were created in 1999 and 102,000 in 2000. If account is taken of the fact that the figures for recruitment and lay-offs are more reliable than figures relating to the number of people who retire (which can never be fully registered), it is considered possible that the net increase in the number of new jobs indicated is actually something of an overestimate. The NSSG's survey on the workforce, however, carried out during 1999 (i.e. between the fourth quarter of 1998 and the fourth quarter of 1999), shows that the number of employees (both in the private and the public sector) rose by just 14,000, while in 2000 the number rose by 74,000.

<sup>77</sup> The figures were gathered mainly from businesses involved in the financial sector (banks, mutual funds, etc.) and from certain large manufacturing plants with substantial financial dealings abroad (refineries).

<sup>78</sup> The NSSG trade statistics show a different picture. According to these statistics (as announced by Eurostat on 22 February 2002), the trade deficit rose by €0.6 billion in the eleven-month period from January to November 2001, while a relatively small reduction was noted in the value of imports (-4%) and a significant fall in the value of exports (-16%) in the same period. Note that details of the September, October and November trade figures for Greece are those provided by Eurostat. It is important to remember that, while figures produced by the Bank of Greece reflect payments, those of the NSSG concern transactions, and it is normal to expect a time lag between transactions and payments. The NSSG produces its figures for EU countries on the basis of Intrastat forms, which are filled in by businesses when submitting their VAT returns. Figures for transactions with other countries are obtained from forms filled in as part of the procedure for the payment of customs duties. Much of the paperwork contains errors and is therefore rejected initially before being corrected after contact with the company concerned. The same method is used in other Member States of the EU. Therefore, the NSSG's details are provisional and, before they are finalised, which may be up to two years after the month to which they refer, they generally underestimate the scale of the country's external trade, particularly the figures which refer to EU countries. There are also other reasons for differences between figures produced by the two sources, which stem e.g. from the method employed to calculate exports of petroleum products or from the fact that the Bank of Greece figures include expenditure on ship repairs and supplies, "tripartite" transactions and income from processing imported goods which are then re-exported.

fuel imports, was 12.1% lower in the period January-November 2001 than in the corresponding period of 2000, but expenditure in euro terms on oil imports was down by just 9.4%, owing to the appreciation of the dollar against the euro. The amount of oil imported remained at approximately the same level. The parallel drop in revenue from oil exports was a little smaller, resulting in a slight reduction of €28 million in the oil trade deficit.

The decrease in the non-oil trade deficit over the eleven months from January to November 2001 was due to a very rapid rise (17.1%) in revenue from exports. This more than covered the increase in spending on imports, which was just 3.2% bigger than in the corresponding period of 2000. If these figures (which refer to the value of transactions) are deflated on the basis of the respective wholesale price indices compiled by the NSSG, it can be seen that the volume of exports also rose much faster than the volume of imports (13.7% compared with 1.1%).<sup>79</sup>

The positive course of Greek exports, as recorded on the basis of figures produced by the Bank of Greece, is connected in part with the cumulative improvement in business competitiveness in recent years<sup>80</sup> and in part with the fact that advantage has been taken of favourable developments in certain markets and goods. It is also linked to the fact that the composition of Greek exports by product and destination is such that they are affected less – in comparison with exports of other EU countries – by the slowdown in global economic activity, especially in OECD countries. Thus, as shown by an analysis of the details produced by the Bank of Greece by group of destination countries<sup>81</sup> (see Table VIII.A), in the eleven-month period January-November 2001, exports to Balkan countries continued to increase at a high rate, while the growth of Greek exports to coun-

tries of the former Soviet Union and Central Europe was also satisfactory. By contrast, a significant reduction was observed in exports to OECD countries. These developments led to a drop in the percentage of exports aimed at EU countries in 2000 from 51.5% to 49.1% in the eleven months of 2001 (for exports aimed at euro area countries, the percentage fell from 37.2% to 34.7%). Exports to OECD countries were down from 86.2% to 82.8%. On the other hand, the percentage of exports to Balkan countries, former Soviet Union countries and countries in Central Europe, the Middle East and the Mediterranean increased from 11.4% to 15.8% over the same period.<sup>82</sup>

According to detailed data compiled by the Bank of Greece concerning the composition of exports by product category (see Table IX.A), the major contributors to the increased non-oil export receipts were food, beverages, tobacco

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**79** The small rise in the volume of imports must be interpreted in conjunction with the very large rise in 2000. Indeed, the rates of increase in the eleven-month period of 2000 were 21.4% for the volume of exports and 23.6% for the volume of imports. This was the prime reason for the deterioration noted in the current account balance.

**80** In more detail, during the four years 1998-2001, the real effective drachma exchange rate indices, as calculated on the basis of relative unit labour costs in manufacturing and relative consumer and wholesale prices, fell on a cumulative basis by 8.2%, 8.2% and 1.5% respectively. Note that a reduction in the real exchange rate indicates an increase in competitiveness and vice versa.

**81** The analytical data for each country and product *do not cover total export receipts and the total import bill*, because, when information is first gathered by banks, the code numbers of the country and of the product are not always recorded. Therefore, it is preferable to base any analysis of the relevant figures on the percentage of the total they represent and on percentage changes *rather than on the absolute figures*.

**82** It appears that figures produced by banks lead to an underestimation of the actual level of exports to all these countries – with a corresponding overestimation of exports to the USA. This is because, in collecting initial information about each transaction, confusion sometimes arises concerning the currency used in the transaction and the destination country. The USA is often named as the destination country, even though the transaction actually relates to the above countries, because the transaction has been arranged in dollars. It should be indicatively noted that, according to recent (provisional) NSSG figures, the proportion of Greek exports aimed at EU countries increased from 45.4% in the seven-month period January-July 2000 to 50.8% in the same period of 2001.

Table VIII

## Breakdown of Greece's external trade by geographical area

## A. Percentage share of each geographical area in total export receipts

	1999	2000	2001 (11months)
OECD <sup>1</sup>	83.1	86.2	82.8
European Union	55.9	51.5	49.1
Euro area	43.7	37.2	34.7
USA	19.0	26.2	27.8
Balkan countries <sup>2</sup>	3.0	3.4	5.2
Central Europe and former USSR <sup>3</sup>	1.8	1.7	2.5
Middle East and Mediterranean <sup>4</sup>	9.6	6.3	7.1
Other countries	2.5	2.5	2.5
Total	100.0	100.0	100.0

## B. Percentage share of each geographical area in total import bill

	1999	2000	2001 (11months)
OECD <sup>1</sup>	87.8	85.4	83.1
European Union	60.7	58.2	61.3
Euro area	49.2	47.4	51.1
USA	12.7	18.8	14.2
Balkan countries <sup>2</sup>	1.4	1.3	1.4
Central Europe and former USSR <sup>3</sup>	2.4	3.6	5.3
Middle East and Mediterranean <sup>4</sup>	2.7	3.8	3.8
Other countries	5.6	5.9	6.4
Total	100.0	100.0	100.0

1 Twenty-four OECD countries excluding Mexico, South Korea, the Czech Republic, Poland and Hungary.

2 Albania, Bulgaria, Romania and former Yugoslavia countries (Slovenia, Bosnia, Croatia, FYROM and New Yugoslavia).

3 Poland, Hungary, Czech Republic, Slovakia and former USSR countries.

4 Greece's major trading partners in Northern Africa, the Middle East and the Mediterranean (Cyprus and Malta).

Source: Bank of Greece.

and consumer durables, and —to a lesser extent— exports of consumer non-durables. The following groups of products played a very significant role in the increase in exports (at the level of two-digit classification based on the Combined Nomenclature Codification system): (a) “machinery-appliances, TV sets, video recorders and their components,” which includes computers and mobile telephony network installations, (b) “tobacco and cigarettes” and (c) “clothing, knitwear and accessories.”

A similar analysis of the figures for the import bill (see Table IX.B) shows that most of the increase (approximately two-thirds) stems from the cate-

gories of consumer non-durables and food-beverages-tobacco. These import trends (as well as export trends) by product group are generally consistent with developments in industrial production and retail sales of almost the same groups of products and with estimates of demand and GDP (see Section 4 of this chapter). Specifically, in the eleven-month period January-November 2001, imports of consumer non-durables and computers display the highest growth rates (compared with the corresponding period of 2000). By contrast, imports of fixed-voice and mobile telephony products were down, and there was a slight drop in spending on passenger car imports (which was expected following the sharp rise in 2000). In addition, the slower

**Table IX**  
Breakdown of Greece's external trade by product category

A. Export receipts	January - November						
	Percentage share of each product category in total export receipts			Percentage change		Percentage share in the increase in total export receipts	
	1999	2000	2001	2000/1999	2001/2000	2000/1999	2001/2000
Food, beverages, tobacco	34.5	27.1	29.3	-7.2	17.1	-14.0	54.1
Consumer non-durables	32.0	35.3	34.2	29.8	5.2	53.7	21.5
Consumer durables	6.1	5.2	8.0	0.8	67.6	0.3	40.9
Raw materials and semi-manufactured products	22.9	28.4	25.6	46.0	-1.9	59.2	-6.2
Capital goods	3.9	3.6	2.6	8.0	-21.1	1.8	-8.9
Other goods	0.7	0.4	0.3	-25.9	-30.0	-1.0	-1.4
Total exports	100.0	100.0	100.0			100.0	100.0

B. Import bill	January - November						
	Percentage share of each product category in total import bill			Percentage change		Percentage share in the increase in total import bill	
	1999	2000	2001	2000/1999	2001/2000	2000/1999	2001/2000
Food, beverages, tobacco	16.1	15.2	14.9	14.9	6.1	10.9	11.5
Consumer non-durables	27.5	27.7	29.7	22.8	15.6	28.6	53.9
Consumer durables	8.7	8.6	8.4	19.8	6.3	7.9	6.7
Raw materials and semi-manufactured products	12.8	14.0	14.1	33.7	8.9	19.6	15.4
Capital goods	17.3	15.0	14.4	5.8	3.4	4.6	6.4
Computers and accessories	2.6	2.9	3.1	35.6	17.7	4.2	6.3
Fixed-voice and mobile telephony	2.1	3.0	2.4	67.8	-11.5	6.6	-4.2
Passenger cars	11.7	13.1	11.9	36.5	-1.8	19.4	-3.0
Other goods	1.2	0.6	1.1	-35.5	88.0	-1.9	6.9
Total imports	100.0	100.0	100.0			100.0	100.0

Source: Bank of Greece.

increase in imports of consumer durables, raw materials, semi-processed products and capital goods despite the relatively high growth rate of GDP and disposable household resources (including borrowed funds) must be attributed to the fact that the very high rate of increase in imports in 2000 contributed to the formation of large stocks, which appear to have decreased in 2001.

There were fewer changes in the countries of origin of imports than in the destination countries of exports during the same period. The main increase

noted was in the share of EU countries as well as countries of the former Soviet Union and Central Europe<sup>83</sup> (see Table VIII.B).

The *services surplus* in the eleven months from January to November 2001 was €8,253 million,

<sup>83</sup> By contrast, imports of US goods fell significantly, which must be attributed to lower spending on fuel imports in conjunction with errors in the compilation of initial data. An indication of these errors is given by the fact that, according to (provisional) data from the NSSG covering the seven months January-July 2001, the proportion of imports from EU countries appears to have *fallen* to 54.7% from 58.2% in the same period of 2000.

an increase of €97 million compared with the same period in 2000, and played a greater part (42.3% against 40.6%) in covering the trade deficit. This development was due to the increase of €460 million in net receipts from travel services, which more than compensated for the fall in net receipts from transport services. In particular, gross receipts from travel services, which showed a 7.5% increase in the seven-month period January-July, fell during the four months of August to November but remained increased as a whole in the eleven months (+2.2% in terms of their euro value), while they decreased in terms of constant prices. Although there are no recent official figures available concerning the number of over-night stays by foreign visitors during the 2001 tourist season, it has been estimated that the country as a whole achieved a slightly higher number of tourist arrivals and overnight stays, but at the same time there were significant regional differences.<sup>84</sup> Prices for tourist services remained at approximately the same levels as in 2000, because the higher hotel rates that were initially announced were offset by subsequent discounts. The positive development noted in net travel receipts is also linked to the reduction in relevant payments, which was recorded almost every month in 2001, with the result that there was a decrease of 5.4% for the eleven months. The impact of the events of 11 September on travel services appears to have been less serious for Greece than for other countries,<sup>85</sup> with the exception of the impact on hotels in Attica, where the already negative trends intensified. Finally, the fall of €334 million in net receipts from transport services was due to the fact that gross receipts increased by just 7.7% during the eleven months, while the corresponding payments rose at a much higher rate (23.4%). The substantial slowdown in the growth rate of receipts after the early months of 2001 is directly connected to the recession in international trade, which led to a fall in cargo

transport by sea, and, in conjunction with the increase in the size of the world merchant shipping fleet, also led to a significant drop in freight rates. Specifically, the BDIY index, which relates to freight in dollars, had risen gradually during 1999 and 2000 (reaching levels in 2000 which were twice as high as in January 1999). However, the index showed a sharp drop in the nine-month period January-September 2001. By the end of that period, it had fallen to a level marginally higher than in January 1999.

The *income account* deficit almost doubled. The increase of €882 million over the eleven months from January to November 2001 was due mainly to the large drop noted in gross receipts from interest, dividends and profits, which was associated with international interest rate developments. Also, total payments for interest, dividends and profits showed a small upturn, as — despite the fall in interest rates — there was a substantial increase in investment by non-residents. Specifically, in the eleven months, interest payments alone came to €3,220 million, of which €1,860 million represented interest payments by general government.

The *transfers surplus* grew by €475 million, mainly owing to increased receipts and lower payments. The increased receipts were derived both from “other sectors,” which includes emigrants’

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<sup>84</sup> More specifically, according to provisional data covering all domestic airports from the Civil Aviation Authority, arrivals from abroad in 2001 stood at 12.2 million passengers, compared with 11.8 million in 2000, an increase of 3.6%. However, it has been estimated that the increase in foreign arrivals was around 2% (total arrivals include Greek passengers, the percentage of which increased). As for regional differences, the analytical details show that the North Aegean islands and the Dodecanese recorded the highest percentage increase in arrivals (11.9% and 7.5% respectively), while the airports with increased passenger preference were Kos (19.6%), Chania (14.3%), Cephalonia (15.8%), Skiathos (18.9%) and Carpathos (22.4%). Also, according to details released by the Union of Attica Hoteliers, hotels in Attica were less full in 2001 than in 2000, the figures standing at 52.9% of capacity in 2001 and 55.7% in 2000.

<sup>85</sup> See particularly the relevant references in Chapter VI.2.

remittances and income from licences for third generation mobile telephony and from net transfers (receipts minus payments) from the EU, which amounted to €4,012 million<sup>86</sup> in the eleven months from January to November 2001, compared with €3,827 million in the corresponding period of 2000. The acceleration of the increase in net transfers, which was noted from April 2001, is linked with the commencement of the receipt of advance payments from the 3rd Community Support Framework (CSF). At the same time, payments for programmes under the 2nd CSF continued. In addition, the first payments by the EU for programmes under the 3rd CSF began in December 2001.<sup>87</sup>

The current account balance in *euro area countries* as a whole improved significantly in the same period (January–November 2001).<sup>88</sup> In particular, the deficit was reduced from €61.9 billion in the corresponding period of 2000 to €12.2 billion. This was mainly due to a large increase in the trade surplus, from €10.3 billion to €63.7 billion, and – to a lesser extent – to the fact that the services balance showed a surplus (+€2.6 billion) instead of a deficit (–€2.5 billion). By contrast, the income account deficit widened by €10.1 billion. Despite the fact that both in Greece and in the euro area the current account deficit is falling, there is a significant difference with regard to the trade balance: in Greece it remains in deficit (albeit with a tendency to improve), while in the euro area as a whole it shows a growing surplus.

### *Financial transactions*

During the period from January to November 2001, financial transactions, i.e. the sum of direct investment, portfolio investment and “other” investment, showed a small net inflow of €11 million, against a substantial net inflow of €4,756 million in the corresponding period of 2000. In

particular, the net inflow of funds for portfolio investment and direct investment (€8,121 million and €1,155 million respectively) was almost fully offset by the substantial net outflow of €9,265 million for “other” investment.

The increase of €2,854 million in assets under the category “other” investment and the decrease of €6,410 million in corresponding liabilities are the reasons for the large outflow recorded in this category. Despite the significant fall due to the €3,084 million reduction in Greek residents’ deposits abroad in November, the increase in assets (residents of Greece on residents of other countries) is mainly the result of changes which took place for Greece’s accession to EMU. These include the gradual freeing of commercial banks’ redeposits in foreign exchange with the Bank of Greece and the adoption of a new definition of reserve assets in line with ECB guidelines.<sup>89</sup> In addition, the reduction in liabilities is due to the net decrease in deposits by non-residents with Greek banks (€5,496 million) and the settlement of general government loans totalling €2,715 million.

In the direct investment category, investment in Greece by non-residents during the period from January to November 2001 came to €1,764 million, a substantial increase compared with the same period of 2000 (when the figure stood at €913 million). This development was mainly due

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<sup>86</sup> Of this sum, €1,738 million (43.3%) relates to transfers of capital, while the remainder was derived from current transfers, i.e. income subsidies, etc.

<sup>87</sup> In view of these developments, it is expected that the rate of increase in transfers from the EU will increase in 2002.

<sup>88</sup> ECB Press Release, 1 February 2002.

<sup>89</sup> Based on this definition, the country’s reserve assets ceased on 1 January 2001 to include (a) claims in euro against residents of non-euro area countries, (b) claims in foreign exchange and euro against residents of euro area countries and (c) the participation of the Bank of Greece in the capital and reserve assets of the ECB.



to the inflow of funds for the acquisition of a stake in the share capital of INTERAMERICAN by EUREKO in July 2001. By contrast, residents' investment abroad during this period fell sharply to €610 million, compared with €2,248 million in the same period of 2000.

The inflow of funds from non-residents for portfolio investment came to €8,412 million, a decrease from the corresponding period of 2000 (the figure had reached €10,222 million). Despite the gradual convergence of yields with those of bonds from other euro area countries, the Greek bond market continued to be the ultimate destination for most of this inflow (€6,494 million), while, at the same time, a substantial share of the inflow went into the market for privatisation bonds. In the same period, the purchase of foreign shares by Greek investors eventually led to an increase

(of €292 million) in residents' total assets in foreign securities, despite the significant sales of foreign bonds by them.

As a result of the above developments in the financial account and the current account, the country's reserve assets stood at €7.4 billion at the end of November 2001.

In the *euro area* as a whole, direct investment and portfolio investment in the period January-November 2001 showed a total net outflow of €41.9 billion, which was significantly less than the total net outflow of €100 billion recorded in these categories in the corresponding period of 2000. In the same period, financial derivatives showed a net outflow of €21.6 billion and the category of "other" investment also showed a net outflow of €27 billion.

## IV. Monetary developments in the euro area and in Greece

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### 1. Monetary developments in the euro area

#### *1.1 The single monetary policy in 2001*

Maintaining price stability is the primary objective of the single monetary policy formulated by the Governing Council of the ECB. As long as the achievement of this primary objective is not at risk, the monetary policy of the Eurosystem<sup>1</sup> supports the general goals of the monetary policies of the individual euro area Member States.

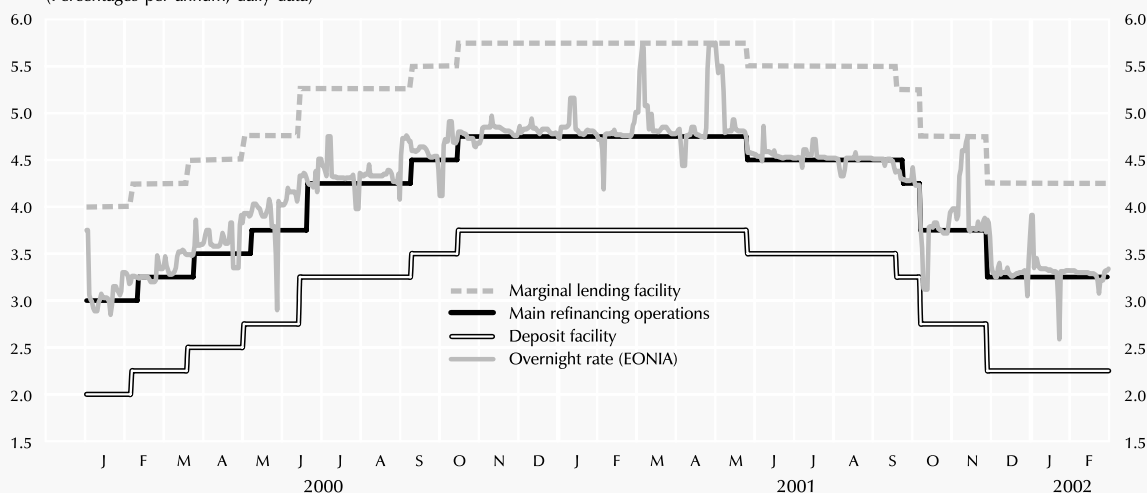
Price stability has been defined as an annual increase of not more than 2% in the level of prices, as this is measured by the Harmonised Index of Consumer Prices (HICP). The strategy applied by the Eurosystem in order to achieve price stability is based on two pillars. These two pillars form a framework for the analysis of the economic data that are taken into consideration during the monetary policy decision-making process. The first pillar covers the analysis of monetary and credit developments, in particular of the broad money aggregate, M3, which provides useful information about developments in inflation in the medium term. With respect to the annual increase in this aggregate, for the current year – as well as for the previous three years – a reference value has been set, at a level (4.5%) which is deemed consistent with the achievement of price stability in the medium term and therefore constitutes a benchmark for assessing monetary developments. The second pillar is connected with the outlook for inflation, which is examined on the basis of a wide range of economic indicators that relate to developments in economic activity, wages, the yield curve, the

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<sup>1</sup> The Eurosystem comprises the ECB and the national central banks of those Member States of the European Union that have adopted the euro (see relevant headwords in the Glossary).

Chart 20

ECB interest rates and money market overnight rate (EONIA)  
(January 2000 - February 2002)  
(Percentages per annum, daily data)



Source: ECB.

exchange rate, commodity prices, etc. Within this framework, risks of deviation from the price stability objective are also assessed.

From January to early May 2001, key ECB interest rates were kept unchanged, because inflation was on the rise and it was estimated that, although risks to price stability in the medium term had been reduced to some extent, they had not been eliminated. Between early May and early November 2001, the ECB reduced its key interest rates four times, by a cumulative 150 basis points, and the minimum bid rate on main refinancing operations, after its latest adjustment on 8 November, came to 3.25%.

This change in the policy stance of the ECB was based on the fact that monetary developments in the above period were not signalling risks to price stability in the medium term, as well as on the decline in inflation from June onwards, which was combined with increasing indications that inflationary pressures were contained and prospects for a drop in inflation to a level lower than 2% were improving. Moreover, after

the terrorist attack in the United States, uncertainty grew –especially as regards the international environment– a fact which had an unfavourable impact on economic activity and on consumer and business confidence, and pushed back prospects for a recovery of the European economy.

More precisely, in the course of the previous year the ECB reduced its key interest rates four times (on 10 May, 30 August, 17 September and 8 November 2001), by a cumulative 150 basis points. On 10 May, key interest rates were reduced by 25 basis points, thus bringing the minimum bid rate on main refinancing operations to 4.50% (see Chart 20 and Table X). The Governing Council deemed that the factors related to the first pillar posed no threat to price stability. Attention was called to the fact that the three-month average of the annual rate of increase<sup>2</sup> in M3 between

<sup>2</sup> The annual rate of change in a monetary aggregate is defined as the percentage change in the balance of this aggregate during the twelve-month period up to the specific month of reference. The ECB monitors the average of the annual rate of change for three consecutive months.

Table X

## Changes in ECB key interest rates

*(Percentages per annum)*

Date of interest rate change <sup>1</sup>	Deposit facility	Main refinancing operations	Marginal lending facility
1 September 2000	3.50	4.50	5.50
6 October 2000	3.75	4.75	5.75
11 May 2001	3.50	4.50	5.50
31 August 2001	3.25	4.25	5.25
18 September 2001	2.75	3.75	4.75
9 November 2001	2.25	3.25	4.25

1 For the deposit and marginal lending facilities, effective dates of interest rate changes (one day following the relevant ECB decision); for the main refinancing operations, interest rate changes are effective from the first operation following the date indicated.

Source: ECB.

January and March was 4.8%,<sup>3</sup> and had therefore come quite close to the reference value (4.5%). Furthermore, another fact taken into account was that the recorded growth rate of M3 had been affected upwards<sup>4</sup> by increased holdings of liquid assets by non-euro area residents, which do not affect domestic demand in the euro area. In addition, as regards the first pillar, the slowdown in credit expansion was also taken into consideration. At the same time, based on the analysis of the factors related to the second pillar, attention was called to the fact that the deceleration in the rate of increase in economic activity and wage moderation were containing risks to inflation.

On 30 August 2001, key ECB interest rates were reduced again, by a further 25 basis points, and thus the minimum bid rate on main refinancing operations stood at 4.25%. As regards the first pillar, it was estimated that monetary developments did not pose threats to inflation in view of the fact that the acceleration recorded in the growth rate of M3 (the three-month average of the annual rate of increase in M3 from May to July reached 5.9%<sup>5</sup>) was considered rather temporary. This development was attributed to an increased preference of investors for deposits and short-term securities, due to the narrowing of the yield spread between long-term securities

and short-term assets included in M3. It was also considered a result, on the one hand, of the increased uncertainty prevailing in stock markets, which made short-term deposits and marketable instruments included in M3 more attractive, and, on the other hand, of the higher holdings in cash-on-hand for transactions, on account of the rise in energy and food prices during the previous period. Another fact the ECB considered in reaching its aforementioned decision of 30 August was that, until that time, the annual rate of increase in loans to the private sector, despite its relatively high level, recorded a continuous deceleration.

In the context of analysing the economic effects related to the second pillar, the Governing Council of the ECB took into consideration the

<sup>3</sup> This was later revised to 3.8% — on the basis of final data — after the deduction of non-euro area residents' holdings in money market fund shares/units, money market paper and debt securities with a maturity of up to two years issued by MFIs.

<sup>4</sup> Prior to December 2001 the ECB did not publish data on the M3 adjusted for marketable instruments (money market fund shares/units, money market paper and debt securities with a maturity of up to two years issued by MFIs) held by non-euro area residents.

<sup>5</sup> After the deduction of money market fund shares/units held by non-euro area residents. Once the non-euro area residents' holdings in money market paper and debt securities with a maturity of up to two years (issued by MFIs) were also deducted, this rate was revised to 5.2%.

signs of a decline in inflationary pressures attributable to the slowdown of economic activity in the euro area as well as worldwide. In particular, it was noted that —mainly as a result of the low rate of increase in economic activity in the US, the prolonged weakening of the Japanese economy, as well as the strengthening of the exchange rate of the euro— foreign demand remained slack and less than anticipated. Other factors that contributed to the weakening of domestic inflationary pressures were the deceleration in private consumption and wage moderation in the first months of 2001.

The terrorist attack of 11 September 2001 caused a considerable shock and posed risks to the smooth operation of world markets. In order to contain the impact on euro area money and capital markets, on 12 September the Eurosystem strengthened the liquidity of banks, so as to restore smooth market conditions. Furthermore, the Eurosystem helped European banks cover their immediate liquidity needs in US dollars, through currency swaps with the US Federal Reserve.

On 17 September, the Governing Council of the ECB decided to further reduce key ECB interest rates<sup>6</sup> by 50 basis points, and the minimum bid rate on main refinancing operations was set at 3.75%. For this decision, the Governing Council also took into consideration the fact that the events of 11 September in the United States threatened to worsen the outlook for the real economy in the euro area, reducing inflationary risks even further.

The ECB reduced its key interest rates for the last time in 2001 on 8 November, by 50 basis points. Thus, the minimum bid rate on main refinancing operations was set at 3.25%, the marginal lending facility rate at 4.25% and the deposit facility rate

at 2.25%. The Governing Council of the ECB judged that, according to the statistical data available at the time, the new level of its key interest rates was consistent with the maintenance of price stability in the medium term. More specifically, within the framework of the first pillar, the Governing Council judged that, for the reasons mentioned above, the acceleration in the growth rate of M3 did not pose risks to inflation.

On the other hand, as regards the second pillar, it was estimated that increased uncertainty would intensify the slowdown of economic activity which —combined with the prolonged low inflation expectations (as the available data confirmed that the rise in inflation in early 2001 was temporary)— would help keep labour cost in check. As a result, it was judged that in 2002 the objective of price stability would be achieved. This projection was also in line with the decrease in the yields of securities in the bond market.

After 8 November 2001, the ECB did not change its key interest rates any further until the first ten days of March 2002. In its meetings of 6 December 2001 and of 3 January, 7 February and 7 March 2002, the Governing Council of the ECB deemed that the new level of its key interest rates remains consistent with the maintenance of price stability in the medium term. It was considered that the continuing acceleration of the growth rate of M3 (the three-month average of the annual rate of increase in M3 from November 2001 to January 2002 stood at 8%) still reflects the conditions of particularly high uncertainty prevailing in the economy, which favoured holdings of relatively liquid assets, but do not entail risks of a future

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<sup>6</sup> On the same day, the US Federal Reserve reached a similar decision and reduced by 50 basis points (to 3.00%) its target-rate for money market overnight deposits.

resurgence of inflation. This conclusion is also corroborated by the continuing deceleration of credit expansion to the private sector. Attention was called, however, to the fact that the ECB will continue to monitor closely developments in M3, so as to detect in time the extent to which increased liquidity is a threat to price stability, as uncertainty subsides and there are signs of a recovery of economic activity in the euro area.

On the other hand, it was confirmed once more that economic activity remained moderate in the second half of 2001 and is expected to be low in the early months of the current year as well. Although the outlook for a recovery in economic activity in the euro area is favourable, it is projected that the annual rate of inflation will follow a downward path and –under normal conditions– will fall below 2% for the current year.<sup>7</sup> Furthermore, the Governing Council of the ECB retains its reservations as regards the effect that forthcoming wage negotiations may have on prices. It was noted, however, that until now there have been no signs that the circulation of the euro banknotes and coins from 1 January 2002 onwards and the conversion of prices to euro had any significant effect on the level of prices, given the intensity of competition, the vigilance of consumers and the commitment of governments not to raise the average level of administered prices.

During its meeting of 6 December 2001, the Governing Council of the ECB decided that the reference value regarding the growth of M3 in 2002 will remain at 4.5% on an annual basis, unchanged from the previous three years. It should be recalled that the setting of a reference value does not entail any commitment on the part of the Eurosystem to react immediately with an adjustment of its interest rates in order to contain any possible deviations of monetary expansion

from the reference value that are deemed to be of a transient nature.

## 1.2 Developments in M3 and its components

The slowdown in the growth rate of M3, which had started in March 2000, continued until the end of the first quarter of 2001. However, after March 2001, the growth rate of M3 accelerated and from 3.8% in that month rose to 7.6% in the last quarter of 2001<sup>8</sup> (see Chart 21). This acceleration partly reflects the gradual return of money holdings to the desired level in the long run (in real terms).<sup>9</sup> In addition, an increase was recorded in demand for money owing to the faster rise in the price level during the previous period and the narrowing of the spread between the interest rate on short-term securities not included in M3 (this interest rate is proxied by the three-month EURI-BOR) and the weighted yield of the components of M3. The uncertainty which is due to the unfavourable developments in the stock markets, the persistence of a relatively narrow spread between long-term and short-term interest rates until the end of August 2001, as well as the conditions that prevailed in the financial markets after the terrorist attack of 11 September in the United

<sup>7</sup> The acceleration recorded in January 2002 was due to the effect of special factors, such as bad weather conditions, the increase in indirect taxes, etc.

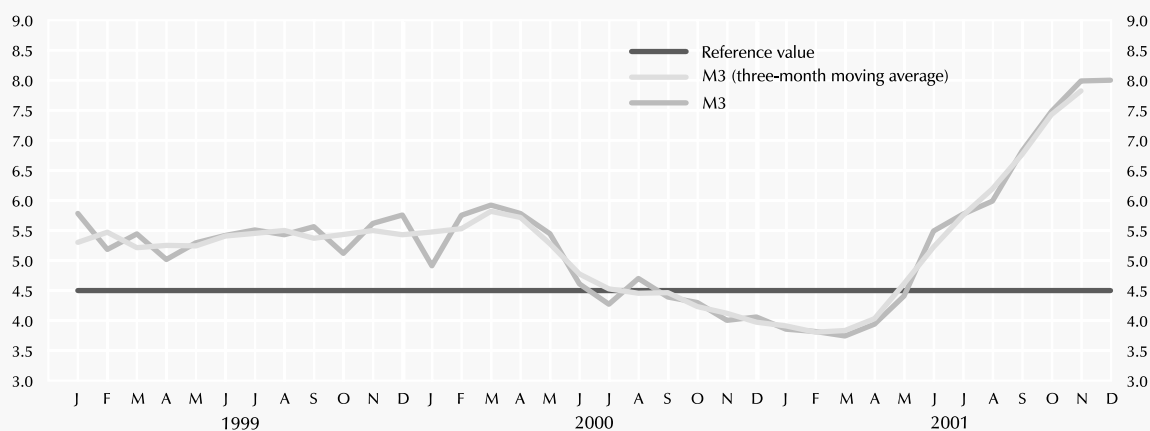
<sup>8</sup> This rate of change refers to M3, adjusted for the non euro area residents' holdings in money market fund shares/units, money market paper and debt securities with a maturity of up to two years issued by euro area MFIs.

<sup>9</sup> The desired level of M3 in the long run in real terms is understood as the level at which this aggregate would stand if the nominal M3 had been increasing since December 1998 until today at an annual rate equal to the reference value of 4.5%, and the price index by which the nominal M3 is deflated had been rising at an annual rate of less than 2%, i.e. at a rate consistent with the definition of price stability. Moreover, there are strong indications that the growth of M3 during the previous year can be interpreted as a conversion towards the desired level, even if the latter is determined on the basis of the projections of econometric functions of demand for money in which the independent variables, GDP, interest rates, and level of prices, take the values actually observed each time (see ECB, *Monthly Bulletin*, May 2001).

Chart 21

## M3 in the euro area

(January 1999 - December 2001)

(Percentage changes<sup>1</sup> over same period of previous year)

<sup>1</sup> These changes arise from seasonally adjusted data, from which the value of all negotiable instruments held by non-euro area residents has been deducted.

Source: ECB.

Table XI

## Main components of M3 in the euro area

(Annual percentage changes,<sup>1</sup> seasonally adjusted data, unless otherwise indicated; quarterly averages<sup>2</sup>)

	2000	2001				
	Q4	Q1	Q2	Q3	Q4	December
<b>M1</b>	<b>5.6</b>	<b>2.6</b>	<b>2.4</b>	<b>3.9</b>	<b>5.4</b>	<b>5.0</b>
Currency in circulation, M0	1.9	-1.2	-3.2	-7.5	-18.5	-32.2
Overnight deposits	6.4	3.4	3.5	6.3	10.3	12.5
<b>Other short-term deposits (= M2-M1)</b>	<b>2.2</b>	<b>3.4</b>	<b>4.4</b>	<b>4.9</b>	<b>5.8</b>	<b>7.2</b>
Deposits with an agreed maturity of up to two years <sup>3</sup>	12.6	15.3	14.0	10.9	6.9	6.1
Deposits redeemable at notice of up to three months <sup>3</sup>	-4.9	-4.7	-2.6	0.5	5.0	7.6
<b>M2</b>	<b>3.8</b>	<b>3.1</b>	<b>3.4</b>	<b>4.5</b>	<b>5.6</b>	<b>6.2</b>
<b>Marketable instruments (= M3-M2)</b>	<b>6.5</b>	<b>9.4</b>	<b>10.3</b>	<b>16.2</b>	<b>20.9</b>	<b>20.0</b>
Repurchase agreements <sup>3</sup>	10.3	20.7	15.5	20.5	19.7	12.8
Money market fund shares/units and money market paper <sup>3</sup>	1.8	5.4	11.2	20.5	30.2	34.8
Debt securities issued with a maturity of up to two years <sup>3</sup>	12.1	6.3	1.3	0.9	2.2	-1.9
<b>M3 (adjusted for non-euro area residents' holdings of all negotiable instruments)</b>	<b>4.2</b>	<b>3.9</b>	<b>4.3</b>	<b>6.0</b>	<b>7.6</b>	<b>8.0</b>

<sup>1</sup> Annual rates of change in the corresponding index, which is compiled on the basis of outstanding stocks for December 1998 and cumulative monthly flows, adjusted for reclassifications, other revaluations, exchange rate variations and any other changes which do not arise from transactions.

<sup>2</sup> The quarterly average is derived from monthly averages (which are calculated as arithmetic means of two successive end-of-month figures) and is not the three-month average of end-of-month annual growth rates (see the "Technical Notes" in the ECB Monthly Bulletin).

<sup>3</sup> Not seasonally adjusted.

Source: ECB.

States, also strengthened demand for certain categories of assets included in M3, such as deposits and marketable instruments.

As from November 2001, uncertainty began to subside and the slope of the yield curve (i.e. the spread between long-term and short-term interest

rates) became steeper. These developments contributed to a slower acceleration of M3 at the beginning of this year (January 2002: 7.9%). On the other hand, the yields of short-term securities not included in M3 have fallen to very low levels, which strengthens demand for liquid assets included in M3.

The annual rate of increase in M1<sup>10</sup> showed a considerable slowdown between January and April 2001 and in the first two quarters of the year stood below its level in the last quarter of 2000 (first quarter of 2001: 2.6%, second quarter of 2001: 2.4%, fourth quarter of 2000: 5.6%). Nevertheless, from May onwards it began to rise and reached 6.0% in November 2001 (see Table XI). This was due to the considerable acceleration in the growth rate of overnight deposits (in the retail banking market),<sup>11</sup> which more than offset the substantial decrease in currency in circulation. Households and enterprises (including non-euro area residents) limited their cash holdings to facilitate the substitution of national banknotes and coins with euro banknotes and coins as from 1 January 2002. On the other hand, deposits of cash with banks along with holdings of considerable amounts of capital in liquid form because of the increased volatility of stock market prices brought about an acceleration in the growth rate of overnight deposits. Nevertheless, in December 2001, a particularly substantial decrease was recorded in currency in circulation (year-on-year rate of decrease: 32.2%), which was not offset by the faster growth of overnight deposits (12.5%). As a result, the growth rate of M1 fell to 5% in that month. In January 2002, the year-on-year rate of decrease in currency in circulation stood at -6.2% on account of the parallel circulation of euro and national banknotes and coins, which calls for additional cash holdings, particularly by retailers.<sup>12</sup>

The annual rate of increase in other short-term deposits, which form the bulk of M3 (specifically,

they represent the difference between M2 and M1), accelerated gradually to 5.8% in the last quarter of 2001, from 2.2% in the same quarter of 2000. This is attributable to the substantial acceleration of the annual rate of change in deposits redeemable at notice of up to three months<sup>13</sup> (fourth quarter 2001: 5.0%, fourth quarter 2000: -4.9%), parallel to the considerable deceleration of the annual rate of change in deposits with an agreed maturity of up to two years<sup>14</sup> (fourth quarter 2001: 6.9%, fourth quarter 2000: 12.6%). The annual growth rate of marketable instruments sped up considerably in 2001 (fourth quarter 2001: 20.9%, fourth quarter 2000: 6.5%). This acceleration is associated with portfolio restructurings, on the one hand owing to the drop in stock market prices worldwide and, on the other hand, owing to the fact that the spread between long-term and short-term interest rates remained relatively narrow for most of 2001.

### *1.3 Factors determining the change in M3*

As regards the determinants of the change in M3, credit expansion to the private sector slowed down in the course of 2001, remaining nonethe-

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**10** M1 comprises currency in circulation and overnight deposits.

**11** This category includes mainly sight deposits that are fully transferable (e.g. by cheque). It also includes non-transferable deposits that are convertible to cash on demand or by close of business on the next working day.

**12** Indeed, the general public's demand for euro banknotes in early January 2002 was greater than what could have been anticipated on the basis of the frontloading data. However, the holding of national banknotes by credit institutions (which is not included in currency in circulation) also appears increased, since some time was inevitably required for the national banknotes collected by credit institutions to be returned to the national central banks.

**13** These are savings deposits that depositors can withdraw without paying a penalty, provided they notify the bank three months in advance.

**14** These developments are connected on the one hand with the narrowing of the yield spread between deposits redeemable at notice of more than three months – not included in M3 – and deposits redeemable at notice of up to three months and, on the other hand, with the widening of the yield spread in favour of deposits with an agreed maturity of more than two years (as opposed to deposits with an agreed maturity of up to two years), particularly during the last months of 2001.



Table XII

## Main counterparts of M3 in the euro area

(Annual percentage changes,<sup>1</sup> data not seasonally adjusted, quarterly averages<sup>2</sup>)

	2000	2001				
	Q4	Q1	Q2	Q3	Q4	December
<b>Longer-term financial liabilities</b>	<b>6.0</b>	<b>4.5</b>	<b>3.8</b>	<b>2.6</b>	<b>3.2</b>	<b>4.6</b>
Deposits with an agreed maturity of over two years	0.9	-0.1	-0.1	-0.4	-0.2	-0.3
Deposits redeemable at notice of over three months	10.9	12.2	8.2	1.2	-5.7	-8.5
Debt securities issued with a maturity of over two years	5.2	6.3	5.2	4.3	5.8	7.2
Capital and reserves	14.2	7.0	6.1	3.9	4.3	8.5
<b>Credit to euro area residents</b>	<b>6.0</b>	<b>5.6</b>	<b>5.4</b>	<b>5.6</b>	<b>5.2</b>	<b>5.3</b>
<b>Credit to general government</b>	<b>-7.0</b>	<b>-7.3</b>	<b>-5.3</b>	<b>-1.9</b>	<b>-0.5</b>	<b>0.1</b>
Debt securities other than shares	-10.5	-12.3	-8.2	-2.3	-0.5	1.0
Loans	-1.9	-0.1	-1.3	-1.4	-0.8	-1.1
<b>Credit to other euro area residents</b>	<b>10.5</b>	<b>9.8</b>	<b>8.8</b>	<b>7.8</b>	<b>6.9</b>	<b>6.8</b>
Debt securities other than shares	17.8	18.7	23.4	24.3	24.0	23.8
Shares and other equity	17.5	13.6	7.9	4.5	3.1	5.9
Loans	9.6	9.1	8.3	7.4	6.5	6.1

1 Annual rates of change in the corresponding index, which is compiled on the basis of outstanding stocks for December 1998 and cumulative monthly flows, adjusted for reclassifications, other revaluations, exchange rate variations and any other changes which do not arise from transactions.

2 The quarterly average is derived from monthly averages (which are calculated as arithmetic means of two successive end-of-month figures) and is not the three-month average of end-of-month annual growth rates (see the "Technical Notes" in the ECB Monthly Bulletin).

Source: ECB.

less at high levels. Its annual rate stood at 6.9% in the fourth quarter of 2001, compared with an annual rate of 10.5% in the last quarter of 2000 (see Table XII). This development can be attributed to the slowdown of the rate of economic growth, the deterioration of the business climate and the weaker consumer confidence, as well as – to a certain extent – to the somewhat delayed effect of the increase in bank lending rates, especially on corporate loans, in the course of 2000. Furthermore, the annual growth rate of bank loans to the private sector seems lower in 2001, owing to the substitution of bank loans with the issuance of debt securities, and also on account of the fact that, in the corresponding period of 2000, special factors – such as the financing of mergers and acquisitions between enterprises and the financing of telecommunication companies for the purchase of UMTS licences – had led to a considerable increase in the outstanding balance of bank loans.

The annual rates of increase slowed down in all categories of loans, both to non-financial corporations (fourth quarter of 2001:<sup>15</sup> 6.3%, fourth quarter of 2000: 10.9%) and to households. The annual growth rate of housing loans fell to 6.6% in the last quarter of 2001 from 8.6% in the same quarter of 2000, despite the decrease in the cost of borrowing, while the rate of increase in consumer loans fell to 3.7% from 7.8% in the same period.

The annual rate of change in credit to the general governments of euro area countries recorded a considerable recovery in the course of the previous year and stood at -0.5% in the fourth quarter of 2001 from -7.0% in the corresponding quarter of 2000. Despite this development, the participation of MFIs in the financing of general government borrowing requirements decreased further.

<sup>15</sup> Data on the breakdown of MFI loans by sector of economic activity are published by the ECB on a quarterly basis only.

The annual growth rate of longer-term liabilities<sup>16</sup> of banks and other MFIs in the euro area gradually decelerated from 6.0% in the last quarter of 2000 to 2.6% in the third quarter of 2001, but rose to 3.2% in the fourth quarter. The deceleration of the growth rate of such liabilities until the end of August 2001 is in line with the foregoing observation concerning a shift from longer-term investments to shorter-term financial instruments. The acceleration of the growth rate of longer-term liabilities, particularly in the last quarter of 2001, is in line with the fact that the slope of the yield curve became steeper owing to the reduction of short-term interest rates (see Section 1.6 below).

Finally, although the net external asset position of euro area MFIs was gradually declining during the first five months of 2001 due to capital outflows from the euro area – mainly towards the US – for direct and portfolio investment, from June onwards this trend was reversed. This change is mainly connected with net capital inflows for investment in shares, which partly reflect the decrease in new investment and the liquidation of already existing holdings by euro area residents of securities of non-euro area countries. This development is in line with the change in portfolio structure (shift from shares to assets included in M3) that was mentioned previously. It is also consistent with the reduction of short-term interest rates in the United States (which was larger than the reduction of the corresponding interest rates in the euro area).

The analysis of the determinants of M3 in the course of 2001 shows that the overshooting of the reference value (4.5%) set for the growth rate of M3 entails minor risks for price stability, since it is largely due to a deceleration of the growth rate of the longer-term liabilities of MFIs on account of a change in their portfolio structure and to an increase in their net external asset position and

does not reflect an acceleration of credit expansion in the euro area.

#### *1.4 Money market interest rates*

Interest rates in the single money market of the euro area followed a broadly downward path in 2001 (see Chart 22), as they were affected by the reduction of the key ECB interest rates.

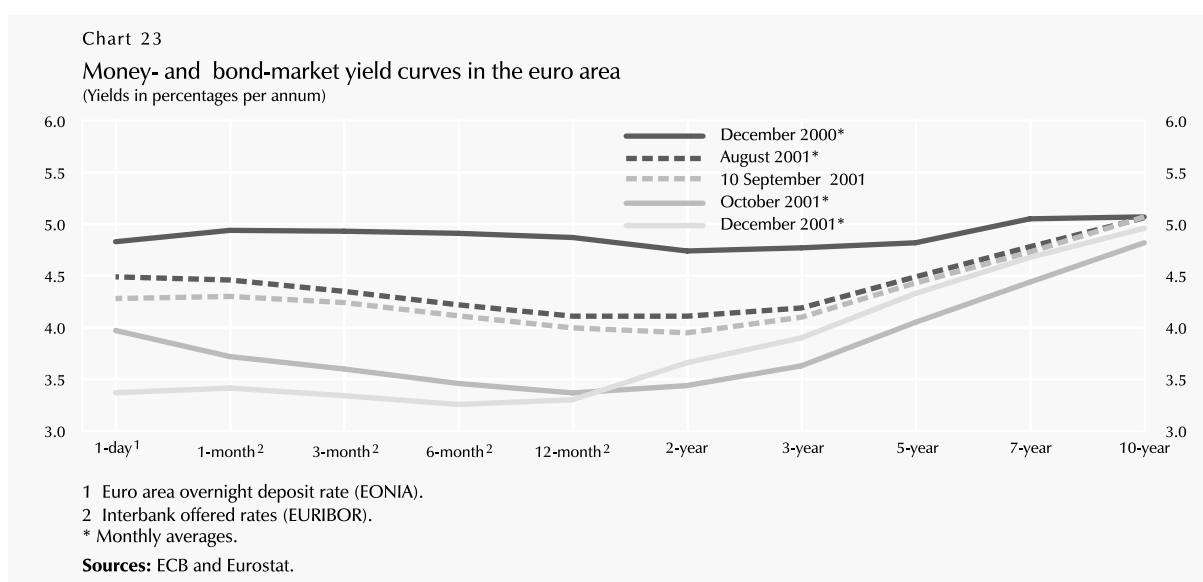
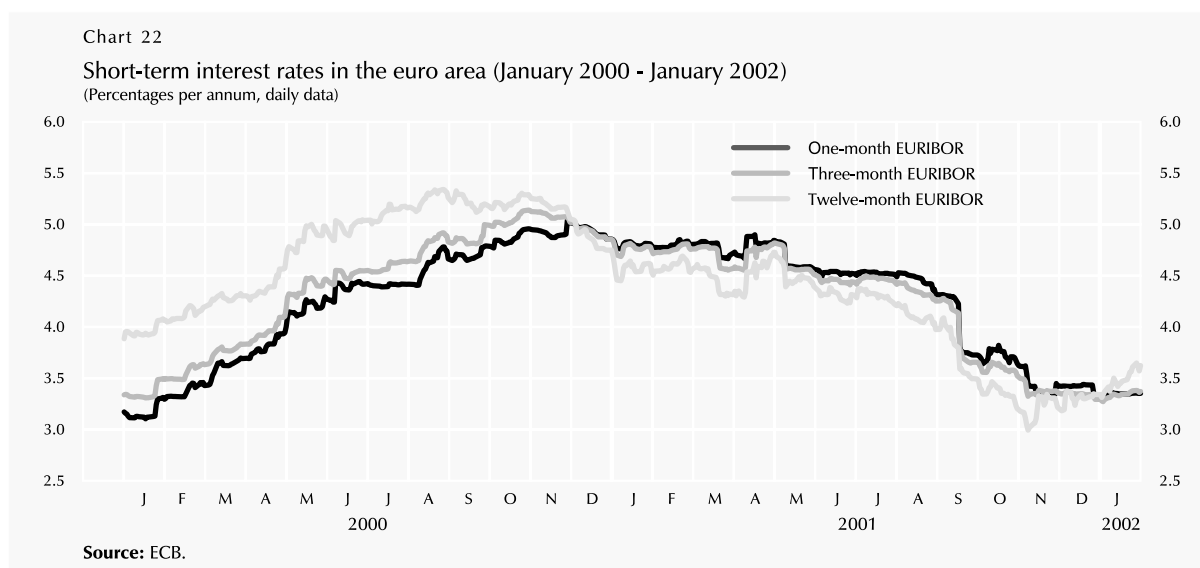
The interbank interest rate on overnight operations, as measured by the EONIA<sup>17</sup> index, fell in 2001 by a cumulative 149 basis points and stood at 3.34% on average in December 2001 (see Chart 20). It should be noted that the EONIA increased during December (28 December: 3.91%) given that an increase is usually recorded towards the end of the year in the demand by financial institutions for cash-on-hand. The higher demand for euro banknotes and the slower than anticipated withdrawal of national banknotes led to a liquidity shortage in early January 2002, and in this period the EONIA remained well above the minimum bid rate on main refinancing operations. For this reason, by conducting extraordinary open market operations, the Eurosystem strengthened the liquidity of banks and helped normalise conditions in the interbank money market, so that the EONIA gradually declined and stabilised at a level slightly higher than that of the minimum bid rate on main refinancing operations (January 2002: 3.29%).

The three-month EURIBOR, a representative measure of short-term interest rates in the money

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<sup>16</sup> Such liabilities include fixed-term deposits with an agreed maturity of more than two years, deposits redeemable at notice of more than three months, debt securities with an agreed maturity of more than two years, and MFI equity capital and reserves.

<sup>17</sup> The EONIA (Euro Overnight Index Average) is calculated by the ECB as the weighted average of the interest rates on unsecured overnight operations, as reported by a representative panel of banks, in the interbank deposits market.



market, fell by 159 basis points in 2001 and stood at 3.34% on average in December (see Chart 22). This rate stabilised in January 2002. The spread between the twelve-month and the one-month EURIBOR rates, as reflected in the slope of the yield curve for the interbank money market, became negative (implying expectations of a reduction of short-term interest rates) in early 2001 and stood at –12 basis points on average in December (see Chart 23). In contrast, in January 2002 the slope of the yield curve became positive (difference of 13 basis points on average).

These developments in the interbank money market interest rates are linked to the reduction of the key ECB interest rates, as well as to market expectations regarding future developments in short-term interest rates, which are in turn connected with the outlook for inflation.<sup>18</sup> The for-

<sup>18</sup> For instance, the fall in the three-month EURIBOR and other short-term interest rates was substantial in the three months from September to November 2001, a development that reflected the considerable downward revision of expectations regarding interest rates in the money market after the terrorist attack of 11 September in the United States.

ward interest rates in the money market of the euro area imply expectations of interest rate increases in the course of 2002. The volatility of forward interest rates appears increased after the events of 11 September, although it was somewhat contained following the reduction of ECB interest rates on 8 November.

### *1.5 Bank interest rates*

The average interest rate on time deposits with an agreed maturity of up to two years fell by 117 basis points in the course of 2001 and stood at 2.79% in December. The rate on deposits redeemable at notice of up to three months was slightly reduced to 2.15%, falling by 34 basis points between December 2000 and December 2001, as was also the case for the rate on overnight deposits (in the retail banking market), which declined marginally during the same period by 27 basis points and came to 0.74% in December 2001.

The average interest rate on short-term loans to enterprises fell by 94 basis points in 2001 and stood at 6.24% in December 2001. The drop in this interest rate is considerably smaller than the decline of interest rates in the interbank market (the three-month EURIBOR fell by 159 basis points in the same period), a fact that may be attributed to the increase in credit risk, given that the growth rate of GDP slowed down. Finally, the average interest rate on housing loans fell in 2001 by 91 basis points, coming to 5.52% in December 2001, while the average interest rate on consumer loans (which mainly include personal loans) also followed a downward path in 2001 and stood at 9.81% in December 2001, from 10.19% in December 2000.

### *1.6 Yields of long-term securities*

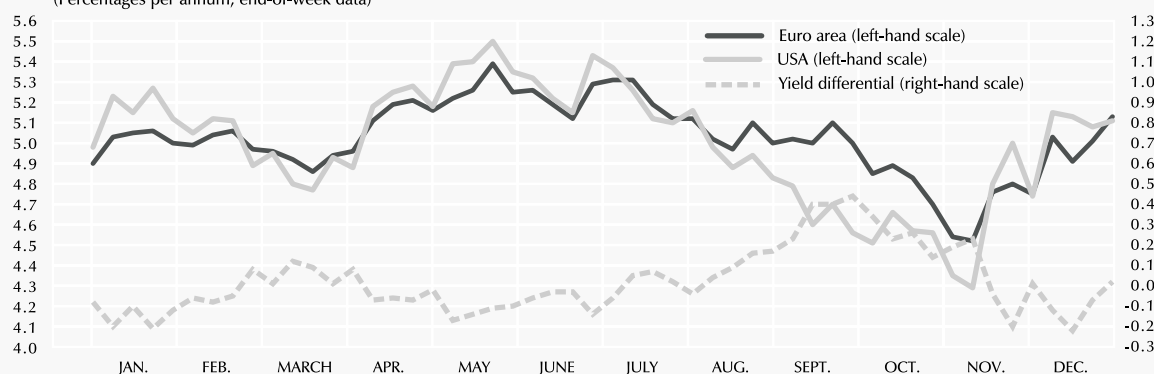
The average monthly yield of government bonds in the euro area followed a broadly downward path

from the beginning of 2001 until the end of October. This trend was mainly connected with the unfavourable conditions that were prevailing in the stock markets, the decline in inflation and the shift of investors to bonds. Similar changes were also observed in the yields of the corresponding bonds in the United States. However, the yield differential between the European and US ten-year bonds did not remain unchanged but showed some fluctuation during the year, reflecting mainly changes in the expectations of the markets regarding developments in the rate of economic growth in the euro area compared with the corresponding one in the United States. In particular, this differential was generally negative in the first seven months of 2001, but turned positive from mid-August onwards and stood at 27 basis points in October (see Chart 24) from –16 basis points in December 2000.

In the course of November 2001, long-term yields started to increase in the euro area and thus the average yield of ten-year bonds came to 4.96% in December, compared with 4.82% in October and 5.07% in December 2000. The average yield of ten-year bonds continued to rise slightly during January 2002, when it reached 5.02%. This development is a result of the recent partial reversal of the trend regarding shifts of capital from shares to bonds, as the market was normalised after its initial reaction to the terrorist attack of 11 September, while market expectations also improved as regards the prospects of a worldwide economic recovery. These factors, together with the decisions and expectations concerning the implementation of an expansionary fiscal policy, contributed to the rise in long-term interest rates in the United States as well. The rise in long-term interest rates was more pronounced in the United States than in the euro area and thus the spread between the euro area and the US ten-year bond rates became negative

Chart 24

Ten-year bond yields in the euro area and the United States  
(January - December 2001)  
(Percentages per annum, end-of-week data)



Source: ECB.

again (December 2001: –11 basis points). The slope of the long-term yield curve –as measured by the difference between the yield of the ten-year bond and the three-month EURIBOR– increased during 2001 (see Chart 23). In December 2001 this difference was 162 basis points, compared with 14 basis points in December 2000, while in January 2002 it widened further to 168 basis points. The long-term yield curve and the level of future short-term interest rates it implies reflect strengthened expectations of a recovery in economic activity and of a rise in interest rates in the course of 2002.

#### 1.7 Issuance of bonds and other debt securities

The annual growth rate of euro-denominated debt securities issued by banks and other MFIs in the euro area slowed down to 5.6% in the fourth quarter of 2001, from 7.5% in the last quarter of 2000. This deceleration reflects the adequacy of the financing resources of MFIs, given that the growth rate of M3 is high while demand for credit slows down. It also reflects the fact that conditions in the securities markets after the terrorist attack were unfavourable to

new issuances. Moreover, a slight deceleration was also recorded in the annual growth rate of debt securities issued by non-financial corporations, which came to 18.6% in the fourth quarter of 2001, from 18.9% in the last quarter of 2000. In contrast, the annual growth rate of debt securities issued by general government in the euro area countries picked up slightly to 3.3% in the fourth quarter of 2001, from 2.9% in the last quarter of 2000.

#### 1.8 Stock market developments

Share prices in the stock markets of the euro area countries followed a downward path during 2001, with the exception of the April-May period and the last quarter of the year (see Chart 25). The Dow Jones EURO STOXX index, which is compiled on the basis of a large number of stock prices from euro area countries, fell by 19.7% in the period between end-December 2000 and end-December 2001. Among the shares covered by this index, the steepest fall and the highest volatility were recorded in the share prices of the technology and telecommunications industries, which in the same period dropped by 37.2% and 28.3%, respectively. This development in the

Chart 25

## Stock price indices (January - December 2001)

(2 January 2001=100)



Source: Bloomberg.

euro area stock prices reflects the effect of the drop in US stock prices and is in line with the fact that profits announced by major euro area companies are lower than expected. It is also consistent with expectations of a slowdown in world economic activity.

The terrorist attack of 11 September 2001 in the United States had a direct effect on European stock markets and, as a result, between 11 and 21 September 2001 share prices in the euro area – as measured by the Dow Jones EURO STOXX index – dropped by 17.3%. The steepest fall was recorded in the share prices of hotel, airline and insurance companies, as their activity was considered to be directly affected by the terrorist attack. In the period from 21 September until the end of the year, as share prices initially recovered and then stabilised, the Dow Jones EURO STOXX index rose by 31%. This development shows that market participants gradually came to the conclusion that the impact of the terrorist attack on the economic activity and profitability of enterprises – including those initially considered to be particularly vulnerable – was temporary.

## 2. Monetary and credit developments in Greece

### 2.1 Developments in monetary aggregates in Greece

The annual rate of change in M3 in Greece,<sup>19</sup> i.e. the annual growth rate of the Greek component of the total euro area M3, declined markedly in 2001. Specifically, it fell to 6.7% in the fourth quarter of 2001, from 12.8% in the same quarter of 2000 (see Table XIII). The growth rate of M3 slowed down gradually during the year and reached 5.6% in October, but accelerated in December to 9.9%

<sup>19</sup> As already mentioned in *Monetary Policy – Interim Report 2001* (November 2001), starting from the beginning of 2001 the Bank of Greece calculates – on the basis of the ECB's single definition – a new monetary aggregate (M3) which is added to the corresponding aggregates of the other euro area countries to yield the total euro area M3. M3 is defined as the sum total of currency in circulation and the outstanding amounts of certain liabilities of euro area MFIs to euro area residents – excluding general government – which have a high degree of moneyness (i.e. overnight deposits, savings deposits, deposits redeemable at notice of up to three months, deposits with an agreed maturity of up to two years, repurchase agreements (repos), money market fund shares/units and debt securities with an agreed maturity of up to two years issued by MFIs).

Table XIII

## Greek contribution to the monetary aggregates of the euro area

(Not seasonally adjusted data)

	Outstanding balances on 31.12.01		Annual percentage changes <sup>1</sup> , quarterly averages <sup>2</sup>					
	(million euro)	(billion drachmas)	2000	2001				
			Q4	Q1	Q2	Q3	Q4	December
1. Currency in circulation, M0	7,180	2,447	2.6	1.8	1.2	4.0	0.4	-7.2
2. Overnight deposits	16,145	5,501	-6.6	-7.7	-8.8	-9.7	5.1	21.0
<b>3. M1 (1+2)</b>	<b>23,325</b>	<b>7,948</b>	<b>-3.7</b>	<b>-4.6</b>	<b>-5.5</b>	<b>-5.1</b>	<b>3.5</b>	<b>10.6</b>
4. Savings deposits and deposits redeemable at notice of up to three months	57,184	19,485	2.7	0.6	6.8	8.4	12.7	14.7
5. Deposits with agreed maturity of up to two years	33,314	11,352	6.6	-3.1	-16.0	-15.1	-17.4	-7.8
<b>6. M2 (3+4+5)</b>	<b>113,823</b>	<b>38,785</b>	<b>2.7</b>	<b>0.6</b>	<b>-3.6</b>	<b>-2.3</b>	<b>0.4</b>	<b>6.3</b>
7. Repurchase agreements	26,086	8,889	113.9	98.3	106.4	69.4	36.3	28.6
8. Debt securities up to two years	136	46	-42.8	-21.0	-7.3	2.7	-1.4	-9.1
<b>9. M3 (6+7+8)</b>	<b>140,045</b>	<b>47,720</b>	<b>12.8</b>	<b>11.1</b>	<b>9.5</b>	<b>8.4</b>	<b>6.7</b>	<b>9.9</b>

1 Annual rates of change in the corresponding index, which is compiled on the basis of outstanding stocks for December 1998 and cumulative monthly flows, adjusted for reclassifications, other revaluations, exchange rate variations and any other changes which do not arise from transactions.

2 The quarterly average is derived from monthly averages (which are calculated as arithmetic means of two successive end-of-month figures) and is not the three-month average of end-of-month annual growth rates (see the "Technical Notes" in the ECB *Monthly Bulletin*).

Sources: Bank of Greece and ECB.

(see Chart 26).<sup>20</sup> The latter development is connected with the private sector's high liquidity in December, which stemmed from redemptions of Greek government bonds, as there has been no new issuance during that month, resulting in a bulge in private deposits. Indeed, in January 2002, the growth rate of M3 returned close to its level prior to December 2001 (6.8%). Developments in the national component of M3 provide a useful indicator of monetary conditions in Greece. However, as already mentioned, the ECB's single monetary policy is formulated taking into account – under the first pillar – developments in M3 in the euro area *as a whole*.

The gradual decline in the growth rate of M3 during 2001 is connected with the slowdown in total credit expansion, particularly in the period from August to December 2001. It is also associated with the considerable growth of longer-term liabilities of MFIs not included in M3 (mainly of time

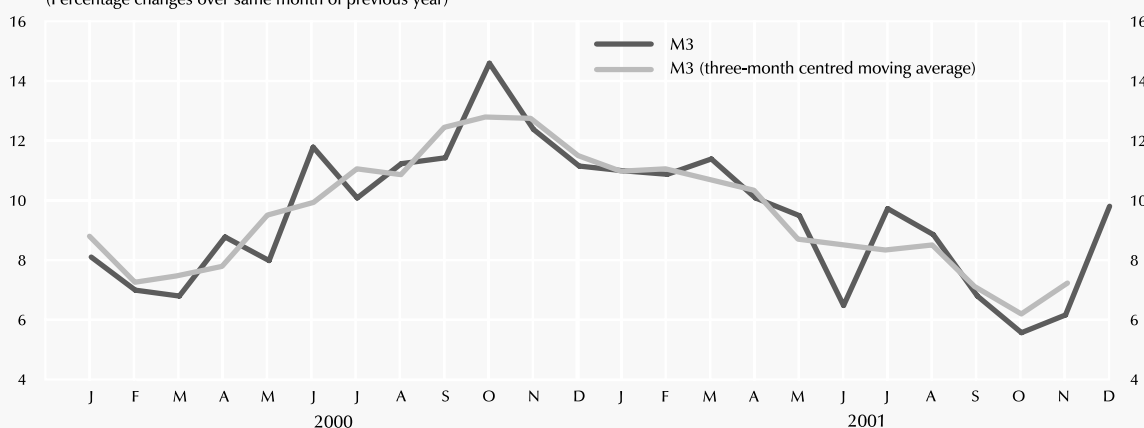
deposits with an agreed maturity of more than two years and of capital and reserves of credit institutions in the same period).

Up to the end of August 2001, the annual growth rate of the Greek M3, despite its deceleration, exceeded the corresponding rate of the total euro area M3. On the supply side, this deviation between the growth rates of the two monetary aggregates reflected the considerably higher credit expansion in Greece compared with the euro area, as much to enterprises and households as to general government. On the demand side, the faster growth rate of the Greek M3 was associated with the higher rate of

<sup>20</sup> These rates have been calculated on the basis of data adjusted for differences attributable to changes in exchange rates, etc. If the annual growth rate is calculated on the basis of the original data, which are presented in the Statistical Appendix of this volume, it shows a deceleration from 15% in December 2000 to 9.9% in December 2001.

Chart 26

Greek contribution to the euro area M3  
(January 2000 - December 2001)  
(Percentage changes over same month of previous year)



Sources: Bank of Greece and ECB.

increase in the Greek real GDP, but also with shifts of savings of the non-bank private sector from assets not included in M3 to assets included in M3 (mainly repos, the yields of which were not subject to taxation as from September 1998). From September until the end of November – as a result of the continued acceleration of the growth rate of M3 in the euro area on account of the reasons analysed above and the faster deceleration of credit expansion in Greece – the growth rate of the total euro area M3 was higher than the corresponding rate of the Greek M3.

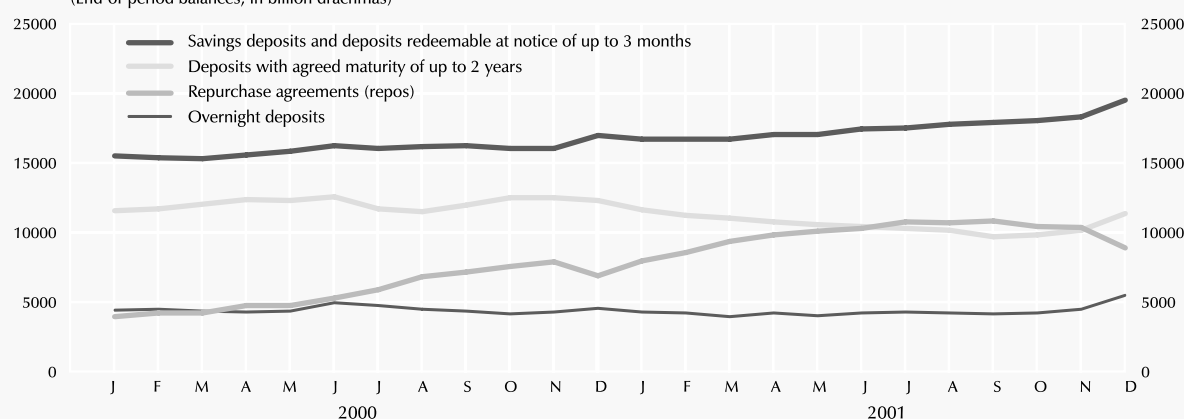
As far as the key components of M3 are concerned, the annual rate of change in currency in circulation fell to 0.4% in the fourth quarter of 2001, from 2.6% in the last quarter of 2000. In December 2001, the quantity of currency in circulation was 7.2% lower than in the same month of 2000<sup>21</sup> (see Table XIII). This development is directly connected with the cash changeover to the euro as from 1 January 2002, given that private customers reduced their holdings of drachma banknotes and coins, proportionately increasing their bank deposits, in order to facilitate the process of converting drachma banknotes and coins into euro.

Overnight deposits (sight deposits and current account deposits) recorded negative annual rates of change up to the end of September 2001, reflecting in part a considerable drop in the volume of stock exchange transactions. However, from October to the end of 2001, the outstanding balance of overnight deposits increased, given that – as was mentioned – part of the currency in circulation was shifted to such deposits. Their annual rate of change rose to 5.1% in the fourth quarter of 2001, from –6.6% in the same quarter of 2000, due to the high acceleration it recorded in December 2001 (21%). A considerable increase was also observed in savings deposits and deposits redeemable at notice of up to three months, the annual growth rate of which accelerated in 2001 and stood at 12.7% in the fourth quarter, from 2.7% in the last quarter of 2000. In contrast, time deposits with an agreed maturity of up to two years gradually decreased during the previous year (see Chart 27) and thus their level in the last quarter of

<sup>21</sup> The quantity of currency in circulation in December 2000 was also lower compared with December 1999, but this reflected the large amounts of currency that were held by the public in December 1999 to cope with possible problems in the operation of information systems at the beginning of the year 2000.



Chart 27  
Deposits and repurchase agreements (repos) in Greece<sup>1</sup>  
(January 2000 - December 2001)  
(End-of-period balances, in billion drachmas)



<sup>1</sup> These aggregates concern deposits and repos which, according to the ECB definition, are included in M3.

Source: Bank of Greece.

2001 came out 17.4% lower than in the corresponding quarter of 2000. In December, the negative rate of change in these deposits decreased markedly (December 2001: -7.8%, November 2001: -18.6%). This is attributable to the shift of funds from repos to time deposits following the Greek government's announcement (on 15 November 2001) that the yields of repos would be subject to a tax rate of 7% for agreements to be concluded from January 2002.

Repo holdings rose considerably in 2001 as well, but their increase was smaller than in 2000 (2001: €5,805 million or 1,978 billion drachmas, 2000: 3,096 billion drachmas). The annual growth rate of repos dropped to 36.3% in the fourth quarter of 2001 from 113.9% in the corresponding quarter of 2000. The announcement regarding the taxation of their yields, as mentioned above, affected investment in repos, which shrank by €4,364 million or 1,487 billion drachmas in December 2001, leading to a further deceleration of their annual growth rate in that month (28.6%). The fact that their yields were not subject to tax constituted an important comparative advantage of repos against other alternative assets. In this respect, it should be noted

that total investment by the domestic non-bank private sector in government bonds shrank in 2001 by €4,340 million or 1,479 billion drachmas (2000: decrease of 2,218 billion drachmas) and investment in equity-type mutual fund shares/units, adjusted for the change in share prices,<sup>22</sup> decreased in 2001 by €1,030 million or 351 billion drachmas (compared with a decrease of 937 billion drachmas in 2000).

Total deposits held by Greek residents (households and enterprises) in drachmas and other currencies increased in 2001 at an annual rate of 8.2%, which was almost the same as in 2000 (8.1%). However, developments in the rate of change in individual components present differentiations depending on the currency in which deposits are held. Specifically, deposits in euro/drachmas grew in 2001 by 11.5%, compared with an increase of 5.1% in 2000, while, in contrast, the outstanding amount of deposits in currencies other than euro or drachmas at the end of 2001 was 2.6% less than at the end of 2000, compared

<sup>22</sup> This adjustment was made using the Composite Share Price Index of the Athens Stock Exchange.

Table XIV

## Total credit expansion in Greece

*(Percentage change in outstanding balances over previous year)*

	December		
	1999	2000	2001*
1. Total credit expansion	12.2	20.2	17.6
2. Credit expansion to general government <sup>1</sup>	11.0	15.9	10.7
3. Credit expansion to enterprises and households	12.2	27.6	24.8
3.1. Credit expansion to enterprises	8.0	24.9	18.6
3.2. Credit expansion to households	27.3	34.8	40.0

\* Provisional data.

Source: Bank of Greece.

with an increase of 18.6% in 2000. This development is partly associated with the fact that in 2001 interest rates on deposits in US dollars were reduced much more than the corresponding rates on deposits in euro/drachmas.<sup>23</sup>

## 2.2 Credit expansion

Total credit expansion recorded a considerable slowdown in 2001 and stood at 15.9%, compared with 20.2% in 2000. This development is mainly attributable to the smaller increase in credit to general government, while credit expansion to enterprises and households decelerated to a lesser degree (see Table XIV).

In 2001, the growth of bank credit to general government decelerated considerably (2001: 10.7%, 2000: 15.9%), because private holdings in Greek government securities decreased this year much less than in 2000 (2001: €–4,499 million or –1,533 billion drachmas, 2000: –3,125 billion drachmas).

### Bank credit to enterprises and households

Bank lending to enterprises and households increased by 24.8% in 2001, compared with an increase of 27.6% in 2000 (see Table XIV). Thus, despite its deceleration, credit expansion remained

high. The slowdown in credit expansion, which was mainly recorded from June 2001 onwards, is due to the relatively moderate increase in short-term loans, the growth rate of which fell to 20.5% in 2001 from 27.6% in 2000, whereas long-term lending continued to grow at a high rate (December 2001: 31.0%, December 2000: 27.7%). It should also be noted that the increase in bank credit stemmed solely from loans denominated in euro/drachmas. Loans in other currencies decreased further in 2001 and their share in total lending dropped to 9.5% at the end of 2001 from 13.5% at the end of 2000.

The fact that credit expansion remained at high levels on the demand side is associated with the relatively steep drop in interest rates, which were reduced by more than 2 percentage points in the course of 2001 (see Chart 29). The convergence of Greek bank rates towards the lower interest rates in the euro area – a process that had started in the second half of 2000 – continued in 2001. At the same time, the ECB also reduced gradually its key interest rates from May 2001 onwards by 1.5 per-

<sup>23</sup> It should be noted that the spread between interbank interest rates on deposits with an agreed maturity of three months in US dollars and in euro was positive (96 basis points) in January 2001 but turned negative (141 basis points) at the end of December of the same year.

Table XV

## Breakdown of credit to the private sector, by branch of economic activity

	Outstanding balances on 31.12.01*		Annual percentage changes, quarterly averages <sup>1</sup>					
	(million euro)	(billion drachmas)	2000	2001				
			Q4	Q1	Q2	Q3	Q4	December*
– Agriculture	3,724	1,269	13.3	8.6	8.8	3.2	–2.6	–4.1
– Industry <sup>2</sup>	12,615	4,299	10.8	14.4	15.5	16.6	10.2	6.7
– Trade	15,524	5,290	28.7	27.6	25.0	22.3	20.3	25.5
– Housing	15,652	5,333	29.9	32.5	36.4	36.3	36.7	38.9
– Consumer credit	7,852	2,676	36.9	44.0	51.7	48.5	44.3	42.5
– Other	15,816	5,389	44.1	42.0	40.5	33.3	32.6	38.7
<b>Total</b>	<b>71,183</b>	<b>24,256</b>	<b>26.6</b>	<b>27.9</b>	<b>29.0</b>	<b>26.9</b>	<b>24.5</b>	<b>26.3</b>

<sup>1</sup> The quarterly average is derived from monthly averages (which are calculated as arithmetic means of two successive end-of-month figures) and is not the three-month average of end-of-month annual growth rates (see the "Technical Notes" in the *ECB Monthly Bulletin*).

<sup>2</sup> Including mining and small-scale manufacturing.

\* Provisional data.

Source: Bank of Greece.

centage points. The increased demand for bank loans was a result of the continuing high growth rate of economic activity and the limited amount of funds raised through the Athens Stock Exchange (ASE). In 2001, non-financial corporations (i.e. other than banks and portfolio investment companies) raised only €812 million or 276 billion drachmas through the ASE, compared with 2,267 billion drachmas in 2000. On the supply side, credit expansion remained at high levels as it was facilitated –to some extent– by the gradual release of a considerable amount (€8,091 million or 2,757 billion drachmas) of the banks' deposits with the Bank of Greece, following the harmonisation –in the course of 2000– of minimum reserve requirements with those of the Eurosystem.

The growth rate of credit to enterprises decelerated considerably (2001: 18.6%, 2000: 24.9%). More specifically, the increase in credit to industry was limited to only €792 million (270 billion drachmas) or 6.7% in 2001 (see Table XV), compared with 457 billion drachmas or 12.8% in the previous year. A marked slowdown was also recorded in credit expansion to trade. However,

the annual growth rate of bank credit to that sector remains at relatively high levels (2001: 25.5%, 2000: 34.2%). Moreover, bank lending to agriculture declined in 2001 by €161 million (55 billion drachmas) or 4.1%, compared with an increase of 92 billion drachmas or 7.5% in 2000.

Developments were different in bank lending to households, i.e. in consumer and housing loans. Total lending in these two categories of loans rose by 40% or €6,720 million (2,290 billion drachmas) in 2001, compared with an increase of 34.8% or 1,475 billion drachmas in 2000. As a result, their outstanding balance at the end of 2001 accounted for 31.9% of total bank loans to enterprises and households, compared with 29% at the end of 2000. Despite this rise, the share of loans to households in the total of bank loans to enterprises and households in Greece remains lower than the average in the euro area, where bank lending to households accounts for 47.8% of total loans to enterprises and households.<sup>24</sup>

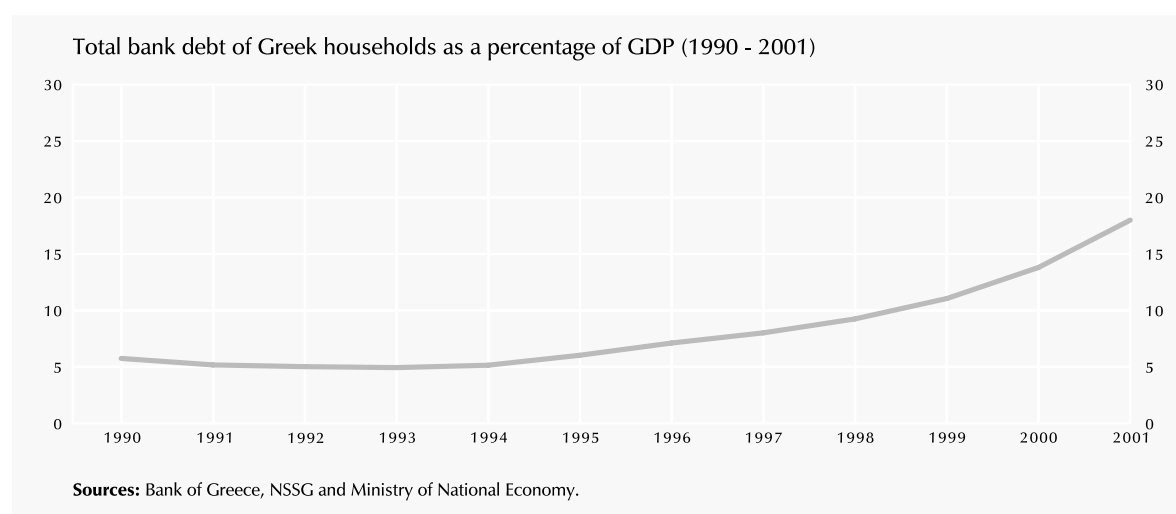
<sup>24</sup> According to data for September 2001 published in the *Monthly Bulletin* of the ECB, December 2001.

## BOX 1

### The indebtedness of households

The total outstanding balance of consumer and housing loans as a percentage of GDP in Greece grew at a high rate in the 1996-2001 period (see chart). In more detail, while until 1995 household indebtedness fluctuated between 5% and 6% of GDP, from 1996 onwards this ratio started to rise at a very fast pace, so that it

that in the 1996-2001 period the rise in household debt as a percentage of GDP was recorded in the euro area countries as well as in the United States, Japan and the United Kingdom, as these economies were developing at relatively high rates in that period and consumer confidence was generally strong.



stood at 18% by the end of 2001. This rise is connected with the deregulation of consumer and housing credit, the intense competition between banks —particularly in the field of consumer credit— and the drastic fall in bank lending rates, both nominal and real. It is estimated that in the 1996-2001 period interest rates on consumer loans were reduced by 13 percentage points. In the same period, inflation fell from 7.9% in December 1996 to 3% in December 2001, and thus the drop in real interest rates came close to 8 percentage points.

Bank credit to households in Greece has to be evaluated in relation to corresponding developments in other economies. In this respect, it should be noted

However, in all these countries the ratio of household debt to GDP is much greater than in Greece. According to the latest available data —which refer to the second quarter of 2001— this ratio was 50% in the euro area, 90.9% in the United States, 70.4% in Japan and 74.3% in the United Kingdom.<sup>1</sup> As regards the euro area in particular, an increase in household debt as a percentage of GDP was recorded up to the end of 1999, a period in which interest rates on housing and consumer loans fell to historical lows. This rise was interrupted in the 2000-2001 period, when the household debt as a percentage of GDP showed a slightly downward trend.

<sup>1</sup> Sources: US Federal Reserve System, Bank of Japan, ECB.

Moreover, as a percentage of GDP, the outstanding balance of bank loans to households in Greece has increased considerably in the last few years, but remains at relatively low levels.

At the end of 2001, the total of consumer and housing loans amounted to 18% of GDP, compared with 13.8% in 2000. At the end of June 2001, the corresponding euro area average was

## BOX 2

### The Interbank Credit Data Information System “Tiresias S.A.”

The company bearing the trade name “Interbank Credit Data Information System” and the title “Tiresias S.A.” was founded in September 1997 on the initiative of the Association of Greek Banks and is a non-profit organisation. Its aim is to contribute to the protection of the institution of bank credit and in particular, through a more comprehensive assessment of the creditworthiness of the customers of credit institutions, to the limitation of the risks the latter take up. Today, “Tiresias S.A.” specialises in the collection and supply –to credit institutions, financial corporations and Greek government organisations– of information regarding the financial behaviour of enterprises and private customers (e.g. bounced cheques, unpaid bills of exchange, bankruptcies, etc.). Furthermore, it has been provided for that in the near future the system will be collecting information regarding the liabilities of private customers to the entire banking system on account of personal and consumer loans and loans through credit cards, while the technical possibility to include information on other categories of loans or credit will also be available. Therefore, a “Credit Profile Databank” –the operation of which in foreign countries has yielded very positive

results– is being built in Greece as well. Through these data files the institution of bank credit is being modernised and banks can more accurately assess the creditworthiness of their customers, as they are better able to evaluate their customers’ credit standing and loan repayment capacity. Therefore, banks are supplied with a wider database that allows for a more efficient management of the credit risks they take up. At the same time, the cost of information for banks is reduced and the faster processing of their customers’ requests is facilitated, so that banks will be able to grant loans at lower interest rates.

The company has communicated its Data Processing Regulation to the Hellenic Data Protection Authority and has received the relevant approval. With respect to the content and the operation of its data files, the company regularly notifies all interested parties by announcements to the press. All natural and legal persons have a right to access the Data Files of “Tiresias S.A.” in order to be informed of any personal data stored therein. If any interested parties find any errors in these data, they are entitled to request their correction.

50%.<sup>25</sup> It should be noted, however, that, although on the basis of the data available so far Greek households are not overindebted, a continuation of this trend during the next few years will increase their liabilities excessively and might cause problems in the servicing of loans. Furthermore, average indebtedness may be concealing a substantial overindebtedness of a number of households. It is true that during the last few years the considerable increase in loans to households absorbs a high percentage of Greek banks’ total credit expansion to enterprises and households (2001: 46.8%, 2000: 34.6%), a fact that may be affecting the quality of the banks’ lending portfolio. For these reasons, the Bank of Greece monitors develop-

ments in bank loans to households, especially consumer loans. Enhanced transparency in that market would render the management of credit risk by the banks more effective and could lead to lower lending rates. The monitoring of household debt is expected to be considerably facilitated by the Interbank Credit Data Information System “Tiresias S.A.”, which needs to become fully operative as soon as possible (see Box 2).

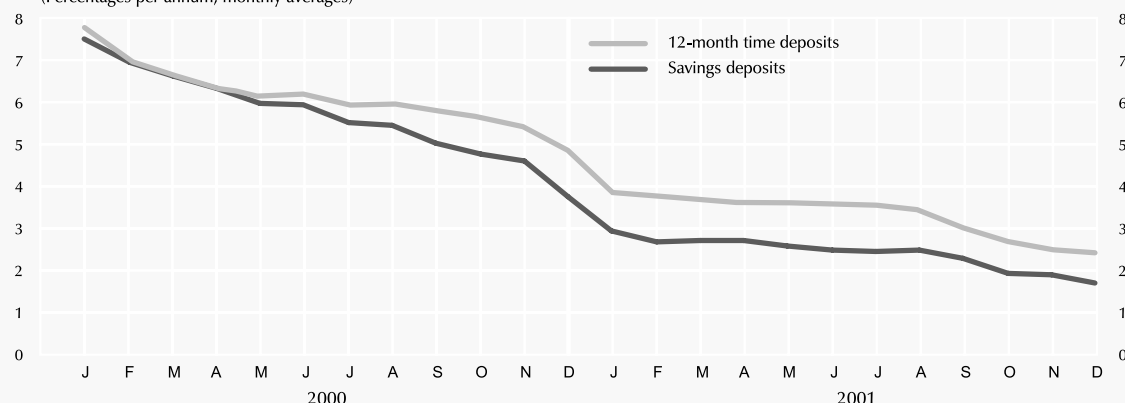
In more detail, housing loans rose by 38.9% in 2001, compared with an increase of 31.2% in 2000. High credit expansion in the sector of hous-

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<sup>25</sup> See Box 1.

Chart 28

Bank deposit rates<sup>1</sup> in Greece (January 2000 - December 2001)  
(Percentages per annum, monthly averages)



Source: Bank of Greece.

ing during 2001 was associated with the reduction of lending rates<sup>26</sup> and with the keen interest banks are taking in this sector, offering a variety of products combined with flexible programmes for loan repayment. The growth of housing loans is also connected with the rise in real estate prices, which increases the borrowing requirements of purchasers. It should be noted that in the course of 2001 the prices of real estate (houses) rose by 11-16% (see Chapter III).

The growth rate of consumer loans remained at a very high level in 2001 (2001: increase of €2,342 million or 798 billion drachmas, i.e. by 42.5%, 2000: increase of 562 billion drachmas, i.e. by 42.7%). The increase was more pronounced in borrowing through credit cards, which are used mainly for the purchase of consumer goods (2001: 62.7%, 2000: 49.8%), while growth rates were lower and decelerating both in loans granted against supporting documents (2001: 35.1%, 2000: 46.4%) — which finance the market of consumer durables, particularly cars— and in personal loans (2001: 22.4%, 2000: 31.9%). As a result of these developments, the composition of consumer loans has changed considerably, as the share of loans through credit cards increased

(2001: 47.4%, 2000: 41.5%), unlike that of loans against supporting documents (2001: 24.9%, 2000: 26.3%) and the share of personal loans (2001: 27.6%, 2000: 32.2%).

### 2.3 Bank interest rates

During 2001, bank interest rates in Greece continued to converge towards those in the euro area. In particular, Greek deposit rates converged almost completely to the corresponding deposit rates in the euro area, as the money market has now been unified. Interest rates on savings deposits and time deposits with an agreed maturity of twelve months in Greece fell in 2001 by 2.1 and 2.4 percentage points, and in December stood at an average of 1.7% and 2.4%, respectively<sup>27</sup> (see Chart 28). In the same month, the

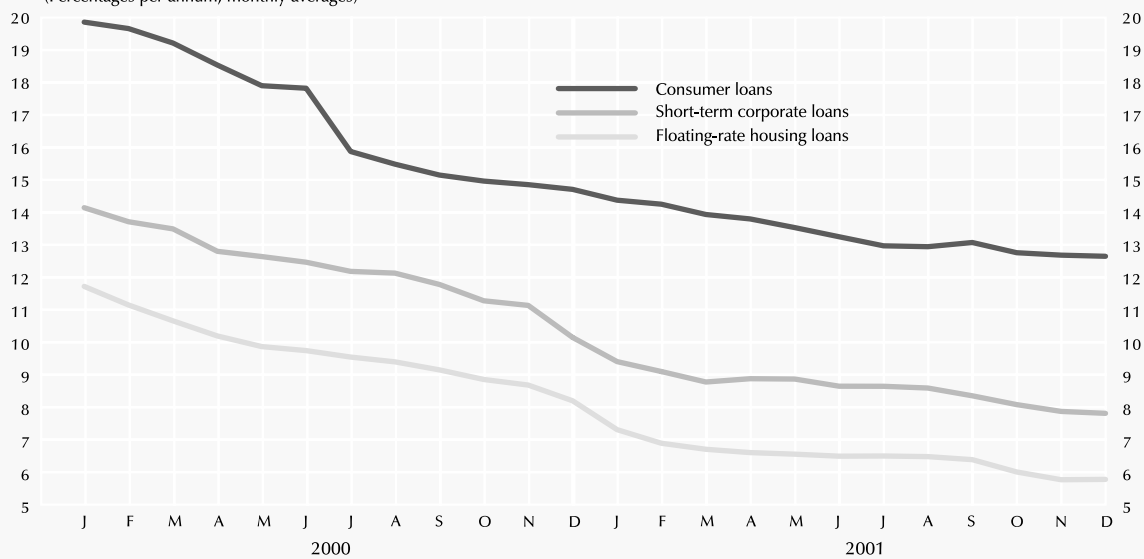
<sup>26</sup> On the basis of the interest rates on housing loans at the end of 2001 (average interest rate: 5.78%), the annual amortisation payment of a loan of 10 million drachmas with a maturity of 25 years amounted to 760 thousand drachmas, compared with 1,306 thousand drachmas at the end of 1999, when the average interest rate on such loans was 12.42%.

<sup>27</sup> Repo yields also followed a downward path throughout 2001. The yield of repos with a maturity of one month fell by 1.8 percentage points on average and stood at approximately 3.4% in December 2001.

Chart 29

### Bank lending rates in Greece (January 2000 - December 2001)

(Percentages per annum, monthly averages)



Source: Bank of Greece.

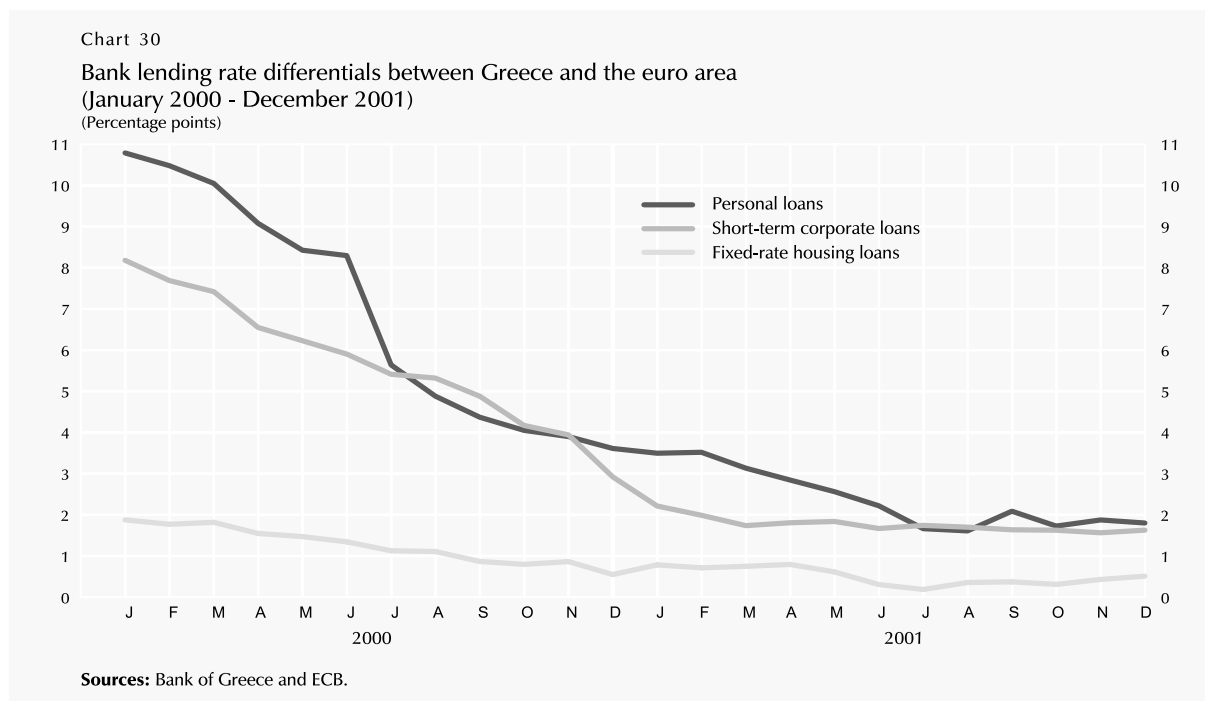
Table XVI

### Evolution of lending rates in the euro area and Greece

(Percentages per annum)

	December 2000	December 2001	Drop between Dec. 2000 και Dec. 2001
<b>Short-term corporate loans</b>			
Euro area: average interest rate	7.18	6.24	0.94
maximum interest rate	9.94	8.44	1.50
minimum interest rate	5.66	4.45	1.21
Interest rate in Greece	10.15	7.79	2.36
<b>Fixed-rate housing loans</b>			
Euro area: average interest rate	6.43	5.52	0.91
maximum interest rate	6.99	6.29	0.70
minimum interest rate	5.99	4.52	1.47
Interest rate in Greece	6.98	6.03	0.95
<b>Consumer loans (personal loans)</b>			
Euro area: average interest rate	10.19	9.81	0.38
maximum interest rate	12.26	11.62	0.64
minimum interest rate	7.13	5.45	1.68
Interest rate in Greece	13.83	11.62	2.21

Sources: ECB and Bank of Greece.

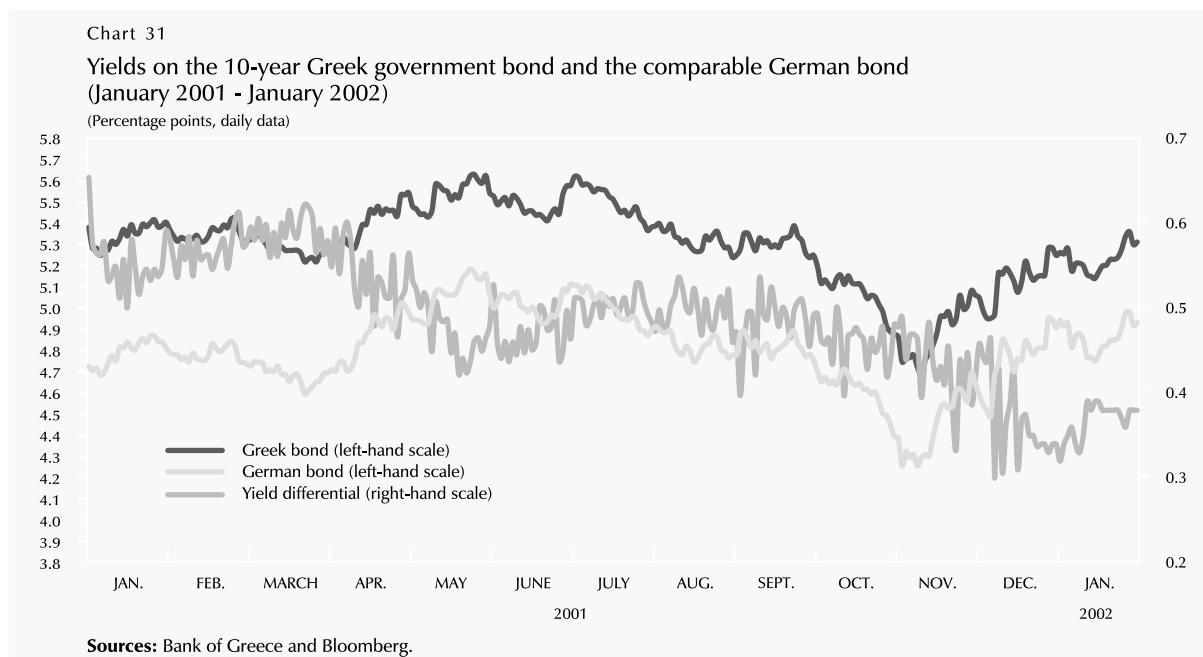


corresponding deposit rates in the euro area were at slightly higher levels than the Greek ones (deposits redeemable at notice of up to three months: 2.2%, time deposits with an agreed maturity of up to two years: 2.8%). Nevertheless, it should be noted that the competitive conditions and the services offered by banks through deposit accounts might lead to a slight differentiation of relevant rates across euro area countries.

As mentioned above, bank lending rates also followed a downward path (see Chart 29), converging even further towards the corresponding euro area rates. In particular, the average interest rate on short-term corporate loans (see Table XVI) was cut in 2001 by approximately 2.4 percentage points (December 2001: 7.8%, December 2000: 10.2%). As a result, the spread between this rate and the corresponding euro area rate shrank to 1.6 percentage points, compared with 3.0 percentage points at the end of 2000 (see Chart 30). The average interest rate on long-term corporate loans decreased by 2.1 percentage points (December 2001: 7.7%, December 2000: 9.8%), while the

spread between this rate and the corresponding euro area rate narrowed to approximately 2.0 percentage points in December 2001, from 3.3 percentage points in December 2000. Similar cuts were recorded in interest rates on loans to households. Specifically, the average interest rate on consumer loans of all categories fell to 12.7% in December 2001, from 14.7% in December 2000, while the rate on floating-rate housing loans with an agreed maturity of more than five years dropped to 5.8% in December 2001, from 8.2% in December 2000. It should be noted that the interest rate on personal loans, which is more comparable with that published in the Monthly Bulletin of the ECB as "interest rate on consumer loans", decreased to 11.6% in December 2001, from 13.8% in December 2000, while that on fixed-rate housing loans fell by 1.0 percentage point and stood at 6.0% at the end of 2001. Thus, in both these categories of loans, the spreads between Greek interest rates and the corresponding average interest rates in the euro area shrank further, to 0.5 percentage point for housing loans and to 1.8 percentage points for personal loans.





## 2.4 Capital markets

### 2.4.1 The bond market

In 2001, the Greek government bond market was marked by an impressive growth of transactions in the secondary market, a drop in bond yields, as well as certain structural and organisational changes<sup>28</sup> that improved its operation. These positive developments were driven by factors such as Greece's entry into the euro area (and its participation in the single bond market), which resulted in the elimination of risks related to the exchange rate of the drachma vis-à-vis the euro, and the upgrading of the country's credit rating.<sup>29</sup> These factors led to a further convergence of Greek government bond yields towards the lower yields of the corresponding euro area securities. Another positive factor was the favourable conditions that prevailed in world bond markets due to the downward path that share prices followed in world stock markets from the end of the second quarter of 2000 until recently.

In more detail, the yield of the ten-year Greek government bond fell to 5.31% at the end of January

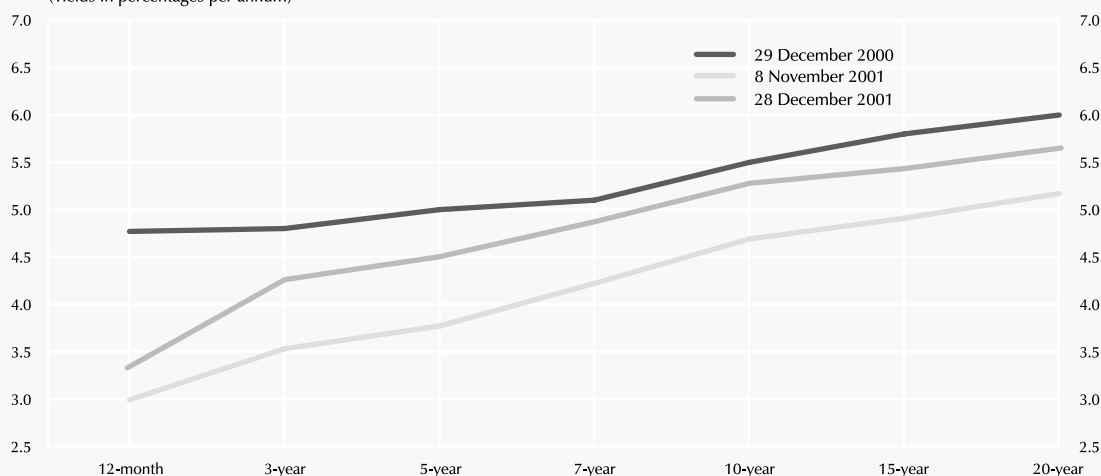
2002, from 5.46% at the end of December 2000, i.e. by 15 basis points, having fluctuated widely during this period (see Chart 31). Specifically, in the course of 2001, a trough of 4.69% was recorded on 8 November and a peak of 5.63% on 28 May. These fluctuations reflect those recorded in bond yields in the euro area in general. The yield differential between the Greek ten-year bond and the comparable German bond narrowed to 38 basis points at the end of January 2002, from 62 basis points at the end of December 2000. The yields of other Greek government bonds also declined in 2001, continuing to converge towards the lower yields of comparable euro area securities. The decline in yields was more pronounced

<sup>28</sup> These changes had to do with the fact that, as from the beginning of 2001, non-resident foreign credit institutions were allowed to become Primary Dealers. They also involved the creation of the necessary liquidity in the issues that constitute reference securities, the pre-announcement of the total amount of new borrowing by central government, and the publication of the tenders programme on a three-month basis, as well as the establishment, as from May 2001, of new structured maximum spreads in the quotes entered in the Electronic Secondary Market for Securities (HDAT) for the purchase and sale of securities.

<sup>29</sup> On 13 March 2001, Standard and Poor's upgraded Greece's long-term foreign debt from A- to A. In June 2001, FITCH-IBCA also upgraded the country's long-term credit rating from A- to A.

Chart 32

### Greek government paper yield curves (Yields in percentages per annum)



Source: Bank of Greece.

for the shorter maturities (of up to 7 years), particularly after the heightened uncertainty caused by the events of 11 September in the United States. However, towards the end of 2001, there was an increase in bond yields for all maturities, which continued in January 2002 as well.

Between the end of December 2000 and the end of December 2001, the government paper yield curve shifted downwards and its positive slope became steeper<sup>30</sup> for maturities ranging from 12 months to 10 years (see Chart 32). In particular, the slope of the yield curve – as measured by the spread between the yields of the ten-year bond and the twelve-month Treasury bill – increased from 0.70 percentage point at the end of December 2000 to 1.95 percentage points at the end of December 2001, although it subsequently decreased to 1.69 percentage points at the end of January 2002. Similar changes were recorded with reference to the shift and the slope of the yield curve of euro area bonds (see Chart 23). These developments confirm the further integration of the Greek bond market into the corresponding European one and the increased confidence of investors in the Greek economy.

Table XVII  
Greek government paper issuance

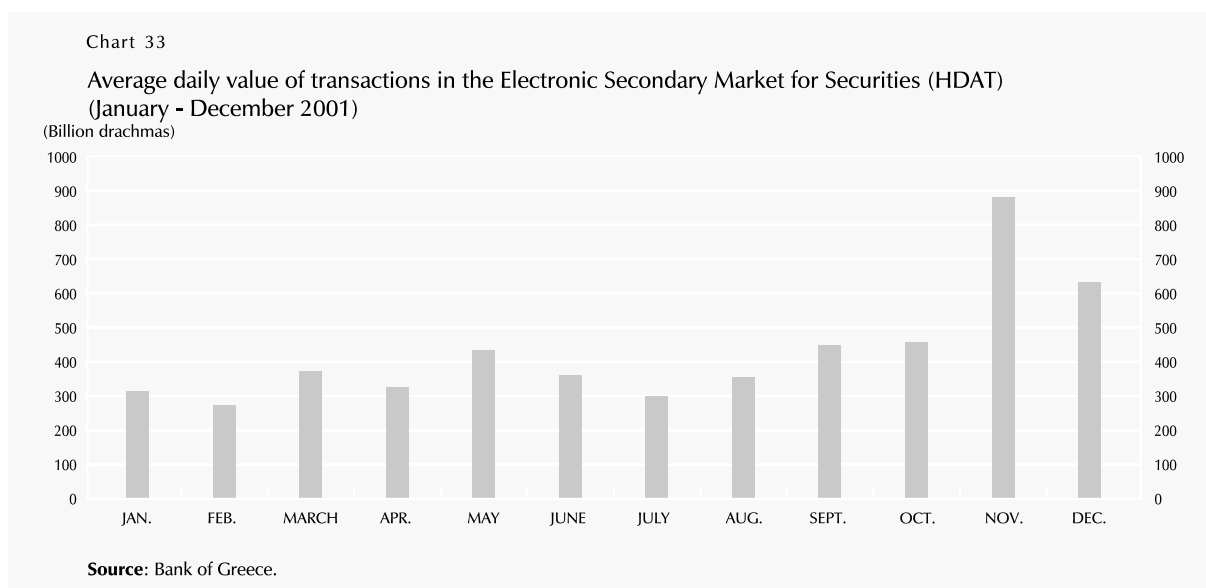
Type of security	Year		
	2000	2001	
	(billion drachmas)	(billion drachmas)	(million euro)
<i>Treasury bills</i>	1,095	412	1,209
<i>Bonds<sup>1</sup></i>	8,037	7,832	22,984
2-year	38	–	–
3-year	1,728	–	–
5-year	1,796	1,796	5,271
7-year	526	1,739	5,103
10-year	2,224	2,771	8,132
15-year	129	229	672
20-year	1,596	1,297	3,806
<b>Total</b>	<b>9,132</b>	<b>8,244</b>	<b>24,193</b>

<sup>1</sup> Breakdown by initial (not residual) maturity.

Source: Bank of Greece.

The primary market for Greek government bonds in 2001 was characterised by regularly conducted tenders, which were associated mainly with re-openings and to a lesser extent with new issues. However, aside from the ten-

<sup>30</sup> The steeper positive slope of the bond yield curve reflects market expectations that the reduction of interest rates by the ECB will contribute to a recovery in economic activity.



ders conducted in the domestic market, on 30 January 2001 a euro-denominated ten-year bond was issued in the form of a syndicated loan.<sup>31</sup> The total amount of all issues in 2001 rose to €24,193 million or 8,244 billion drachmas, compared with 9,132 billion drachmas in 2000 (see Table XVII). Nearly half of the Greek government tenders that were conducted in the period under review concerned bonds with a maturity of ten or more years. In the same period, the bid-ask ratio averaged almost 2.

The average daily value of transactions in the Electronic Secondary Market for Securities (HDAT) stood at €1,256 million or 428 billion drachmas in 2001, compared with 87 billion drachmas in 2000.<sup>32</sup> This mainly reflects the positive effect of the country's entry into the euro area on the Greek bond market. The increase was particularly pronounced during the last months of the year (see Chart 33) and is attributable to the special conditions in the stock markets following the terrorist attack of September 2001 in the United States. Stronger liquidity in the market — a development induced by increased transactions — led to a further narrowing of the spread between the prices offered and

asked for with respect to securities with a maturity of more than three years. Specifically, in December 2001 the spread fell to approximately 10 basis points, from 14 basis points in December 2000, showing that the effectiveness of this market has increased.

#### 2.4.2 Stock market developments

In 2001, share prices, stock exchange transactions and fund raising through the stock market stood at lower levels than in 2000.

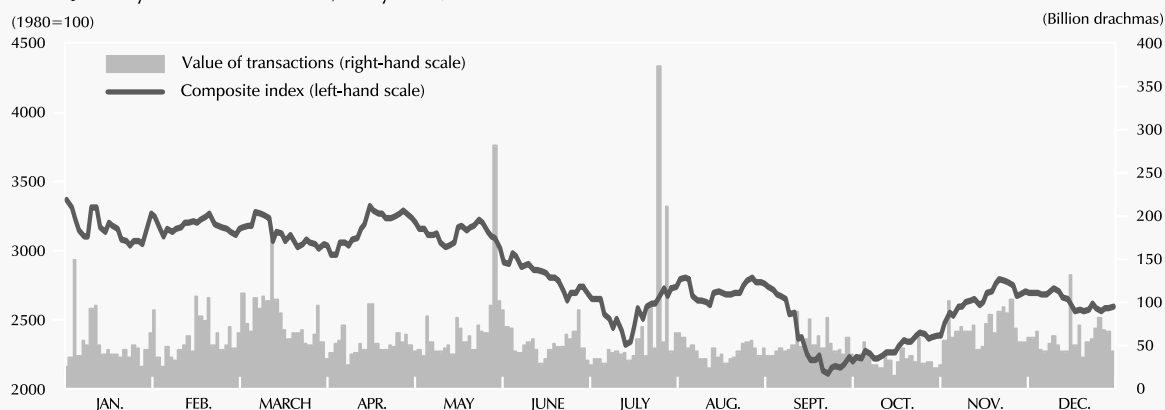
During the five months from January to May 2001, the composite share price index of the Athens Stock Exchange (ASE) showed some fluctuation, but its average level did not fall per-

<sup>31</sup> For this bond issue a total of five banking organisations — two from the Greek market (National Bank of Greece and Alpha Bank) and three from the international market (Schroder Salomon Smith Barney, Goldman Sachs and UBS Warburg) — had been pre-selected to operate as leading arrangers of the issue. The total amount of the issue was €2,600 million and the relevant interest rate stood at 5.35%.

<sup>32</sup> The total value of transactions rose to €314,949 million or 107,319 billion drachmas in 2001, from 21,675 billion drachmas in 2000. The ten-year bond continued to be the focus for the largest part of transactions in the secondary market. The value of transactions in bonds with this maturity accounted for approximately 40% of the total value of transactions in 2001.

Chart 34

Athens Stock Exchange: composite share price index and value of transactions  
(January - December 2001, daily data)



Source: Athens Stock Exchange.

ceptibly lower than that at the end of December 2000. However, from early June to mid-July 2001, share prices presented a strong downward trend. This development was recorded after the upgrading of the Greek stock market on 31 May 2001 from the category of emerging markets to that of developed markets. The upgrading led to a restructuring of the portfolios of foreign institutional investors that had placed funds in the Greek stock market, which resulted in net capital outflows. Specifically, as balance of payments data reveal, a considerable net capital outflow was recorded in May 2001, which was associated with the liquidation of non-residents' holdings in the Greek stock market. It is estimated that this development was driven by the reduction of investment in Greek stock market shares by foreign institutional investors who mainly invest in emerging stock markets, as well as the – at least initially – limited investment by those who mainly invest in developed markets. From mid-July onwards, share prices recorded a slight increase, while after the terrorist attack of 11 September in the United States they fell considerably again, with a tendency towards recovering from early October and until the end of 2001.

In more detail, between the end of December 2000 and the end of December 2001, the ASE composite share price index fell by 23.5%.<sup>33</sup> The index peaked at 3,360.5 points on 3 January 2001 and reached a trough of 2,105.6 points on 21 September 2001 (see Chart 34). Share prices moved downwards in all individual sectors, except for the share prices of insurance companies, which recorded an increase. Compared with the composite index, between the end of December 2000 and the end of December 2001, the fall was more pronounced in the share prices of portfolio investment companies (42.9%), holding companies (35.4%), banks (34.5%), industrial companies (25.9%) and firms listed on the parallel market (24.2%). The share prices of construction companies dropped by 9.9%, i.e. less than the composite index.

The average daily value of transactions, despite having recorded some fluctuation in the course of 2001 (see Chart 34), broadly remained at a level lower than in the previous year. Specifically, the

<sup>33</sup> The average monthly level of this index in December 2001 was 25.7% lower than in December 2000.

Table XVIII

## Fund-raising through the Athens Stock Exchange

Branches	Number of firms		Funds raised <sup>1</sup>		
	2000	2001*	2000	2001*	
			(billion drachmas)	(billion drachmas)	(million euro)
Listed companies	98	19	2,374	125	367
Newly listed companies	48	21	619	160	468
Total	146	40	2,994 **	285 **	835 **
– Banks	4	1	211	1	1
– Investment	10	5	516	8	22
– Insurance	3	0	59	0	0
– Leasing	1	0	53	0	0
– Industrial	49	9	649	101	295
– Construction	17	9	436	78	228
– Commercial	14	6	134	13	37
– Telecommunications	1	0	56	0	0
– Shipping	5	0	99	0	0
– Information technology	10	4	184	10	29
– Energy	1	1	65	51	151
– Publishing	7	0	92	0	0
– Other	24	5	440	25	73

<sup>1</sup> Share capital increase through public offerings and private placements. Subscriptions to new capital are entered on the last day of the subscription period.

\* Provisional data.

\*\* Figures do not add up due to rounding. Also due to rounding, amounts in drachmas may not always be equivalent to those in euro.

Sources: Athens Stock Exchange and Bank of Greece.

average daily value of transactions<sup>34, 35</sup> stood at 42% of that in 2000 (2001: €167 million or 57 billion drachmas, 2000: 136 billion drachmas). The share marketability index<sup>36</sup> declined to 4.4% in December 2001, from 5.0% in December 2000.

The steep drop in share prices more than offset the positive effect exerted on market capitalisation by the listing of new companies on the ASE in 2001. As a result, the stock market value of shares fell to €96,950 million (33,036 billion drachmas) or 74% of GDP in December 2001, from 40,194 billion drachmas or 97% of GDP in December 2000 and 71,087 billion drachmas or 185% of GDP in November 1999, when it had reached a historical peak. A decline was recorded in the market capitalisation of all companies listed on the main market as well as on the parallel market.

The conditions that prevailed in the stock market in 2001 limited considerably the funds raised through this market both by new enterprises and – mainly – by already listed companies. Total funds raised through capital increases<sup>37</sup> amounted to only €835 million or 285 billion drachmas in 2001,<sup>38</sup> compared with 2,994 billion drachmas in 2000 (see Table XVIII). These funds were raised by 40 compa-

<sup>34</sup> The value of transactions in shares in the stock market stood at €41,467 million or 14,130 billion drachmas in 2001, from 34,429 billion drachmas in 2000. As the composition of transactions broken down by branch of activity reveals, the participation of commercial/industrial companies, portfolio investment companies, leasing firms and companies listed on the parallel market decreased, while the participation of all the other branches increased.

<sup>35</sup> The total of transactions does not include transactions related to the sale of existing shares.

<sup>36</sup> Number of shares traded to total number of shares listed.

<sup>37</sup> By public offering and private placement.

<sup>38</sup> In addition, the amount of 205 billion drachmas was raised through the stock market in 2001 by the sale of existing shares, compared with 370 billion drachmas in 2000.

nies (2000: 146 companies), out of which 21 were newly listed on the stock exchange and accounted for €468 million or 160 billion drachmas of the aforementioned amount. In particular, companies in the oil products industry raised approximately one fourth of these funds, while construction companies raised roughly the same amount.

Overall, in 2001 the Greek stock market was negatively affected by the unfavourable climate that prevailed in international stock markets, which was due to the slowdown in the growth rate of economic activity (mainly in the United States), to the expectations of limited business profitability in many industries —mainly telecommunications— as well as to the impact on international stock markets of the 11 September 2001 terrorist

attack in the United States. It should be mentioned that between the end of December 2000 and the end of December 2001 the main share price indices in the euro area (Dow Jones EURO STOXX), in the United States (Standard and Poor's 500) and in Japan (Nikkei) fell by 19.7%, 13.0% and 23.5% respectively (see Chart 25). Moreover, share price indices in international stock markets fluctuated widely in the course of 2001, a fact that reflects the increased uncertainty about short-term developments in the world economy. Additionally, as already mentioned, the upgrading of the Greek stock market from the category of emerging markets to that of developed ones has led to net capital outflows, which had a negative effect on stock market developments, particularly in the period from the end of May to mid-July.



## V. The introduction of euro banknotes and coins

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### 1. General overview

Euro banknotes and coins were brought into circulation throughout the euro area on 1 January 2002. This step completed the euro cash changeover and a new monetary environment was established, which is expected to have a favourable effect on the growth performance of euro area countries. Although the transition period for Greece lasted only a year, from the country's accession to the monetary union to the entry of the euro into circulation (compared with three years for the other 11 countries of the euro area), Greece completed the necessary preparations<sup>1</sup> in time, thereby making the cash changeover an absolute success.

In this chapter, the different stages of the changeover are presented and a comprehensive evaluation of the process is attempted. In particular, this chapter examines the way in which the necessary amounts of euro banknotes and coins were determined, their production, the front-loading of banks, enterprises and the public with euro before 1 January 2002, as well as the progress made in launching the euro and withdrawing the drachma as from 1 January 2002.<sup>2</sup>

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### 2. Determining the required amounts of euro banknotes and coins

When Greece was allowed to join the euro area from the beginning of 2001, after the decision

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<sup>1</sup> The Bank of Greece and the Ministry of Finance and National Economy, in cooperation with other institutions, such as the Hellenic Bank Association, drew up the "National Plan for the Introduction of Euro Banknotes and Coins", which was published in December 2000. The National Plan includes a detailed description of guidelines and procedures pursued for the euro cash changeover.

<sup>2</sup> "Launching the euro" stands for the start of circulation of euro banknotes and coins. "Withdrawing the drachma" refers to the withdrawal of drachma banknotes and coins.



taken in June 2000 by the Ministers of Finance (ECOFIN), the Bank of Greece set in motion the necessary procedures to enable smooth replacement of drachma banknotes and coins with euro banknotes and coins. First, the Bank proceeded to estimate the amounts of euro banknotes and coins needed to replace the drachma notes and coins in circulation at the end of December 2001.

Specifically, the Bank of Greece estimated the amounts of drachmas in circulation at end-2001 on the basis of projected GDP growth in 2001, as well as on the basis of the income elasticity of demand for individual denominations. The quantities calculated as above were corrected for the estimated volume of banknotes and coins which have been lost or remain unused in the possession of the public (dormant holdings), thus forming the projected active circulation by the end of 2001. The amounts of projected active circulation in drachmas were converted into euro on the basis of the euro/drachma conversion rate and a substitution key of drachmas to euro by denomination. Logistical stocks, equal to 20% of the amounts estimated to be necessary for the replacement of drachmas, were added to the above quantities.<sup>3</sup> Thus, it was ensured that it would be possible to deal with any calculation errors, difficulties in exchange procedures or other uncertainties, connected on the one hand with the particular geographical structure of Greek territory and on the other hand with the significant denomination mismatches between euro and drachma banknotes and coins, thereby shifting upwards the boundary line between banknotes and coins.<sup>4</sup>

It was estimated that 617 million euro banknotes should be made available, as well as 1,600 million euro coins of various denominations, weighing a total of 8.3 thousand tonnes (see Table XIX).

**Table XIX**  
Quantities of euro banknotes and coins required for Greece

Nominal value	Quantity (million pieces)	Value (million euro)
<b>Banknotes</b>		
€5	158	790
€10	183	1,830
€20	178	3,560
€50	67	3,350
€100	26	2,600
€200	4	800
€500	1	500
<b>Total</b>	<b>617</b>	<b>13,430</b>
<b>Coins</b>		
1 cent	88	0.88
2 cents	172	3.44
5 cents	287	14.35
10 cents	257	25.70
20 cents	371	74.20
50 cents	145	72.50
€1	117	117.00
€2	163	326.00
<b>Total</b>	<b>1,600</b>	<b>634.07</b>

**Source:** Bank of Greece. The quantities include logistical stocks.

### 3. Production of euro banknotes and coins

After the decision for the accession of Greece into the euro area was taken, the Bank of Greece Printing Works (IETA) proceeded to purchase raw materials and the necessary mechanical equipment in order to be able to produce euro banknotes and coins. To be able to print banknotes, the IETA acquired a silk screen printing machine, while existing machinery was improved and mod-

<sup>3</sup> With the exception of the €5 denomination, as the initially projected amount to replace drachmas increased by 20 million banknotes, without an equal increase in the logistical stocks. It should be noted that such stocks were created invariably by all national central banks of the euro area countries.

<sup>4</sup> The value of the €2 coin, representing the highest euro coin denomination, exceeds significantly the value of the highest drachma coin denomination.

ernised, particularly the banknote ground printing machines and the copperplate printing machines. For the striking of coins, appropriate machines and cartridge-making equipment were also acquired. Finally, a monthly production programme was set by IETA, which was also submitted to the competent committees of the European Central Bank.

The production of euro banknotes and coins started in October 2000, as no raw material orders (ink, paper, discs) could be placed before June 2000, when accession of Greece into the euro area was decided. Owing to the shorter transition period allowed to Greece, production of the full amount of euro banknotes and coins by IETA was not feasible, despite the intensification of its operation.<sup>5</sup> However, the bulk of the required quantity of euro banknotes and coins was produced by IETA, while the remainder was delivered to the Bank of Greece by euro area printing works and mints, which also produced banknotes and coins for other euro area countries.

Euro banknotes incorporate a large number of security features, in order to be effectively protected against counterfeiting and facilitate recognition by visually impaired people. The banknote paper is made of cotton fibres, which give it a distinctive texture. The banknotes also contain a watermark, a security thread, a hologram and incomplete drawing and printing of certain figures with ink of variable colour. The banknotes have relief elements, created by deep engraving techniques and copperplate printing, while they also include security features that can be identified by cashiers, as well as other machine-readable features to be identified by special detectors. The overall design of the banknotes and the technologically advanced security features call for printing procedures of the highest standard.

Ensuring the quality of euro banknotes and coins, as well as strict adherence to specifications in their manufacture, are of crucial importance, because the new banknotes and coins are used throughout the euro area. For this reason, a single quality control system is applied at all printing establishments and mints engaged in the production of euro banknotes and coins in order to ensure the uniformity of banknotes and coins, irrespective of where they are produced.

Since 2002, IETA, like the rest of the euro area printing establishments, is included in the euro banknotes production system of the Eurosystem. Each central bank will be responsible for the production of euro banknotes of one or two denominations, in order to save costs owing to specialisation. Banknotes of each denomination will not be produced by more than four printing works in the euro area. IETA will produce exclusively €10-euro banknotes, and any quantity exceeding the needs of the Greek economy will be delivered to other euro area national central banks to meet their needs. Conversely, the Bank of Greece will obtain banknotes of the remaining denominations from other printing establishments in the euro area.

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#### 4. Frontloading of credit institutions, companies and the public

Frontloading of credit institutions with euro banknotes and coins was realised within the framework set by the relevant Guideline of the European Central Bank (ECB/2001/1 of 10 January 2001) to the national central banks of the Eurosystem. In Greece, frontloading of credit institutions with euro banknotes started on 1 Oc-

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<sup>5</sup> It should be mentioned that IETA operated 13 hours a day over a long period, while the staff worked on Saturdays as well.

tober 2001, while frontloading of coins started earlier, on 1 September, as it was estimated that, owing to the relatively large weight of coins, their transport called for further preparations. These provisions were incorporated in Art. 7 of Law 2948/2001, which was the legal basis of frontloading and sub-frontloading in Greece.<sup>6</sup>

The Bank of Greece organised frontloading of credit institutions using its head office and its 27 branches around the country as distribution centres for euro banknotes and coins. For the same purpose, 96 branches of the National Bank of Greece where the Bank of Greece keeps cash reserves were also used. In order to coordinate this operation, the Bank of Greece cooperated closely with credit institutions, which sent to the Bank their orders for the amounts of euro banknotes and coins by denomination, allotted to each one of their branches, as well as their frontloading schedule. A total of 3,233 branches of credit institutions and of the Greek Postal Savings Bank branches throughout the country were supplied with euro banknotes and coins.

Due to the geographical peculiarities of Greece (inaccessible and remote mountainous and insular areas), emphasis was laid on the timely supply of these areas with euro banknotes and coins from the beginning of the frontloading exercise. Whenever necessary, the frontloading schedule of credit institutions was adjusted by bilateral arrangements, so as to take into consideration any developments that could affect frontloading unfavourably, such as bad weather.

The Bank of Greece estimated the geographical distribution of the amount of euro banknotes and coins by denomination, taking account of the contribution of each prefecture to GDP, as well as certain local factors. On the basis of this distribution, it proceeded to increase its branches'

**Table XX**  
Euro banknotes and coins frontloaded to credit institutions

Nominal value	Front-loaded quantity (million pieces)	Percentage of required quantity (Table XIX)	Value in million euro
<b>Banknotes</b>			
€5	107.1	67.8	535.5
€10	113.0	61.7	1,129.9
€20	111.1	62.4	2,221.7
€50	29.0	43.3	1,449.4
€100	3.6	13.8	359.7
€200	0	0	0
€500	0	0	0
<b>Total</b>	<b>363.8</b>	<b>59.0</b>	<b>5,696.2</b>
<b>Coins</b>			
1 cent	61.3	69.7	0.6
2 cents	104.7	60.9	2.1
5 cents	185.2	64.5	9.3
10 cents	161.4	62.8	16.1
20 cents	227.5	61.3	45.5
50 cents	92.0	63.4	46.0
€1	77.6	66.4	77.6
€2	102.0	62.5	203.9
<b>Total</b>	<b>1,011.7</b>	<b>63.2</b>	<b>401.1</b>

**Source:** Bank of Greece. Differences between, on the one hand, the product of euro banknote and coin quantities times the respective nominal value and, on the other hand, the figures in the last column are due to rounding.

reserves in areas where frontloading of credit institutions was less than the estimated needs by geographical region.

Furthermore, the Bank of Greece provided storage space for the euro banknotes and coins, by expanding its branches and taking care to secure additional space, where necessary. In

<sup>6</sup> "Sub-frontloading" means the supply of euros to companies and the public before 1 January 2002. Frontloading dates varied between euro area countries; but all were within the framework of the Guideline.

order to supply all distribution centres with euro banknotes and coins, Bank of Greece transport means and the appropriate personnel were employed. Transport took place under strict security measures (armoured vehicles, armed escort etc.) and no problems occurred. The police provided security escort for all quantities of euro transported both by the Bank of Greece and its distribution centres to branches of credit institutions.

Frontloading of credit institutions with euro banknotes and coins has been particularly effective. This, together with the sufficient supply of the branches of the Bank of Greece, resulted in a fully successful euro cash changeover throughout Greek territory, as branches of credit institutions had sufficient amounts of euro to meet public demand. The value of euro banknotes and coins frontloaded to credit institutions totalled €6,097.4 million (see Table XX), equivalent to almost 70% of currency in circulation at the end of December 2001. Euro banknotes and coins made available for frontloading reached 59% and 63.2%, respectively, of the amount of euro banknotes and coins projected to replace drachma banknotes and coins in circulation. Particular emphasis was laid on frontloading credit institutions with small denominations of euro banknotes and all denominations of coins, while frontloading with big denominations (€200 and €500) of banknotes was avoided, so that commercial firms would not have to pay back small change to a lot of customers during the early days of circulation of the euro.

The Bank of Greece also frontloaded certain central banks of neighbouring countries, thus implementing the Guideline of the European Central Bank ECB/2001/8 “on the frontloading of euro banknotes outside the euro area”.

The demand by commercial firms for sub-frontloading with euro banknotes and coins was significantly smaller than that for frontloading credit institutions. The number of firms supplied with euro before 1 January 2002, including the number of companies supplied with euro coin cartridges after 17 December 2001, reached almost 107,000,<sup>7</sup> i.e. 43% of the total number of firms with declared cash registers.<sup>8</sup> Although this percentage is not particularly high, experience from the introduction of the euro during early January 2002 showed that there have been no problems in the market. This is attributed both to sufficient frontloading of credit institutions throughout Greece, which were actually able to meet the demand for euro banknotes and coins in the first few days without significant problems, and to the uninterrupted supply of euro by the Bank of Greece.

Frontloading of euro coins to the public started on 17 December 2001.<sup>9</sup> A total of 3 million starter kits, each containing an assortment of 45 coins totalling €14.67 were sold for 5,000 drachmas each and were almost fully taken up. In particular, up to and including 31 of December 2001, the banking system supplied about 2,850,000 kits, i.e. 95% of the total. During the very first day of sale of the starter kits, 39% of them was purchased. The objective of supplying the public with a large quantity of euro was achieved (almost 130 million coins). The sale of these kits was an effective way to help the public become familiar with the new coins, especially in the case of people with impaired vision.

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<sup>7</sup> Minister of Finance Decisions 2/57250/0025 and 2/74086/0025. Note that certain banks prepared and supplied corporations with special euro coin packages, which included a specific number of cartridges.

<sup>8</sup> According to Ministry of Finance data, the number of active corporations with declared cash registers totalled 248,221 in December 2001.

<sup>9</sup> Minister of Finance Decision 2/59329/0025.

### BOX 3

#### Bank of Greece briefing activity concerning the introduction of euro banknotes and coins

The Bank of Greece, convinced that the smooth introduction of euro banknotes and coins requires the briefing and timely preparation of the public, started an information campaign in 2001, which was completed in the early months of 2002. Thus, the Bank of Greece participated in the Euro 2002 Information Campaign, organised by the ECB in co-operation with the national central banks of the Eurosystem, but also undertook additional information activities, aiming at the full success of its communication objectives.

##### *Euro 2002 Information Campaign*

The Euro 2002 Information Campaign was undertaken at a euro area level, with the support of a private advertising company, comprising four levels of activity: the Mass Media Campaign, the Public Relations and Press Programme, the Partnership Programme and the Training Programme for cashiers in various institutions.

- The aim of the Mass Media Campaign was to provide the public with information concerning the appearance, security features and start of circulation of euro banknotes and coins. The campaign took place in Greece and the rest of the euro area countries through television and newspapers, while an information leaflet was distributed to Greek households entitled "Getting ready for the euro". Moreover, posters, information booklets, euro converting cards etc. were distributed to various institutions and the public. At the same time, a competition with the title "Be a Euro Superstar" was organised throughout the euro area countries (in Greece it was organised by the Bank of Greece), with the participation of children aged 8-12 years. The first two lucky winners in each country were drawn and received their prizes in a special event in Frankfurt, while the rest of the 100 winners received their prizes by mail.
- Within the framework of the Public Relations and Press Programme, an event was organised at the Bank of Greece on 5 September, during which the security features of euro banknotes were revealed

and the Euro 2002 Information Campaign was analysed to mass media representatives. On 17 October 2001 an information conference was held at the Bank of Greece, with the participation of the President of the ECB Willem Duisenberg.

- The Partnership Programme played an important role in the Information Campaign, seeking to maximise the communicative benefits by taking advantage of the multiplier effect of agents participating in informing the citizens in Greece. A total of 120 private and public institutions participated in this Programme (ministries, banks, public entities and enterprises, chambers of commerce, professional unions, insurance organisations, chain stores etc).
- During the year 2001 the Bank of Greece organised seminars, in which 6,500 cashiers from corporations and private and public institutions were trained to identify genuine euro banknotes, so that they, in turn, would train their co-workers in the establishments where they came from. Training was completed through 500 seminars, 115 of which were organised in the head offices of the Bank of Greece and 385 in its 27 branches. Among the participants were ministries (tax offices, custom houses), banks, public entities and enterprises (Public Power Corporation-DEH, Hellenic Telecommunications Organisation-OTE, Hellenic Postal Service-ELTA), Athens Water Supply and Sewerage Company-EYDAP), the Central Union of Municipalities & Communities of Greece and many public and private enterprises.

##### *Other briefing initiatives*

Moreover, the Bank of Greece undertook additional communication initiatives, apart from the Euro 2002 Information Campaign, with the aim of providing comprehensive information to the Greek public and covering special information needs. Specifically:

- The Bank of Greece undertook the screening of additional TV messages and press entries from →

→ December 2001 to February 2002. Those messages contributed to raising public awareness and informing the Greek public, as they provided specific information, laying emphasis on fields where lack of guidance and advice was observed and were considered to be particularly necessary to complete the Euro 2002 Information Campaign.

- In November and December 2001 information events were organised in cities where branches of the Bank of Greece are located, specifically in Volos, Herakleion, Thessaloniki, Ioannina, Kavala, Kalamata, Corfu, Larissa, Xanthi, Patras, Serres, Tripoli and Chania, with the participation of members of the Bank of Greece Administration, while local authorities were invited. The events received wide publicity at a local level, the security features of euro banknotes were presented and the public and local authorities were informed about preparations for the euro cash changeover.
- From 15 November to 10 December 2001, the EURO CITY TOUR exhibition of euro coin models,

made of polyester and painted by children and famous artists was organised in Athens. At the end of the exhibition the works of art were auctioned and the revenues were given to children's cancer support and treatment institutions.

- The Bank of Greece, based on the assumption that youngsters and schoolchildren form the part of the public that can absorb information and knowledge easily and effortlessly, while operating effectively as information multipliers, created the board game "Euroraces" and the comic book entitled "Eurocles", intended to smoothly familiarise children with the new currency. With the support and approval of the Ministry of National Education and Religious Affairs the game was distributed free of charge to the higher primary school classes, while the comic book was distributed to secondary schools all over the country.
- Finally, on New Year's Eve an event was organised at the Bank of Greece to celebrate the start of circulation of the euro banknotes and coins, which was transmitted via satellite all over the world.

## 5. Introduction of euro banknotes and coins and drachma withdrawal

Considering that higher-denomination banknotes are channelled into the economy mainly through credit institutions (and Automatic Teller Machines), while coins and small-denomination banknotes do so through commercial firms, the following steps were taken to facilitate the circulation of euro banknotes and coins:

Credit institutions stopped paying sums in drachmas after 1 January 2002,<sup>10</sup> thus doing away with the main channel for feeding drachmas into the economy. The conversion of ATMs in order to supply the public with euro banknotes from the first day of circulation was also very significant. The Bank of Greece monitored the effort of credit institutions to convert these

Table XXI  
Progress of ATM conversion

Date	Converted ATMs	Percentage of total	Corresponding percentage for the euro area
1 Jan. 02	3,987	92	80
2 Jan. 02	4,239	98	91
3 Jan. 02	4,326	100	97
4 Jan. 02			100

Sources: Bank of Greece and European Commission.

machines. The process was completed earlier than expected,<sup>11</sup> within 3 days only, throughout the country (see Table XXI). It should be noted that credit card payment machines had no prob-

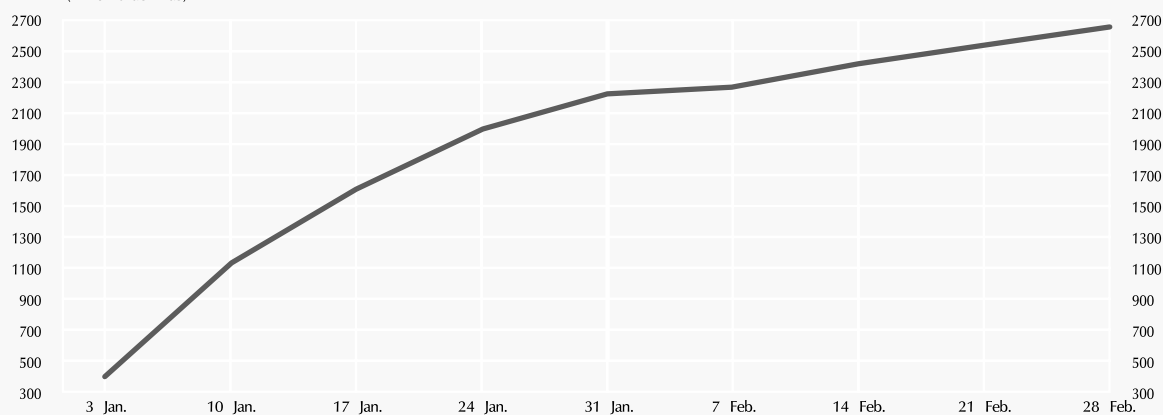
<sup>10</sup> National Cash Changeover Plan, December 2000.

<sup>11</sup> Any ATMs that had not been converted continued to dispense drachmas.

Chart 35

Cumulative inflows of drachmas to the Bank of Greece  
(January - February 2002)

(Billion drachmas)

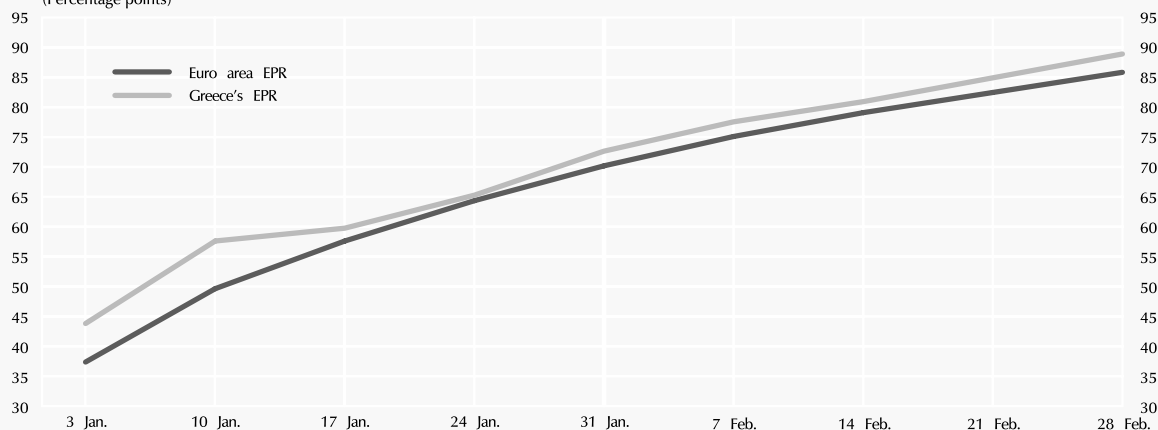


Source: Bank of Greece.

Chart 36

Euro Progress Ratio (EPR<sup>1</sup>) in Greece and the euro area  
(January - February 2002)

(Percentage points)



1 Value of euro banknotes as a proportion of the total value of banknotes in circulation.

Source: Bank of Greece.

lems and their conversion was completed in the early days of January.

The value of euro banknotes and coins outside the Bank of Greece on 28 February 2002 totalled €7,216 million or 83% of currency in circulation at the end of 2001. Since the beginning of the year, euro banknotes and coins flow continuously out of the Bank of Greece. However, (net) inflows were also realised on certain days from

credit institutions to the central bank, owing to the return of certain quantities of euro banknotes, mainly of smaller denominations. This was due to the fact that the allocation of euro banknotes and coins between branches of credit institutions did not fully correspond to demand, thus forcing them to restructure their reserves.

During this period, the inflow of drachmas was high and constant. Total drachma withdrawal reached

2.7 trillion drachmas by 28 February 2002, which was almost 90% of currency in circulation on 31 December 2001 (see Chart 35). Note that a small part of drachmas in circulation at the end of 2001 is either lost or remains in the possession of collectors. Moreover, a small part is expected to return to the Bank of Greece after the dual circulation period.

The Euro Progress Ratio (EPR) confirms the fast introduction of the euro into circulation, as well as the swift drachma withdrawal (see Chart 36).<sup>12</sup>

In summary, introduction of the euro into circulation and drachma withdrawal evolved at a very

satisfactory pace. The success was also obvious in market transactions. By the end of January 2002, over 90% of these transactions was conducted in euro.<sup>13</sup>

<sup>12</sup> EPR is monitored by the European Central Bank for the Eurosystem as a whole and is defined as the ratio of the value of euro banknotes in circulation to the total value of euro banknotes and the national currency in circulation.

<sup>13</sup> According to Ministry of National Economy and Finance data presented at the meeting of the National Coordination Committee in Zappeio on 1 February 2002, based on a Metron Analysis survey, up to January 30, 2002, 99% of participants had acquired euro, 73.1% conducted their transactions mainly with the new currency, while 94.2% had already conducted transactions in euro.

## BOX 4

### Measures to deal with counterfeiting

The euro banknotes and coins are made in a way that ensures maximum protection against counterfeiting attempts, as the sophisticated security features incorporated in the designs make them hard to reproduce. Nevertheless, an extensive network of organisations and procedures has been set up, at a local and regional level, to enable the competent authorities to deal with any attempt to counterfeit euro banknotes and coins, which extends beyond the euro area. These arrangements are defined in Council Regulations (EC) 1338/2001 and 1339/2001:

The main tasks of the network are:

- to collect statistical data, which will help deal with counterfeiting attempts across the EU countries and identify the strong and weak points of the security features of the new currency;
- to assist police authorities at a European and national level in their fight against counterfeiting;
- to provide timely and accurate information to the public, where necessary.

In order to achieve these goals, the *Counterfeit Monitoring*

*System* (CMS) was established. The System includes a database, which stores and processes all information relating to counterfeit euro banknotes and coins, either from Member States or from third countries. It is based in Frankfurt and can be accessed by the network's participants, depending on their roles and responsibilities.

At a central level, the *Counterfeit Analysis Centre* (CAC) was established, based in Frankfurt, which will address banknote-related issues, while the *European Technical and Scientific Centre* (ETSC), based in Pessac (France), will be responsible for coin-related issues. Respective structures will be set up in each participating country. In this process, the Eurosystem has established close links with the European Commission, as well as with Europol, which is responsible for the fight against counterfeiting, in cooperation with national police forces. The European Central Bank and Europol have signed a special cooperation agreement.

The Bank of Greece, playing an active part within the bodies that elaborate anti-counterfeit measures, is promoting the establishment of a *National Counterfeit Centre* (NCC) under its supervision. This body will be exclusively responsible for coordinating activities of the centres established in Greece (mentioned below), is →



→ the link with the central bodies of the network and is responsible for monitoring and controlling the implementation of the CMS in Greece. The Centre is based in the Cash Department of the Bank of Greece and is already in operation.

Moreover (according to Council Regulation (EC) 1338/2001), the European Central Bank and the Economic and Fiscal Committee –EFC– have been informed by the government on the establishment of a National Analysis Centre for banknotes and coins (*National Analysis Centre –NAC–* and *Coin National Analysis Centre –CNAC–*), to be operated and supervised by the Hellenic Police Forensic Science Department, Counterfeit and Forgery Section. These centres have already been appropriately equipped and organised and their operation has started. Similar actions have been taken in all 11 euro area countries, depending on the national characteristics of each one.

Counterfeit euro banknotes and coins will be delivered to the respective National Analysis Centre (either for banknotes or for coins) for control, certification and update of the database.

According to Council Regulations (EC) 1338/2001 and 1339/2001 and Bank of Greece Governor's Act No 2484/27 Dec. 2001, credit institutions and any other

establishments involved in the sorting and distribution of notes and coins to the public will be under an obligation to withdraw from circulation euro notes and coins which they know or have sufficient reason to believe to be counterfeit and hand them over to the competent national authorities.

Citizens obtaining in any way banknotes and/or coins for which they have sufficient reason to believe that are counterfeit, should refer to the Hellenic Police. Legal sanctions for counterfeiting and circulation of counterfeit banknotes and coins are included in Article 207 ff. in the Penal Code, as amended by Law 2984/2001 on the "circulation of euro banknotes and coins". The law provides for a sentence of imprisonment up to 10 years and penalty payment, while in simpler cases the law provides for at least three months of imprisonment and penalty payment. The making, receiving, obtaining or possession of means of counterfeiting (equipment, computer programmes, etc.) is punished by imprisonment of at least one year and penalty payment. Finally, administrative penalties are provided for (a fine up to €1,000,000, temporary or permanent deprivation of the right to entrepreneurship, temporary or permanent exclusion from public welfare payments and benefits), which are imposed on legal entities by a decision of the Minister of Finance, if one of the above mentioned crimes benefits the legal entity (Art. 8 §5 of Law 2948/2001).

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## 6. Arrangements to collect and destroy drachma banknotes and coins

The withdrawn drachma banknotes are collected at IETA, after they are counted and checked for genuineness. A total of 180 million drachma banknotes were destroyed in 2001 and 183 million drachma banknotes since the beginning of 2002.

The coins are destroyed by defacing machines at a local level in the head office and the branches of the Bank of Greece. Then, they are delivered to the Organisation for the Management of State-Owned Movable Property (ODDY), so that the raw material can find further use. Up to 28 February 2002 a total of 93 million drachma coins had been destroyed.

## VI. Economic outlook in 2002 and the single monetary policy

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### 1. Economic outlook in the euro area and the stance of the single monetary policy

Today, the global economic outlook appears to be on the whole more favourable than in the last four months of 2001. At that time, the 11 September events had added to the already noticeable deceleration of the growth rate of world economic activity, thereby increasing uncertainty, with adverse repercussions on consumer and business confidence. During the first two months of 2002, however, uncertainty decreased (but was not eliminated) and there is evidence that economic conditions worldwide did not deteriorate further after the end of 2001.

In particular, available short-term indicators and the estimates made by international organisations lead to the conclusion that the growth rate of GDP will recover to a degree *during this year*. However, it is estimated that *the average annual growth rate* of GDP in 2002 will *not exceed* that in 2001. In fact, the International Monetary Fund forecasts that world GDP will increase this year by 2.4%, the same as in 2001, while GDP in the advanced economies will rise by a mere 0.8%, compared with 1.1% in 2001.<sup>1</sup> As regards the USA, the IMF as well as the OECD projected a 0.7% rise in GDP this year, against 1.1% in 2001.<sup>2</sup> However, according to more recent forecasts based on positive data or evidence for the fourth quarter of 2001 and the first two months of 2002, GDP in the USA may record a faster recovery this year (at an average annual rate of 1.6-1.7%<sup>3</sup>).

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<sup>1</sup> See IMF, *World Economic Outlook*, 18 December 2001.

<sup>2</sup> See also OECD, *Economic Outlook*, December 2001.

<sup>3</sup> See for example "The Economist Poll of Forecasters", March 2002, and *Consensus Forecasts*, February 2002. Moreover, the Fed estimates that during the *last quarter* of 2002 the annual GDP growth rate will be around 2.5% to 3.0%. See Alan Greenspan's testimony before the House of Representatives (27 February 2002) and the Senate (7 March 2002). Note that in the last quarter of 2001 GDP in the USA increased much more than initially estimated (see Chapter II).

International organisations forecast that the global economic growth rate will be much higher in 2003.<sup>4</sup>

The slowdown of economic growth in 2001 eased the pressure exerted by total demand on the overall price level, thus contributing to a decrease in inflation globally since mid-2001 and to a drop in the prices of oil and other raw materials. If oil prices stabilise at the end-of-2001 levels (around \$19 per barrel) or increase only slightly, their average annual level in 2002 will be almost 20% lower than in 2001, while the average level of other raw material prices is estimated to remain virtually unchanged compared with 2001.

In the euro area, the growth rate of economic activity had already started decelerating before the 11 September events, but there is evidence that the worsening of economic conditions was halted at the end of the year (see Chapter III). The European Commission is already forecasting that GDP will increase (against the previous quarter) by 0.1% to 0.4% in the first quarter and by 0.4% to 0.7% in the second quarter of 2002.<sup>5</sup> For the whole of 2002, the European Commission projects an increase of 1.3%,<sup>6</sup> while the European Central Bank staff forecast an increase between 0.7% and 1.7%.<sup>7</sup> The projections of the OECD (1.4%) and the IMF (1.2%) are similar.<sup>8</sup> On the whole, a gradual improvement is forecast for 2002 and the ECB estimates that the annual GDP growth rate will reach almost 2.5% in the last quarter of the year, since the fundamentals of the European economy remain robust in general, financing conditions of households and enterprises are favourable and the increase in real incomes (owing to the recent as well as the expected fall in inflation) will support total demand.

Indeed, concerning inflation, the acceleration of the annual rate of increase in the HICP to 2.7%

in January this year (from 2.0% in December and 2.1% in November 2001) was almost exclusively due to extraordinary as well as special factors estimated to have a temporary effect (such as the rise in food prices, because of adverse weather conditions, changes in fuel prices and the increase in indirect taxes in some countries). The introduction of euro banknotes and coins since 1 January has had a very small impact on inflation (see also Box 5). This analysis is supported by the fact that core inflation in the euro area (measured on the basis of the HICP excluding energy and unprocessed food) remained virtually unchanged at 2.6% in January (from 2.5% in December 2001). Moreover, in February, according to preliminary estimates by Eurostat, the annual rate of increase in the HICP fell to 2.5%.

According to the Governing Council of the ECB, the outlook regarding inflation is favourable and, on the basis of certain estimates and assumptions, inflation will fall below 2% this year and will remain at levels consistent with price stability.<sup>9</sup>

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<sup>4</sup> For example, the OECD projects that total GDP for its member countries (which mostly belong to the advanced economies group) will rise by 3.2% in 2003, against 1.0% this year. See OECD, *Economic Outlook*, December 2001.

<sup>5</sup> It is the most recent projection of the European Commission (12 March 2002) based on a three-month econometric model, which depends on short-term activity indicators. Note that GDP changed by only 0.1% in the second quarter, 0.2% in the third quarter and -0.2% in the fourth quarter of 2001, compared with the previous quarter (see Chapter III). On the basis of the above, the annual growth rate fell gradually, from 2.4% in the first quarter of 2001 to 1.6% in the second quarter, 1.4% in the third quarter and 0.6% in the fourth quarter of 2001, while in the first quarter of 2002 it will stand at 0.2% to 0.5% and in the second quarter at 0.5% to 1.1%.

<sup>6</sup> See "Autumn 2001 Forecasts", *European Economy, Supplement A*, October-November 2001.

<sup>7</sup> See ECB, *Monthly Bulletin*, December 2001.

<sup>8</sup> Additionally, certain more recent projections (*Consensus Forecasts*, February 2002, and "The Economist Poll of Forecasters", March 2002: 1.2%) lead to the conclusion that the growth rate of the US economy may exceed that of the euro area economy.

<sup>9</sup> See the introductory statement at the ECB President's press conference given on 7 February 2002.

In particular, monetary conditions, notwithstanding the growth rate of M3, do not signal imminent or medium-term risks for price stability, as shown by the ongoing deceleration of credit expansion to the private sector. In addition, it is assumed that the average annual level of oil prices will fall and that the average annual level of other raw material prices will remain almost stable in the world market in 2002.

At the same time, in order to keep inflation below 2%, the Governing Council of the ECB assumes that it is necessary for collective bargaining to result in agreements based on wage-restraint. Furthermore, the Governing Council of the ECB expects Member States to stay focused on fiscal targets, that is to avoid excess deficits and to reduce public debt, which means that the budgetary position has to be close to balance or in surplus in the medium term. This could enhance the confidence climate and –therefore– the outlook for a recovery. Moreover, in order to contribute to keeping inflation below 2% in the medium term, the Governing Council of the ECB lays emphasis on the importance of rapid and decisive promotion of basic structural reforms in the goods, services and labour markets, which will enhance productivity and the dynamics of economic growth in the euro area.

Finally, the single monetary policy has so far helped minimise adverse spillover effects on inflation from the rise in oil prices and the exchange rate of the US dollar against the euro during 2000. It will continue to be implemented in a way that, among other things, will have a favourable effect on the inflationary expectations of households, employees and businesses in the euro area. It will thus achieve its primary objective, which is to ensure price stability in the medium term. In this way, the single monetary policy contributes to the creation of conditions that promote economic

growth. Moreover, without jeopardising the achievement of its primary objective, the single monetary policy supports the objectives of the EU economic policy,<sup>10</sup> which include sustainable and non-inflationary growth and a high level of employment.

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## 2. The prospects of the Greek economy

The adverse effects of certain external factors – such as the relatively low growth rate of economic activity worldwide and particularly in the euro area, as well as the conditions prevailing in the international markets – on Greek exports and the domestic economic sentiment may be largely offset by the favourable effects of other factors. It is therefore forecast that the growth rate of the Greek economy will remain at a satisfactory level in 2002 and will be significantly higher than the corresponding rate in the euro area.

The impact of the 11 September events on the Greek economy was temporary, as indicated by available short-term indicators (see also Chapter III):

- The annual growth rates of manufacturing output and of retail sales volumes, which had dropped in October, recovered in November 2001. The sharp fall in manufacturing output in December was largely due to exceptionally bad weather conditions, which hindered the normal operation of production plants in many parts of the country.
- The Purchasing Managers' Index (PMI) for manufacturing, after declining in November 2001, rose constantly in the following three months until February this year and stood at levels implying an increase in output.

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<sup>10</sup> See also the ECB President's press conference on 8 November 2001.

— The estimates of private industrial firms concerning their investment expenditure in 2001 were negatively affected by the uncertainty prevailing in October and November (when the latest investment survey was carried out by the Foundation for Economic and Industrial Research –IOBE). According to the same survey, these firms appear to be particularly optimistic regarding their investment plans for this year.

— The composite Economic Sentiment Indicator (compiled by the European Commission) continued to rise during the three months from November 2001 to January 2002. In February the indicator fell, but stood at levels only marginally lower than those just *before* the 11 September events.

— The decline in the incoming tourist flows in the last four months of 2001 is estimated to have been smaller in Greece than in other countries.<sup>11</sup> Moreover, suppliers to the tourist industry say that an increase in arrivals from European countries is already being recorded, while a recovery of arrivals from the USA is considered possible during the summer.<sup>12</sup>

— A growing share of exports of Greek products in recent years is directed to the Balkans, Central and Eastern Europe, as well as the Middle East and the Mediterranean<sup>13</sup> (see Table VIII.A in Chapter III). Exports this year are expected to achieve faster growth rates than in 2001.<sup>14</sup>

Although the above developments do not offset the overall slowdown recorded in 2001, they support the estimate that the deceleration will be limited, if it continues. This estimate is also based on other factors. In particular:

— Bank credit to households and enterprises is on exceptionally favourable terms, as lending rates are at historically low levels owing, on the

one hand, to the convergence of Greek interest rates towards those in the euro area and, on the other hand, to falling interest rates throughout the euro area during 2001 (particularly from May onwards). The decrease in interest rates, combined with stronger competition between banks, has led to a particularly high growth rate of credit.

— A significant increase is expected in private and public investment. This is due, on the one hand, to the efforts to absorb considerable resources from the Third Community Support Framework CSF III,<sup>15</sup> and, on the other hand, to the need to complete on time the public and private investment programme connected with the preparations for the Athens 2004 Olympic Games. Although business investment has already increased by 75-80% at constant prices between 1994 and 2001, the forecasts of private industrial enterprises for the current year are positive, as mentioned above. Moreover, spending under the Public Investment Programme is expected to rise by 12.1% (at current prices). The inflow of resources from the EU

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<sup>11</sup> According to recent estimates by the World Tourism Organisation (press release, 29 January 2002) for the *whole* of 2001, tourist arrivals in Greece rose by 2% (2.8% in 2000), while in Europe as a whole they fell by 0.7% (increase of 5.7% in 2000). Arrivals also rose in Turkey, Spain and Cyprus, but fell in Italy.

<sup>12</sup> Notwithstanding increased uncertainty concerning the outlook for international tourist traffic, the highly pessimistic forecasts expressed after the 11 September events seem to be revised upwards. However, whether the Greek tourist market will be affected by international developments will depend on the size of disposable income in the countries of origin of foreign tourists, on the competitiveness of the Greek tourist product compared with that of other – mainly neighbouring – countries, as well as on any political events in the region that could affect the inclination of people to travel by air or by other means of transport.

<sup>13</sup> The main trading partners of Greece in Northern Africa, the Middle East and the Mediterranean (Cyprus and Malta) are included.

<sup>14</sup> See IMF, *World Economic Outlook*, 18 December 2001. A deceleration is projected only for the Commonwealth of Independent States, though the growth rate remains high.

<sup>15</sup> *Timely* absorption is a precondition for the allocation of funds. On the basis of new regulations, implemented for CSF III, disbursement of funds from Community Funds should take place within two years from the time of their commitment.

Structural Funds and the Cohesion Fund will remain substantial, at least until 2006-2008.

– On 15 November 2001 the government, taking into account the economic slowdown, announced a package of tax measures,<sup>16</sup> in order to boost economic activity<sup>17</sup> (through private consumption and private investment), encourage job creation and enhance competitiveness. According to approximate calculations, these measures will lead to an acceleration in the growth rate of total disposable income in the private sector (households and enterprises) by more than 0.7 percentage point, compared with the acceleration that would have been recorded if no measures had been implemented. In particular, it is estimated that the growth rate of the *net income of employees* will rise by 0.9 percentage point, owing to the increase in the tax-free amount and the abolition of the stamp duty paid by employees (0.6% of wages). At the same time, because of the abolition of the stamp duty paid by employers (0.6% of the wage bill) the growth of labour costs in the business sector will be 0.5 percentage point lower (compared with what it would have been if the duty had not been abolished).

Considering the above, the Ministry of Economy and Finance forecasts a 3.8% increase in GDP this year. The Council of the European Union, in its recent opinion about the Updated Stability and Growth Programme,<sup>18</sup> considers this rate to be feasible. However, although uncertainty concerning the external factors affecting the Greek economy (such as the pace and size of the recovery of the European and the American economy, the development of oil prices) has subsided in recent months, it has not been eliminated, while there is some uncertainty regarding domestic factors (such as the time and degree of realisation of investment plans of private enterprises, as well as the cost of labour and its impact on the competi-

tiveness of the economy). Therefore, it cannot be excluded that the GDP growth rate may be lower than the government projections. On the basis of available data and indications, the GDP growth rate is more likely to stand around 3.5% in 2002. The forecasts of international organisations range from 3% to 4%.<sup>19</sup>

With respect to the outlook for inflation, the average annual level is expected to fall in 2002 from the level (3.4%) recorded in 2001, notwithstanding the substantial acceleration of the annual rate of CPI increase in January 2002. This forecast is based on the estimated total impact of the main determinants of inflation on prices in 2002 and the conclusion that the rise in inflation in December 2001 and January 2002 was due to special factors with a temporary impact. In particular, the fact that the CPI accelerated at an annual rate 1.4 percentage point higher in January (4.4%) than in December (3.0%), is attributed to the following:

- 0.6 percentage point to the prices of fresh vegetables, which rose at an annual rate of 59% (against 39.6% in December).
- 0.6 percentage point to oil prices, which fell at an annual rate of 6.4%, lower than the corresponding rate in December (-18.3%).<sup>20</sup>

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**16** Some of the measures were included in Articles 2 and 3 of the Legislative Act of 21 December 2001. The rest are included in the bill for the strengthening of the capital market and entrepreneurship, submitted to Parliament on 11 February 2002.

**17** In the State Budget report (p. 37) it is mentioned that one of the aims of the measures is to “accelerate growth in view of recent international developments”.

**18** Opinion of the Council concerning the Updated Programme, 12 February 2002. The Council also considers that it is feasible to achieve an average annual growth rate of 4% in the three years 2002-2004, as projected in the Programme.

**19** Specifically, the IMF (“Public Information Note” for Greece, 1 March 2002) forecasts an increase of 3%, the European Commission considers it “possible that the GDP growth rate will remain above 3%” (*Report on the implementation of broad economic policy guidelines of 2001*, 21 February 2002) and the OECD (*Economic Outlook*, December 2001) expects a rise of 4%.

**20** During January 2002, fuel prices increased by 2.1%, while during December 2001 they fell by 3.4% and during January 2001 by 10.8%.

– 0.1 percentage point to the slightly higher annual rate of increase in clothing and footwear prices (4.7% against 3.9%), as well as durable

consumer goods and household equipment (2.1% against 1.7%), as the winter sales started a week later than in January 2001.

## BOX 5

### The impact of the introduction of the euro on price developments in Greece in January 2002

According to available data and evidence, the introduction of the euro banknotes and coins since 1 January 2002 and the pricing of goods and services had a small effect on consumer prices in Greece in January. Indeed, based on the analytical data of the national Consumer Price Index (CPI) for the first month of 2002, the higher than usual increases in the prices of certain goods and services *during the month* had an upward effect on the rate of change in the CPI, which *does not exceed* 0.2 percentage point. Therefore, had these increases not taken place, (i) the annual growth rate of CPI in January would not be 4.4%, but 4.2% and (ii) the monthly rate of *decline* of the CPI compared to the previous month (December) would not be 0.3%, but 0.5%. (Note that the change of the CPI in January compared to December is usually negative, due to winter sales.)

The method used to make this estimate is similar to that employed recently by Eurostat in order to calculate the possible impact of the introduction of the euro on the monthly change in the Harmonised CPI of the euro area in January (see Appendix to Press Release No. 23/28 February 2002). According to Eurostat, this upward effect may fluctuate between 0.0% and 0.16%. This means that the impact calculated for Greece is almost the same with that calculated for the euro area as a whole.

Note that in order to calculate the impact, certain factors were not taken into account, i.e. (i) the extremely large increases in the prices of fresh fruit and vegetables during the month under review, attributed to exceptionally adverse weather conditions, (ii) the changes in oil prices, which were mainly influenced by developments in global markets and (iii) the *relatively small decrease* in prices of clothing and footwear, as well as household appliances, owing to the fact that winter sales in January 2002 started a week later than in January 2001.

In contrast, other factors were taken into account – on the basis of the *more detailed* data available and *not* the data arranged by commodity – that is, the *differentials* between increases in all other goods and services in January 2002 and the corresponding increases (or decreases) in January 2001, and the contribution of these differentials to the increase in the CPI was calculated after being weighted according to the contribution of those commodities to the “CPI basket”. Naturally, the differences identified in this way cannot be exclusively attributed to the introduction of the euro, as they could also be due to other factors (e.g. larger increases in cost components for a certain type of commodity in January 2002 or the adoption of different schedules of price adjustment by an enterprise in 2002 compared with 2001). Therefore, the resulting estimate simply suggests the *maximum* impact (during the month under review) and does not necessarily represent the actual impact.

The commodities that recorded a larger increase in January 2002 than in January 2001 include certain processed foodstuff, beverages and drinks, served food and drink, certain personal equipment, health services, house repairing and maintenance services, personal care services (hairdressers), cleaning shops and shoe repair, municipal duties, household services, certain transport services (urban public transport in the provinces, long-distance buses and railway, other car expenses) and recreation services (cinema, theatre and museum tickets, leisure activities). In most cases, increases concern goods and services sold by professionals or small family businesses. However, in other cases (such as processed food, beverages and drinks), there are indications showing that increases are connected to the pricing policy of big enterprises.

The impact of the introduction of the euro on consumer prices was clearly limited by measures taken to this end (rounding down of duties paid to the →

→ government, “standstill” on prices and accurate conversion or rounding down of the public utility rates during the cash changeover, agreements with businesses and professionals to avoid readjustment of prices during this period, etc. – see detailed presentation in Bank of Greece, *Monetary Policy, Interim Report*, November 2001, pp. 73-77). In particular, the accurate conversion or rounding down of prices in euro (by the public sector and certain big private enterprises) substantially offset the effect of rounding up (or even speculative increases in some cases) implemented mainly by small enterprises and professionals, leading to a very small recorded net effect.

Thus, the difference between the impression formed by many consumers (about significantly higher prices) and the statistical findings can be explained. As noted in the Eurostat analysis, consumers focus in the short-term on more frequent and important purchases, therefore their impression about inflation mostly depends on the changes in the prices of goods and services of a *relatively small value, purchased on a daily basis*. Thus, for example, it is not clear that any *large* increase in the price of served coffee may be offset by a decrease in the price of a computer or a refrigerator (even if the small incidence of this kind of purchase is taken into account).

Concerning the impressions of consumers, it is worth mentioning the findings of a big survey (Flash Eurobarometer) conducted on behalf of the European Commission by the cooperative companies of EOS Gallup Europe (ICAP in Greece) from 21 to 30 January 2002 throughout the countries of the euro area, in a sample of 6,046 consumers (500 in Greece). In particular, when asked whether they felt that during the conversion of prices in euro (i) prices were usually rounded up, (ii) prices were usually rounded down, (iii) round ups and round downs offset one another, consumers answered as follows:

	Greece	Euro area
Rounding up	62.4%	67.3%
Rounding down	3.2%	1.9%
Offset	29.6%	28.5%
Don't know/no answer	4.8%	2.3%
<i>Total</i>	<i>100.0%</i>	<i>100.0%</i>

This survey shows that, according to consumers' estimates, the impact of rounding on prices in Greece was smaller than the average of the euro area. The countries which recorded the highest percentages for *round-ups* were Germany (76.3%), France (75.8%), the Netherlands (72.5%) and Ireland (71.4%).

Moreover, the question relating to whether enterprises had implemented readjustments of their prices in drachmas in advance *during the last months of 2001, just before* the introduction of the euro, is also of particular interest. Based on the data collected by the Bank of Greece, the prices of certain products increased between end-September and end-December 2001 (excluding fuel and fresh fruit and vegetables), which formed almost 20% of the CPI “basket”, while the prices of the same products in the corresponding period of 2000 showed a smaller increase, or a decrease, or remained stable. Naturally, it is not possible to discern whether those increases were realised in view of the circulation of the euro. It seems, though, that their impact on the development of the CPI was more than offset by the impact – in the opposite direction – of the change in the prices of other goods. Indeed, CPI excluding fuel and fresh fruit and vegetables increased by 1.2% between September and December 2001, i.e. *less* than in the corresponding period of 2000 (1.7%).

The above findings do not necessarily suggest that the impact of the introduction of the euro on prices was restricted *within* January. Particularly after the period of dual circulation and obligatory dual price (ending on 28 February), the impact of rounding may have increased. Therefore, in cases when rounding is considered to be necessary by a company in order to *facilitate transactions*, either the company should not round up or rounding up should be offset by rounding down in the prices of other goods sold by the same company. In general, enterprises and professionals are asked to show increased responsibility, consumers should be vigilant, control mechanisms of the state should be activated and, naturally, competition should operate, thus preventing unwanted price increases and the creation of an inflationary climate.



- 0.1-0.2 percentage point to the rounding or raising of prices, using the introduction of the euro as a pretext (see the relevant estimates in Box 5).
- In contrast, the lower annual growth rate of prices of other goods (foodstuffs excluding fruit and vegetables as well as other goods) partly offset the above impact, though only by about 0.2 percentage point.

This analysis is supported, first, by the fact that core inflation, i.e. the annual rate of change in the CPI excluding fuel and fresh fruit and vegetables, which fell to 3.3% in December from 3.8% in November, also stood at 3.3% in January, and, second, by the decrease in the annual rate of increase in the CPI to 3.4% and core inflation to 3.1% in February.

In general, it is estimated that price developments in Greece will be favourably affected by the projected fall in inflation in the other countries of the euro area and other industrial countries (thus, also in the rate of increase in the prices of finished products imported by Greece from these countries). At the same time, it is assumed that the weighted average exchange rate of the euro will stabilise and oil and raw material prices will evolve as described in Section 1 of this chapter. The formation of import prices in the domestic market will be the main factor which will affect inflation downwards in Greece in 2002, as it will lead to a decline in the cost of intermediate goods for the production of Greek products on the one hand and to a deceleration in the rate of increase in the prices of imported finished products. This development will not only be *directly* beneficial for consumer price formation, but it will also be an incentive for domestic enterprises to pursue a price restraint policy (as they did in 2001).

The anticipated deceleration in the average annual growth rate of aggregate demand is an additional

reason for enterprises to show moderation in their pricing policy. The fact that, notwithstanding the deceleration, the growth rate of domestic demand will remain relatively strong is not expected to create inflationary pressures, given that supply is expected to respond in a satisfying way, due to the significant increase in investment and the strengthening of production potential in recent years.

Moreover, the exhaustion of the lagged indirect upward effect on consumer prices of the sharp rise during 2000 in fuel prices, as well as in the exchange rate of the US dollar against the euro will help reduce inflationary pressures. Indeed, core inflation fell in recent months (from 4.1% in July 2001 to 3.1% in February this year – see Chart 6 in Chapter III). Additionally, according to business surveys by the IOBE and the European Commission, manufacturing enterprises forecast until the end of November a deceleration in the increase in their product prices (see Chart 37). However, this trend was reversed during the period from December 2001 to February 2002. This may suggest a strengthening of inflationary pressures, but it may also indicate that enterprises were influenced by the acceleration of the annual rate of increase in consumer prices in December and January.

Finally, the ongoing deregulation of the telecommunications market (particularly fixed telephony services),<sup>21</sup> as well as the expected normalisation of conditions in fruit and vegetable markets, will have a downward effect on inflation.

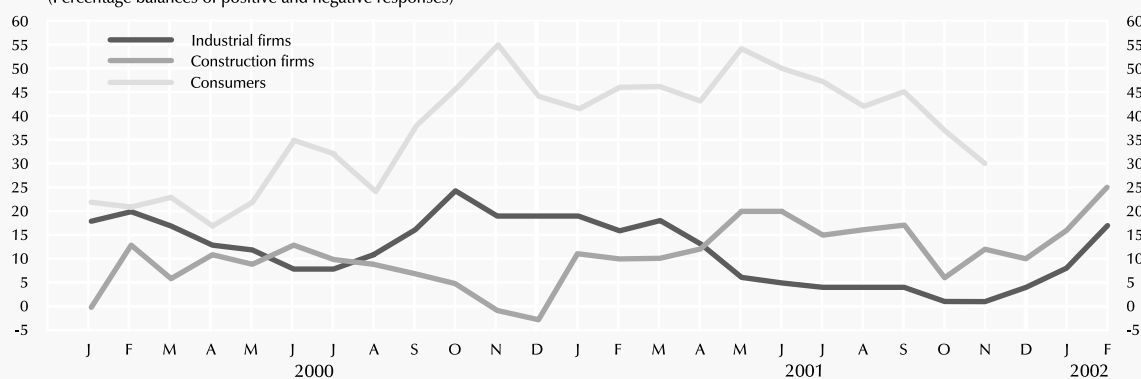
In contrast, the growth rate of unit labour costs in the whole economy is expected to accelerate, but

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<sup>21</sup> Already since the end of January-beginning of February, four companies have been involved, at competitive rates, in the supply of fixed telephony services, which used to be a monopoly of OTE. For the time being, competition mostly concerns national and international calls, calls to mobile phones and Internet connections, while in the coming months it will expand to local calls.

Chart 37

Inflationary expectations<sup>1</sup> of consumers and business firms (January 2000 - February 2002)  
(Percentage balances of positive and negative responses)



<sup>1</sup> The responses of business firms concern the prospects, in the next 3-4 months, of price increases for the goods they produce, while consumers' responses concern the prospects of a faster increase in consumer prices in the next 12 months. The data for consumers are seasonally adjusted.

Sources: IOBE and European Commission (*European Economy, Supplement B*).

it is estimated that it might be contained to around 3% (against 2.5% in 2001), while in the euro area it is estimated that the corresponding rate will decelerate from 2.5% to 1.9%.<sup>22</sup> The estimate concerning unit labour costs in Greece is based on *data* related to forecasts of the government budget on the increase in the wage bill, to the corrective pay rise already granted to employees in the non-bank private sector and to the abolition of the stamp duty that burdened labour costs in the business sector until last year. It is also based on *assumptions* regarding wage increases in the business sector as well as estimates about the final level of the productivity growth rate.

In particular, average earnings in central government are estimated to grow at the same pace as in 2001.<sup>23</sup> In the business sector, however, the average annual increase in average earnings will probably be larger than in the previous year, mainly because it will include the projected, in most cases, 0.9-1.1% corrective pay rise in the non-bank private sector (which was granted in January 2002<sup>24</sup>) if the increases to be agreed upon for 2002 are similar to those in 2001 (see Table III in Chapter III for the rise in earnings in 2001). Moreover, productiv-

ity growth is estimated to decelerate almost as much as GDP growth, given that the growth rate of employment is not expected to be significantly influenced by the deceleration in economic activity. The upward effects of the above factors on the growth rate of unit labour costs are *partly* offset by the decline in *non-wage labour costs*, owing to the abolition of stamp duties, which are calculated on the basis of the wage bill and are paid by employers in the business sector.<sup>25</sup>

Based on the assumptions and estimates concerning the impact of the determinants of inflation mentioned above and taking into consideration the effects of changes in the prices of fruit, vegetables and fuel in December and January, which

<sup>22</sup> See "Autumn 2001 Forecasts", *European Economy, Supplement A*, October-November 2001.

<sup>23</sup> The budget forecasts on the earnings of civil servants are taken into account. The bill concerning the relevant increases was submitted to Parliament on 7 March.

<sup>24</sup> Pursuant to the two-year agreements (2000-2001), employees in the private sector did not receive a corrective pay rise in early 2001, but the agreements provided for such a rise for the beginning of 2002, if *average annual* inflation in 2001 (on the basis of CPI) exceeded 2.3% or 2.5%. Actually, therefore, the corrective pay rise in January 2002 was mainly due to the increase in fuel prices in the last months of 2000, whose direct and indirect effect was a faster increase in the average annual level of the CPI in 2001.

<sup>25</sup> See above, page 101.

are seen as “unpredictable shocks”, average annual inflation is expected to stand around 3% in 2002.<sup>26</sup> The annual inflation rate fell below 3.4% in February and is expected to drop further during the year and range from 2.5% to 3% in December 2002. Therefore, inflation in Greece in 2002 will exceed the rate considered to be consistent with price stability (below 2%), which is expected to be achieved in the euro area as a whole this year.

The forecast on inflation in 2002 is based not only on the aforementioned assumptions about oil price developments (the significance of which is obvious), the prices of raw materials and fruit and vegetables, as well as the effective exchange rate of the euro, but also on two key assumptions:

First, that no speculative phenomena will be observed in the pricing of products in euro (or that they will be limited) after the obligatory dual price period. Competition forces are expected to contribute to this result in many sectors. The alertness of the state and consumers can and should also contribute towards this end.

Second, that the growth rate of unit labour costs in the whole economy (which results from the increase in average nominal earnings minus the rise in productivity) will stand around 3%. In order for this to happen, increases in earnings should not be excessive and the rise in productivity should not be substantially lower than the average in recent years (around 3% in the six-year-period 1996-2001).

To this end, during the collective bargaining about wage increases, the social partners should take into consideration the following:

— The increase in inflation in December and January was conjunctural, as already explained. Given the temporary and exogenous character of inflationary developments in those two months

and the favourable effect of other factors, it is estimated that —as mentioned above— the annual rate of inflation will fall during the year, as shown by its level in February, which was around 3.4%. However, if these conjunctural developments are allowed to influence bargaining, then there will be a serious risk of *more permanent* adverse effects on inflation. This would have negative repercussions on the competitiveness of Greek output and, therefore, on employment and real income.

— Recent tax measures, as already mentioned, boost disposable income by almost 1%.

— Although in 2001 the upward deviation of the growth rate of unit labour costs<sup>27</sup> in Greece from the corresponding rate in the euro area fell to zero, in previous years this deviation had been significant, on average. Therefore, it is necessary to limit the deviation as much as possible during 2002 (the available initial forecasts are mentioned above), so as to mitigate the effects on the competitiveness of the Greek economy, particularly in a period when foreign demand remains low.

Greece’s entry into the euro area and the operation of the single market certainly facilitate the gradual convergence of incomes, particularly employees’ earnings. However, it is important to note that workers’ real earnings may increase steadily and rapidly with no adverse effects on inflation (and, therefore, the purchasing power of nominal earnings), so long as productivity also increases correspondingly. Hence, structural reforms should be promoted faster, leading to more efficient market operation and to high growth rates of productivity. This would prevent

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<sup>26</sup> “Unpredictable shocks” experienced in December and January were the reason for the upward revision of the forecast presented in the November 2001 *Monetary Policy, Interim Report* that average annual CPI inflation would be 2.5% in 2002.

<sup>27</sup> See Chapter III for the reasons underlying this development.

both an increase in relative unit labour costs (compared to our European partners and other competitor countries) and a consequent worsening of competitiveness.

The social partners can and should help to boost the international competitiveness of enterprises, attain a high rate of economic growth and reduce unemployment. In this way, there will be a steady and continuous improvement in real incomes. This can be done through agreements on wage increases that do not run counter to the above mentioned objectives.

Nevertheless, the approach and maintenance of price stability and, at the same time, the faster increase in real incomes and in productivity (that is, the acceleration of real convergence) do not depend solely on the choices made by the social partners in the field of collective bargaining: companies should pursue prudent pricing policies, consistent with their medium-term interests, as well as take innovative and modernising initiatives concerning the organisational structure and technological infrastructure of business activity. In this way, enterprises will be able to develop faster and increase their profitability in the new competitive environment.

Finally, in order to combine faster economic growth with price stability, it is essential to implement a suitable economic policy mix in the medium term. Given the stance and the objectives of the single monetary policy (presented in Section 1) and apart from the contribution of the social partners towards securing price stability and the purchasing power of incomes, national fiscal policy must continue to pursue the medium-term objective of fiscal consolidation. The latter serves the interests of the country, as it is a prerequisite for macroeconomic stability and growth besides being an obligation stemming from the

Stability and Growth Pact. It is therefore necessary to ensure the achievement of fiscal surpluses and reduce public debt, as provided for in the Updated Stability and Growth Programme of the Greek economy. Within this framework, clear and binding goals must be set for current primary expenditure (which includes central government expenditure for wages). This can be partly achieved by accelerating programmes aimed at the consolidation of public enterprises and organisations, so as to cut down grants out of the government budget, as well as by reforming the system of planning, controlling and evaluating expenditure.<sup>28</sup> At the same time, it is advisable to promote tax reform measures as soon as possible.<sup>29</sup> A reform of the social security system is also necessary, not only to secure the viability of the pension system and a fair allocation of financial costs between generations, but also to ensure fiscal stability over the long-term.<sup>30</sup>

As regards structural policy, the prompt completion of the privatisation programme —after the delays and problems recorded and partly relating to the deterioration of conditions in international capital markets— will not only increase public sector revenue, but will also enhance the effectiveness of the enterprises that become privatised, thereby helping to raise productivity. In general, it is essential to boost medium-term growth prospects via endogenous mechanisms, as intended by the government. In particular, the deregulation of markets (particularly the energy market) should be accelerated, their effective operation (particularly of the labour market) should be facilitated and measures

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<sup>28</sup> The relevant bill is expected to be submitted to Parliament in March.

<sup>29</sup> The relevant bargaining will start at the end of March and the regulations established will enter into force at the beginning of 2003.

<sup>30</sup> The bargaining started on 5 March.

should be taken to enhance competition and stimulate the investment climate.<sup>31</sup> These should include measures to improve public administration via the simplification of bureaucratic procedures that put obstacles to business activity. Such structural reforms will help support a high and sustainable rate of economic growth, combined with price stability, and thus accelerate real convergence.

To sum up, inflation is expected to fall this year, but will continue to be above average inflation in the euro area. The GDP growth rate will record a small deceleration, but will remain well above the corresponding rate in the euro area, resulting in further

progress towards real convergence in 2002. In the medium-term the pace of real convergence will depend on the selection and effective implementation of a suitable mix of fiscal and structural policies, as well as on the behaviour of the social partners.

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**31** The bill concerning entrepreneurship has already been submitted to Parliament (11 December 2001). This bill includes incentives for mergers and employment, as well as provisions for income tax relief, the reforming of the operating framework of the New Economy Fund (TANEO) and the introduction of international accounting models. A bill concerning the management of "listed" companies has also been published. Finally, the establishment of construction by licensing contracts (PFI – Private Financial Initiatives), the modification of the development law, aiming among other things at attracting foreign direct investment, as well as the bill on the introduction of modern methods and tools for privatisations are also expected.

# Monetary policy measures of the Eurosystem

## **4 January 2001**

The Governing Council of the ECB decides that the minimum bid rate for the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 4.75%, 5.75% and 3.75% respectively.

In addition, it decides on an allotment amount of € 20 billion per operation for the longer-term refinancing operations to be conducted in 2001. This amount takes into consideration the expected liquidity needs of the euro area banking system in 2001 and the desire of the Eurosystem to continue to provide the bulk of refinancing of the financial sector through its main refinancing operations. The Governing Council may adjust the allotment amount in the course of the year in the event of unexpected developments in liquidity needs.

## **18 January, 1 February, 15 February, 1 March, 15 March, 29 March, 11 April, 26 April 2001**

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 4.75%, 5.75% and 3.75% respectively.

## **10 May 2001**

The Governing Council of the ECB decides to lower the minimum bid rate on the main refinancing operations by 0.25 percentage point to 4.50%, with effect from the operation to be settled on 15 May 2001. In addition, it decides to lower the interest rates on both the marginal lending facility and the deposit facility by 0.25 percentage point, to 5.50% and 3.50% respectively, both with effect from 11 May 2001.

**23 May, 7 June, 21 June, 5 July, 19 July,  
2 August 2001**

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 4.50%, 5.50% and 3.50% respectively.

**30 August 2001**

The Governing Council of the ECB decides to lower the minimum bid rate on the main refinancing operations by 0.25 percentage point to 4.25%, with effect from the operation to be settled on 5 September 2001. In addition, it decides to lower the interest rates on both the marginal lending facility and the deposit facility by 0.25 percentage point, to 5.25% and 3.25% respectively, both with effect from 31 August 2001.

**13 September 2001**

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 4.25%, 5.25% and 3.25% respectively.

**17 September 2001**

The Governing Council of the ECB decides to lower the minimum bid rate on the main refinancing operations by 0.50 percentage point to 3.75%, with effect from the operation to be settled on 19 September 2001. In addition, it decides to lower the interest rates on both the marginal lending facility and the deposit facility by 0.50 percentage point, to 4.75% and 2.75% respectively, both with effect from 18 September 2001.

**27 September, 11 October,  
25 October 2001**

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing

operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 3.75%, 4.75% and 2.75% respectively.

**8 November 2001**

The Governing Council of the ECB decides to lower the minimum bid rate on the main refinancing operations by 0.50 percentage point to 3.25%, starting from the operation to be settled on 14 November 2001. In addition, it decides to lower the interest rates on both the marginal lending facility and the deposit facility by 0.50 percentage point, to 4.25% and 2.25% respectively, both with effect from 9 November 2001.

**6 December 2001**

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 3.25%, 4.25% and 2.25% respectively.

In addition, it decides that the reference value for the annual growth rate of the broad monetary aggregate M3 will remain at 4.5%.

**3 January 2002**

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 3.25%, 4.25% and 2.25% respectively.

The Governing Council also decides on an allotment amount of €20 billion per operation for the longer-term refinancing operations to be conducted in 2002. This amount takes into consideration the expected liquidity needs of the euro area banking system in 2002 and the desire of the Eurosystem

to continue to provide the bulk of refinancing of the financial sector through its main refinancing operations. The Governing Council may adjust the allotment amount in the course of the year in the event of unexpected developments in liquidity needs.

**7 February, 7 March 2002**

The Governing Council of the ECB decides that the minimum bid rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 3.25%, 4.25% and 2.25% respectively.





# Glossary

**Collateral:** assets pledged as a guarantee for the repayment of short-term loans which credit institutions receive from central banks, as well as assets sold by credit institutions to central banks as part of repurchase agreements.

**Community Support Framework (CSF):** it is drafted by the Commission of the European Communities (European Commission) in cooperation with the EU Member State concerned and it is approved by the Commission. It includes the development strategy of the country, the action lines and the financing sources (community funding, national public expenditure, private funding).

**Deposit facility:** a standing facility of the Eurosystem, which counterparties may use to make overnight deposits at a national central bank and which are remunerated at a pre-specified interest rate.

**Deposits redeemable at notice:** this category consists of saving deposits for which the holder has to respect a fixed period of notice before being able to withdraw the funds. In some cases there is the possibility of withdrawing a certain fixed amount in a specified period or of earlier withdrawal subject to the payment of a penalty. Deposits redeemable at a period of notice of up to three months belong to M2 (and hence to M3), while those with a longer period of notice belong to the (non-monetary) longer-term financial liabilities of the Monetary Financial Institution (MFI) sector.

**Effective (nominal/real) exchange rates (EERs):** nominal effective exchange rates consist of a geometric weighted average of various bilateral exchange rates. Real effective exchange rates are nominal effective exchange rates deflated by a weighted average of foreign, relative to domestic, prices or costs. They are thus measures of price and cost competitiveness.

**EURIBOR (euro interbank offered rate):** the rate at which a prime bank is willing to lend funds in euro to another prime bank. The EURIBOR is computed daily for interbank deposits with a maturity of either one week or one to 12 months as the average of the daily offer rates of a representative panel of prime banks, rounded to three decimal places.

**Euro area:** the area encompassing those Member States in which the euro has been adopted as the single currency in accordance with the Treaty and in which a single monetary policy is conducted under the responsibility of the Governing Council of the ECB. The euro area currently comprises Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain.

**European Central Bank (ECB):** the ECB lies at the centre of the European System of Central Banks (ESCB) and the Eurosystem and has legal personality under Community law. It ensures that the tasks conferred upon the Eurosystem and the ESCB are implemented either by its own activities or through the national central banks, pursuant to the Statute of the ESCB and of the ECB.

**European System of Central Banks (ESCB):** is composed of the ECB and the national central banks of all 15 Member States, i.e. it includes, in addition to the members of the Eurosystem, the national central banks of the Member States which have not yet adopted the euro. The ESCB is governed by the Governing Council and the Executive Board of the ECB, and, as a third decision-making body of the ECB, by the General Council.

**Eurosystem:** comprises the ECB and the national central banks of the Member States which have adopted the euro. There are currently 12 national central banks in the Eurosystem. The Eurosystem is governed by the Governing Council and the Executive Board of the ECB.

**Executive Board:** one of the decision-making bodies of the ECB. It comprises the President and the Vice-President of the ECB and four other members appointed by common accord by the Heads of State or Government of the Member States which have adopted the euro.

**General Council:** one of the decision-making bodies of the ECB. It comprises the President and the Vice-President of the ECB and the governors of all 15 EU national central banks.

**General government:** as defined in the European System of Accounts 1995 (ESA 95), it consists of central, state and local government, and social security funds.

**Governing Council:** the supreme decision-making body of the ECB. It comprises all the members of the Executive Board of the ECB and the governors of the national central banks of the Member States which have adopted the euro.

**Harmonised Index of Consumer Prices (HICP):** the measure of prices used by the Governing Council for the purpose of assessing price stability. The HICP was developed by the European Commission (Eurostat) in close liaison with the national statistical institutes and the European Monetary Institute (EMI), and later the ECB, in order to fulfil the Treaty requirement for a consumer price index constructed on a comparable basis, taking into account differences in national definitions.

**Key ECB interest rates:** the interest rates which reflect the stance of the monetary policy of the ECB. At present, the key ECB interest rates are the minimum bid rate on the main refinancing operations, the interest rate on the marginal lending facility and the interest rate on the deposit facility. Prior to the decision to conduct the main refinancing operations as variable-rate tenders, the rate on fixed-rate tenders had played the role of “key rate”. This role is currently performed by the minimum bid rate on the main refinancing operations of the ECB.

**Main refinancing operation:** a regular open market operation executed by the Eurosystem in the form of a reverse transaction. Main refinancing operations are conducted through weekly standard tenders and normally have a maturity of two weeks.

**Marginal lending facility:** a standing facility of the Eurosystem, which counterparties may use to receive overnight credit from a national central bank at a pre-specified interest rate against eligible assets.

**Monetary aggregates:** currency in circulation plus outstanding amounts of certain liabilities of monetary financial institutions and central government that have a high degree of “moneyness” (or liquidity in a broad sense). The narrow monetary aggregate M1 has been defined by the Eurosystem as: currency in circulation plus euro area residents’ (other than central government) holdings of overnight deposits with euro area money-issuing institutions. The “intermediate” monetary aggregate M2 comprises M1 plus deposits with agreed maturity of up to two years and deposits redeemable at notice of up to three months. The broad monetary aggregate M3 includes M2 plus repurchase agreements, money market fund shares/units, money market paper and debt securities with a maturity of up to two years. The Governing Council has announced a reference value for the growth of M3.

**Reserve base:** the sum of the balance sheet items (in particular: liabilities) which constitute the basis for calculating the reserve requirement on a credit institution.

**Reverse transaction:** an operation whereby the central bank buys or sells assets under a repurchase agreement or conducts credit operations against collateral.

**Standing facility:** a central bank facility available to counterparties on their own initiative. The Eurosystem offers two overnight standing facilities: the marginal lending facility and the deposit facility.

**TARGET System (Trans-European Automated Real-time Gross settlement Express Transfer system):** a decentralised system consisting of 15 national RTGS (Real-Time Gross Settlement) systems (one in each of the 15 EU Member States) and the ECB payment mechanism. These are interconnected by common procedures (Interlinking Mechanism) to allow cross-border express transfers throughout the EU to move from one system to another.



# Statistical appendix



# Tables

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**Table 1**  
Consumer price index: general index and basic sub-indices

Period	General index		Goods		Services		CPI excluding fresh fruit/ vegetables and fuel		CPI excluding food and fuel	
	(1999=100)	Percentage change over previous year	(1999=100)	Percentage change over previous year	(1999=100)	Percentage change over previous year	(1999=100)	Percentage change over previous year	(1999=100)	Percentage change over previous year
<b>1999</b> .....	99.7	2.6	100.0	1.7	99.3	4.1	99.5	2.9	99.3	3.0
<b>2000</b> .....	102.9	3.2	103.4	3.4	102.1	2.8	101.4	2.0	101.3	2.0
<b>2001</b> .....	106.4	3.4	106.7	3.2	105.9	3.7	105.3	3.8	105.0	3.7
<b>2000</b> I .....	101.1	2.9	101.4	3.0	100.6	2.8	99.6	1.7	99.3	1.6
II .....	103.2	2.7	104.2	2.7	101.8	2.6	101.6	1.6	101.5	1.5
III .....	102.1	3.0	101.9	3.2	102.3	2.7	101.0	1.6	100.7	1.7
IV .....	105.1	4.1	106.2	4.6	103.6	3.2	103.5	2.9	103.6	3.0
<b>2001</b> I .....	104.5	3.3	104.4	2.9	104.5	3.9	103.4	3.8	103.0	3.8
II .....	107.0	3.7	108.0	3.7	105.6	3.7	105.4	3.8	105.2	3.6
III .....	105.9	3.8	105.9	3.9	106.0	3.6	105.0	4.0	104.6	3.9
IV .....	108.0	2.7	108.5	2.2	107.3	3.6	107.3	3.6	107.1	3.4
<b>2000</b> Jan. ....	100.4	2.6	99.9	2.4	101.1	3.0	99.5	2.0	99.1	1.9
Feb. ....	100.2	2.9	100.1	3.0	100.3	2.8	98.7	1.7	98.1	1.5
March ..	102.7	3.1	104.2	3.6	100.3	2.5	100.8	1.6	100.6	1.4
Apr. ....	103.2	2.6	104.2	2.9	101.7	2.1	101.4	1.4	101.4	1.2
May ....	103.5	2.9	104.4	2.8	102.0	3.1	101.6	1.9	101.6	1.7
June ...	103.1	2.5	104.0	2.5	101.7	2.6	101.7	1.5	101.6	1.5
July ....	101.3	2.7	100.8	3.0	101.9	2.4	100.1	1.2	99.7	1.3
Aug. ...	101.4	3.0	100.8	3.2	102.2	2.7	100.3	1.4	99.9	1.5
Sept. ...	103.5	3.1	103.9	3.3	102.9	2.9	102.5	2.1	102.4	2.3
Oct. ....	104.7	4.0	105.8	4.8	103.0	3.0	103.1	2.7	103.1	2.8
Nov. ...	105.2	4.2	106.6	5.1	103.1	3.0	103.3	2.8	103.3	2.9
Dec. ...	105.5	3.9	106.1	4.1	104.6	3.7	104.2	3.4	104.2	3.4
<b>2001</b> Jan. ....	103.8	3.4	103.2	3.3	104.9	3.7	103.1	3.7	102.7	3.7
Feb. ....	103.7	3.5	103.4	3.3	104.2	4.0	102.5	3.9	101.9	3.9
March. ..	105.8	3.0	106.7	2.3	104.4	4.1	104.7	3.9	104.4	3.7
Apr. ....	106.8	3.5	107.4	3.1	105.8	4.1	105.4	3.9	105.1	3.7
May ....	107.2	3.6	108.4	3.8	105.4	3.3	105.2	3.5	105.0	3.3
June ...	107.1	3.9	108.2	4.0	105.5	3.7	105.6	3.8	105.4	3.8
July ....	105.2	3.9	104.8	4.0	105.8	3.9	104.2	4.1	103.8	4.1
Aug. ...	105.3	3.8	104.8	4.0	105.9	3.6	104.4	4.0	103.8	3.9
Sept. ...	107.3	3.6	107.9	3.8	106.3	3.3	106.4	3.8	106.1	3.6
Oct. ....	107.6	2.8	108.1	2.2	106.8	3.7	106.9	3.7	106.7	3.5
Nov. ...	107.7	2.4	108.1	1.4	107.1	3.9	107.2	3.8	107.0	3.6
Dec. ...	108.7	3.0	109.2	2.9	108.0	3.3	107.7	3.3	107.5	3.1
<b>2002</b> Jan. ....	108.4	4.4	108.5	5.2	108.4	3.3	106.5	3.3	106.0	3.2
Feb. ....	107.3	3.4	106.7	3.1	108.3	3.9	105.7	3.1	105.2	3.2

Source: Calculations based on NSSG data.

**Table 2**  
Wholesale price index: general index and basic sub-indices

Period	General index		Domestic primary products <sup>1</sup>		Domestic industrial products <sup>1</sup>		Exported products		Imported products	
	(1990=100)	Percentage change over previous year	(1990=100)	Percentage change over previous year	(1990=100)	Percentage change over previous year	(1990=100)	Percentage change over previous year	(1990=100)	Percentage change over previous year
<b>1999</b> .....	192.5	2.1	198.3	3.4	199.6	3.7	184.5	-0.1	184.3	0.5
<b>2000</b> .....	207.6	7.8	204.4	3.0	216.5	8.4	203.9	10.5	195.6	6.1
<b>2001</b> .....	214.8	3.5	226.4	10.8	223.2	3.1	209.0	2.5	201.5	3.0
<b>2000</b> I .....	202.1	7.0	211.9	1.0	209.3	8.2	196.6	9.6	190.9	4.9
II .....	205.8	7.6	207.8	2.7	213.8	8.2	201.5	10.0	194.4	6.0
III .....	209.1	8.3	197.7	9.0	219.3	8.4	205.7	10.6	196.5	6.2
IV .....	213.5	8.4	200.1	0.2	223.4	8.9	211.6	11.7	200.8	7.4
<b>2001</b> I .....	211.6	4.7	210.7	-0.6	220.5	5.4	205.8	4.7	200.5	5.0
II .....	216.6	5.3	230.6	11.0	225.2	5.3	211.5	5.0	201.8	3.8
III .....	215.5	3.1	220.8	11.7	224.7	2.4	210.0	2.1	202.0	2.8
IV .....	215.5	1.0	243.5	21.7	222.2	-0.5	208.9	-1.3	201.5	0.3
<b>2000</b> Jan. ....	199.9	6.1	212.2	0.4	207.1	7.4	192.5	8.1	189.3	3.8
Feb. ....	202.2	7.2	213.1	-0.1	209.1	8.3	197.3	10.3	191.1	5.3
March ..	204.1	7.8	210.5	2.6	211.6	8.8	200.1	10.6	192.2	5.6
Apr. ....	204.7	7.0	216.0	4.0	211.6	7.4	199.4	9.1	193.7	5.7
May ....	206.4	7.7	213.3	1.7	213.9	8.4	202.2	10.5	194.7	6.2
June ...	206.2	8.0	194.0	2.4	215.9	8.9	202.8	10.3	194.7	6.0
July ....	206.4	7.7	191.9	9.2	216.7	7.8	202.3	9.2	195.0	5.9
Aug. ...	208.0	7.9	199.3	12.9	217.8	7.6	203.9	9.7	196.1	6.2
Sept. ...	212.8	9.2	201.9	5.2	223.5	9.8	210.9	12.8	198.3	6.6
Oct. ....	214.1	9.5	195.3	-0.8	224.6	10.3	213.6	13.7	201.0	7.9
Nov. ...	214.2	9.0	197.8	0.6	224.4	9.5	213.3	12.8	201.3	7.7
Dec. ...	212.1	6.7	207.1	0.7	221.3	7.0	207.9	8.6	200.2	6.6
<b>2001</b> Jan. ....	210.1	5.1	207.0	-2.5	218.8	5.6	204.2	6.1	199.9	5.6
Feb. ....	212.0	4.8	211.4	-0.8	221.3	5.8	205.5	4.2	200.6	5.0
March ..	212.8	4.3	213.7	1.5	221.5	4.7	207.7	3.8	200.9	4.5
Apr. ....	215.2	5.1	222.8	3.1	224.3	6.0	209.9	5.3	201.3	3.9
May ....	217.3	5.3	233.8	9.6	225.9	5.6	212.0	4.8	201.9	3.7
June ...	217.4	5.4	235.1	21.2	225.5	4.4	212.7	4.9	202.3	3.9
July ....	215.6	4.5	222.6	16.0	224.2	3.5	210.8	4.2	202.3	3.7
Aug. ...	214.5	3.1	214.0	7.4	224.1	2.9	208.5	2.3	201.9	3.0
Sept. ...	216.4	1.7	225.8	11.8	225.8	1.0	210.6	-0.1	201.9	1.8
Oct. ....	214.9	0.4	225.5	15.5	223.1	-0.7	208.8	-2.2	202.0	0.5
Nov. ...	214.6	0.2	234.4	18.5	221.7	-1.2	208.8	-2.1	201.5	0.1
Dec. ...	217.1	2.4	270.6	30.7	221.9	0.3	209.0	0.5	201.1	0.4

<sup>1</sup> For home consumption.

Source: Calculations based on NSSG data.

**Table 3**  
Gross domestic product at market prices

		Billion drachmas	Annual percentage changes (at constant prices of year 1995)					
			1995	1996	1997	1998	1999	2000
1	Private consumption	19,901.6	2.4	2.7	3.5	2.9	3.3	3.2
2	Public consumption	4,174.1	0.9	3.0	1.7	0.9	0.7	1.8
2.a	Individual consumption	1,600.7	3.8	1.3	2.3	-0.4	0.0	0.3
2.b	Collective consumption	2,573.4	-0.9	4.1	1.3	1.8	1.2	2.7
3	Gross fixed capital formation	5,066.0	8.4	6.8	10.6	6.2	7.8	7.4
3.a.a	By investor: General government	864.0	3.0	12.3	8.3	6.9	4.7	7.4
3.a.b	Other sectors	4,202.0	9.5	5.8	11.0	6.0	8.4	7.4
2.3.b.a	By type: Construction	3,210.5	1.8	7.1	9.2	7.6	2.9	8.6
3.b.b	Equipment	1,594.5	23.1	5.2	16.5	1.0	17.2	5.2
3.b.c	Other investment	261.0	-0.9	16.2	-14.0	34.0	0.0	10.6
4	Change in stocks and statistical discrepancy (as a percentage of GDP)	85.7	0.4	0.3	0.3	-0.3	0.0	-0.1
5	Domestic final demand	29,227.4	3.3	3.5	4.6	2.7	4.1	3.8
6	Exports of goods and services	4,800.2	3.5	20.0	5.3	8.1	18.9	2.3
6.a	Exports of goods	2,843.2	0.6	2.1	2.7	-4.9	11.8	1.4
6.b	Exports of services	1,957.0	7.7	44.3	7.7	20.0	24.0	2.9
7	Final demand	34,027.6	3.3	5.8	4.7	3.6	6.6	3.6
8	Imports of goods and services	6,792.4	7.0	14.2	9.2	3.6	15.0	1.9
8.a	Imports of goods	6,162.2	7.8	6.4	9.4	-5.1	15.8	2.9
8.b	Imports of services	630.2	-1.1	96.4	8.5	54.4	12.3	-1.6
9	GDP at market prices	27,235.2	2.4	3.6	3.4	3.6	4.1	4.1

Source: NSSG/National Accounts (provisional estimates for 1999-2001), March 2002.

Table 4  
Balance of payments  
(Million euro)

	January – November			November		
	1999	2000	2001*	1999	2000	2001*
<b>I CURRENT ACCOUNT BALANCE (I.A+I.B+I.C+I.D)</b>	<b>-4,209.2</b>	<b>-7,353.8</b>	<b>-7,094.3</b>	<b>-1,127.2</b>	<b>-1,308.0</b>	<b>-1,304.7</b>
<b>I.A TRADE BALANCE (I.A.1-I.A.2)</b>	<b>-15,120.2</b>	<b>-20,080.0</b>	<b>-19,509.7</b>	<b>-1,807.9</b>	<b>-2,013.4</b>	<b>-1,770.6</b>
NON-OIL TRADE BALANCE	-13,839.1	-17,402.2	-16,859.9	-1,583.0	-1,621.7	-1,488.4
OIL TRADE BALANCE	-1,281.0	-2,677.8	-2,649.8	-225.0	-391.7	-282.2
I.A.1 Exports of goods	7,235.3	10,035.7	10,947.6	727.0	1,070.6	985.9
Fuel	946.0	2,180.4	1,752.2	134.9	226.0	101.9
Other goods	6,289.3	7,855.3	9,195.3	592.1	844.5	884.0
I.A.2 Imports of goods	22,355.5	30,115.7	30,457.3	2,535.0	3,084.0	2,756.6
Fuel	2,227.0	4,858.2	4,402.1	359.9	617.7	384.1
Other goods	20,128.5	25,257.6	26,055.2	2,175.1	2,466.3	2,372.5
<b>I.B SERVICES BALANCE (I.B.1-I.B.2)</b>	<b>6,513.3</b>	<b>8,155.7</b>	<b>8,252.5</b>	<b>488.8</b>	<b>558.2</b>	<b>375.3</b>
I.B.1 Receipts	14,308.1	19,371.5	20,232.3	1,391.4	1,706.7	1,481.7
Travel	7,868.4	9,502.5	9,714.3	571.3	595.9	579.2
Transport	4,246.9	7,826.5	8,431.3	595.4	932.9	721.5
Other services	2,192.8	2,042.4	2,086.7	224.7	177.9	181.0
I.B.2 Payments	7,794.8	11,215.8	11,979.8	902.6	1,148.4	1,106.4
Travel	3,412.9	4,592.6	4,344.5	385.8	396.9	392.4
Transport	1,990.3	4,016.0	4,954.7	259.0	506.7	439.2
Other services	2,391.6	2,607.3	2,680.7	257.9	244.8	274.8
<b>I.C INCOME BALANCE (I.C.1-I.C.2)</b>	<b>-606.7</b>	<b>-920.5</b>	<b>-1,802.7</b>	<b>-84.7</b>	<b>-82.3</b>	<b>-171.1</b>
I.C.1 Receipts	2,164.8	2,737.1	1,948.4	225.5	320.5	158.2
Wages, salaries	531.9	576.7	555.5	45.5	59.9	50.4
Interest, dividends, profits	1,632.9	2,160.4	1,392.9	180.0	260.6	107.8
I.C.2 Payments	2,771.6	3,657.6	3,751.2	310.2	402.8	329.4
Wages, salaries	208.5	249.5	257.9	20.5	24.3	21.3
Interest, dividends, profits	2,563.1	3,408.1	3,493.3	289.7	378.5	308.1
<b>I.D CURRENT TRANSFERS BALANCE (I.D.1-I.D.2)</b>	<b>5,004.5</b>	<b>5,491.1</b>	<b>5,965.7</b>	<b>276.6</b>	<b>229.4</b>	<b>261.8</b>
I.D.1 Receipts	5,850.2	6,401.0	6,812.1	467.4	367.3	339.0
General government (mainly transfers from the EU)	3,541.9	3,826.9	4,011.6	253.1	129.0	98.3
Other sectors (emigrants' remittances etc.)	2,308.3	2,574.1	2,800.4	214.3	238.3	240.7
I.D.2 Payments	845.7	910.0	846.4	190.8	137.9	77.2
General government	184.6	204.8	100.7	123.6	61.7	14.1
Other sectors	661.2	705.1	745.7	67.1	76.2	63.2
<b>II FINANCIAL ACCOUNT BALANCE (II.A+II.B+II.C+II.D)</b>	<b>3,445.6</b>	<b>8,544.0</b>	<b>5,787.7</b>	<b>762.1</b>	<b>728.5</b>	<b>1,012.5</b>
<b>II.A DIRECT INVESTMENT<sup>1</sup></b>	<b>155.9</b>	<b>-1,334.8</b>	<b>1,154.6</b>	<b>-113.0</b>	<b>52.0</b>	<b>145.3</b>
By residents abroad	-387.4	-2,247.9	-609.5	-111.1	-30.9	-22.5
By non-residents in Greece	543.4	913.1	1,764.1	-1.9	82.9	167.9
<b>II.B PORTFOLIO INVESTMENT<sup>1</sup></b>	<b>6,258.5</b>	<b>9,386.1</b>	<b>8,120.8</b>	<b>711.0</b>	<b>1,136.6</b>	<b>-1,873.6</b>
Assets	-452.0	-836.3	-291.5	12.0	-283.0	-328.5
Liabilities	6,710.5	10,222.5	8,412.3	699.0	1,419.6	-1,545.1
<b>II.C OTHER INVESTMENT<sup>1</sup></b>	<b>-2,419.6</b>	<b>-3,295.5</b>	<b>-9,264.7</b>	<b>-797.9</b>	<b>37.3</b>	<b>2,773.8</b>
Assets	-3,527.3	-0.5	-2,854.3	-380.0	998.9	3,017.6
Liabilities	1,107.5	-3,295.1	-6,410.4	-417.8	-961.6	-243.8
(General government loans)	(165.3)	(-788.5)	(-2,715.1)	(-945.7)	(-497.3)	(-435.8)
<b>II.D CHANGE IN RESERVE ASSETS<sup>2</sup></b>	<b>-549.1</b>	<b>3,788.2</b>	<b>5,777.0</b>	<b>961.9</b>	<b>-497.4</b>	<b>-33.0</b>
<b>III ERRORS AND OMISSIONS</b>	<b>763.6</b>	<b>-1,190.3</b>	<b>1,306.6</b>	<b>365.1</b>	<b>579.6</b>	<b>292.2</b>
RESERVE ASSETS				18,824.2	17,643.3	7,431.0 <sup>3</sup>

1 (+) net inflow, (-) net outflow.

2 (+) decrease, (-) increase.

3 Reserve assets, as defined by the ECB, do not include:

(a) claims in euro on non-euro area residents,

(b) claims in foreign currency and in euro on euro area residents and

(c) the Bank of Greece participation in the capital and the reserve assets of the ECB.

\* Provisional data.

Source: Bank of Greece.

Table 5

Monetary aggregates in the euro area<sup>1</sup>

(Outstanding balances in billion euro, not seasonally adjusted)

End of period	Currency in circulation	Overnight deposits	M1	Deposits with agreed maturity up to two years	Deposits redeemable at notice up to three months	M2	Repurchase agreements	Money market fund shares/units	Money market paper, and debt securities up to two years	M3 <sup>2</sup>
	(1)	(2)	(3)=(1)+(2)	(4)	(5)	(6)=(3)+(4)+ (5)	(7)	(8)	(9)	(10)=(6)+(7)+ (8)+(9)
1999 . . . . .	350.0	1,614.5	1,964.5	882.6	1,287.7	4,134.8	143.9	280.0	142.5	4,701.2
2000 . . . . .	347.6	1,728.7	2,076.3	991.8	1,221.0	4,289.1	174.9	300.1	134.9	4,898.9
2001 . . . . .	240.2	1,963.6	2,203.8	1,094.3	1,367.2	4,665.3	219.4	393.6	146.7	5,425.0
2000 Jan. . . . .	333.0	1,642.4	1,975.4	864.8	1,288.9	4,129.1	155.0	412.4	87.2	4,783.7
Feb. . . . .	331.1	1,634.3	1,965.4	879.9	1,278.0	4,123.4	159.5	430.9	90.9	4,804.5
March . . . . .	334.6	1,642.8	1,977.4	888.2	1,267.5	4,133.1	177.3	443.7	90.7	4,844.8
Apr. . . . .	337.7	1,680.9	2,018.6	896.3	1,260.1	4,174.9	179.8	451.2	89.7	4,895.7
May . . . . .	337.5	1,662.8	2,000.3	914.1	1,251.9	4,166.3	181.2	456.7	87.5	4,891.6
June . . . . .	341.2	1,674.1	2,015.3	912.7	1,244.6	4,172.5	167.3	452.3	86.8	4,878.9
July . . . . .	343.0	1,672.3	2,015.3	922.8	1,236.8	4,174.9	172.0	463.3	76.7	4,886.9
Aug. . . . .	337.9	1,643.1	1,981.0	953.3	1,230.4	4,164.6	169.4	470.6	81.0	4,885.6
Sept. . . . .	338.9	1,654.4	1,993.4	956.1	1,220.3	4,169.8	171.4	461.5	81.5	4,884.2
Oct. . . . .	336.7	1,656.8	1,993.6	972.2	1,211.1	4,176.8	170.6	466.5	88.2	4,902.2
Nov. . . . .	336.8	1,675.2	2,012.1	985.4	1,202.0	4,199.5	173.5	463.6	97.3	4,933.9
Dec. . . . .	347.5	1,728.8	2,076.4	990.8	1,221.0	4,288.2	174.9	439.6	106.4	5,009.1
2001 1 Jan. <sup>3</sup> . .	355.3	1,743.5	2,098.8	1,027.6	1,271.1	4,397.6	195.2	439.6	106.6	5,138.8
Jan. . . . .	335.2	1,692.7	2,027.9	1,042.1	1,275.0	4,344.9	213.8	456.1	106.9	5,121.8
Feb. . . . .	334.2	1,692.9	2,027.2	1,054.6	1,269.6	4,351.3	215.8	468.8	115.1	5,150.9
March . . . . .	335.4	1,703.3	2,038.7	1,070.7	1,269.7	4,379.1	225.9	475.2	119.6	5,199.8
Apr. . . . .	335.3	1,735.8	2,071.2	1,072.0	1,273.3	4,416.5	224.9	476.8	125.3	5,243.6
May . . . . .	332.0	1,759.1	2,091.1	1,072.9	1,273.1	4,437.2	237.3	480.2	133.9	5,288.6
June . . . . .	332.1	1,798.4	2,130.6	1,070.3	1,282.9	4,483.8	225.8	485.2	144.6	5,339.3
July . . . . .	327.2	1,780.2	2,107.4	1,077.2	1,287.1	4,471.7	226.4	493.3	143.2	5,334.7
Aug. . . . .	318.4	1,747.4	2,065.8	1,092.7	1,292.8	4,451.3	233.9	499.1	146.6	5,330.8
Sept.* . . . .	308.6	1,817.4	2,126.1	1,074.9	1,299.0	4,499.9	229.3	503.6	146.4	5,379.2
Oct. . . . .	294.7	1,816.1	2,110.8	1,078.9	1,311.5	4,501.1	236.9	386.4	149.8	5,274.3
Nov. . . . .	279.0	1,864.6	2,143.6	1,081.0	1,326.4	4,551.0	229.5	395.2	151.7	5,327.5
Dec. . . . .	240.2	1,963.6	2,203.8	1,094.3	1,367.2	4,665.3	219.4	393.6	146.7	5,425.0

1 Monetary aggregates comprise monetary liabilities of MFIs and central government (Postal Savings Bank, Treasury) vis-à-vis non-MFI euro area residents excluding central government.

2 Excluding non-euro area residents' holdings of: money market fund units, money market paper, and debt securities up to two years.

3 Data for the euro area until the end of 2000 concern the Euro-11. As from 1 January 2001, they concern the Euro-12.

\* Provisional data.

Source: ECB.

Table 6

The Greek contribution to the monetary aggregates of the euro area<sup>1</sup>*(Outstanding balances in billion euro, not seasonally adjusted)*

End of period	Currency in circulation (1)	Overnight deposits (2)	M1 (3)=(1)+(2)	Savings deposits and deposits redeemable at notice up to three months (4)	Deposits with agreed maturity up to two years (5)	M2 (6)=(3)+(4)+(5)	Repurchase agreements (7)	Other (8)	M3 (9)=(6)+(7)+(8)
<b>1999</b> .....	8.1	14.1	22.2	47.6	32.7	102.5	11.5	0.2	114.3
<b>2000</b> .....	7.7	13.3	21.1	49.9	36.0	106.9	20.3	0.2	127.4
<b>2001</b> .....	7.2	16.1	23.3	57.2	33.3	113.8	26.1	0.1	140.0
<b>2000</b> Jan. ....	6.6	13.3	19.9	46.6	34.7	101.3	11.8	0.2	113.3
Feb. ....	6.2	13.5	19.7	46.1	35.0	100.8	12.6	0.2	113.6
March ...	6.4	13.1	19.4	45.8	35.9	101.2	12.6	0.2	114.0
Apr. ....	7.3	12.8	20.1	46.4	36.8	103.3	14.2	0.2	117.7
May ....	6.6	12.9	19.5	47.1	36.4	103.0	14.1	0.2	117.2
June ....	7.0	14.7	21.7	48.1	37.3	107.1	15.7	0.2	123.0
July ....	7.3	14.1	21.4	47.6	34.6	103.6	17.4	0.2	121.2
Aug. ....	6.9	13.3	20.2	47.8	34.1	102.2	20.3	0.2	122.6
Sept. ....	7.0	12.9	19.8	47.9	35.4	103.1	21.1	0.2	124.3
Oct. ....	6.7	12.2	18.9	47.3	36.8	103.0	22.3	0.2	125.4
Nov. ....	6.6	12.5	19.1	47.1	36.7	103.0	23.2	0.2	126.3
Dec. ....	7.7	13.3	21.1	49.9	36.0	106.9	20.3	0.2	127.4
<b>2001</b> Jan. ....	6.7	12.5	19.2	49.0	34.2	102.4	23.4	0.2	126.1
Feb. ....	6.5	12.4	18.9	49.1	33.0	100.9	25.1	0.2	126.3
March ...	6.6	11.6	18.2	49.1	32.3	99.6	27.6	0.2	127.3
Apr. ....	6.9	12.4	19.2	50.0	31.6	100.8	28.8	0.2	129.7
May ....	6.9	11.8	18.7	50.1	31.0	99.8	29.7	0.2	129.7
June ....	7.4	12.4	19.8	51.2	30.7	101.7	30.3	0.2	132.1
July ....	7.5	12.5	20.0	51.5	30.2	101.7	31.6	0.2	133.5
Aug. ....	7.3	12.3	19.6	52.2	29.8	101.6	31.5	0.2	133.2
Sept. ....	7.2	12.2	19.5	52.7	28.4	100.5	31.8	0.2	132.4
Oct. ....	6.8	12.4	19.3	52.9	28.9	101.1	30.6	0.2	131.8
Nov. ....	6.7	13.2	19.9	53.7	29.8	103.4	30.5	0.1	134.0
Dec. ....	7.2	16.1	23.3	57.2	33.3	113.8	26.1	0.1	140.0

<sup>1</sup> The Greek contribution begins upon Greece's entry into the euro area (1 January 2001). For statistical reasons, however, the data on monetary aggregates were extended to cover previous years as well.

Source: Bank of Greece.

Table 7

The Greek contribution to the monetary aggregates of the euro area<sup>1</sup>*(Outstanding balances in billion drachmas, not seasonally adjusted)*

End of period	Currency in circulation (1)	Overnight deposits (2)	M1 (3)=(1)+(2)	Savings deposits and deposits redeemable at notice up to three months (4)	Deposits with agreed maturity up to two years (5)	M2 (6)=(3)+(4)+(5)	Repurchase agreements (7)	Other (8)	M3 (9)=(6)+(7)+(8)
<b>1999</b> .....	2,683.0	4,648.4	7,331.5	15,722.5	10,800.9	33,854.9	3,814.7	80.2	37,749.7
<b>2000</b> .....	2,637.7	4,540.2	7,177.8	16,992.1	12,269.1	36,439.1	6,910.7	51.3	43,401.1
<b>2001</b> .....	2,446.6	5,501.4	7,948.0	19,485.5	11,351.9	38,785.4	8,888.9	46.2	47,720.5
<b>2000</b> Jan. ....	2,184.6	4,426.0	6,610.6	15,481.7	11,534.5	33,626.8	3,911.9	75.2	37,613.9
Feb. ....	2,083.4	4,500.9	6,584.2	15,385.7	11,679.2	33,649.1	4,222.0	73.4	37,944.5
March ...	2,130.3	4,377.4	6,507.7	15,330.0	12,027.3	33,864.9	4,220.6	67.6	38,153.2
Apr. ....	2,439.1	4,310.6	6,749.7	15,597.3	12,382.1	34,729.0	4,772.8	66.5	39,568.2
May ....	2,229.7	4,333.8	6,563.4	15,859.2	12,269.0	34,691.6	4,742.8	63.7	39,498.1
June ....	2,343.6	4,963.9	7,307.5	16,215.4	12,549.2	36,072.1	5,284.1	59.7	41,415.9
July ....	2,458.5	4,760.6	7,219.1	16,049.7	11,664.6	34,933.3	5,885.6	56.8	40,875.7
Aug. ....	2,340.4	4,478.9	6,819.3	16,155.4	11,522.5	34,497.2	6,849.1	58.3	41,404.6
Sept. ....	2,368.3	4,365.4	6,733.6	16,236.2	11,997.3	34,967.1	7,147.5	55.3	42,170.0
Oct. ....	2,270.9	4,152.3	6,423.2	16,066.4	12,489.4	34,979.0	7,562.4	52.9	42,594.3
Nov. ....	2,234.7	4,273.3	6,507.9	16,054.2	12,509.2	35,071.4	7,888.4	52.1	43,011.9
Dec. ....	2,637.7	4,540.2	7,177.8	16,992.1	12,269.1	36,439.1	6,910.7	51.3	43,401.1
<b>2001</b> Jan. ....	2,290.5	4,266.9	6,557.5	16,698.6	11,648.3	34,904.4	7,987.7	61.8	42,954.0
Feb. ....	2,209.4	4,219.0	6,428.4	16,722.4	11,240.7	34,391.5	8,566.8	61.5	43,019.9
March ...	2,248.6	3,936.5	6,185.1	16,739.6	11,010.1	33,934.7	9,389.3	60.1	43,384.0
Apr. ....	2,342.2	4,215.9	6,558.2	17,021.0	10,754.7	34,333.9	9,803.1	60.5	44,197.5
May ....	2,345.2	4,025.6	6,370.8	17,071.2	10,562.4	34,004.4	10,115.9	60.8	44,181.1
June ....	2,515.9	4,231.2	6,747.2	17,445.6	10,455.5	34,648.2	10,311.1	60.2	45,019.6
July ....	2,548.9	4,268.0	6,816.9	17,533.5	10,295.8	34,646.2	10,773.2	59.5	45,479.0
Aug. ....	2,472.4	4,203.5	6,675.9	17,771.0	10,159.2	34,606.1	10,721.2	59.2	45,386.5
Sept. ....	2,460.6	4,168.4	6,629.0	17,941.0	9,660.4	34,230.4	10,828.1	58.4	45,116.9
Oct. ....	2,320.1	4,242.0	6,562.1	18,020.2	9,852.7	34,435.0	10,432.9	57.4	44,925.3
Nov. ....	2,268.4	4,509.9	6,778.3	18,296.0	10,153.5	35,227.7	10,376.0	45.9	45,649.3
Dec. ....	2,446.6	5,501.4	7,948.0	19,485.5	11,351.9	38,785.4	8,888.9	46.2	47,720.5

<sup>1</sup> The Greek contribution begins upon Greece's entry into the euro area (1 January 2001). For statistical reasons, however, the data on monetary aggregates were extended to cover previous years as well.

Source: Bank of Greece.



**Table 8**  
**Deposits of domestic firms and households, by currency and type**  
*(Outstanding balances in billion drachmas, not seasonally adjusted)*

End of period	Total deposits	Breakdown by currency		Breakdown by type		
		Deposits in drachmas and euro <sup>1</sup>	Deposits in other currencies	Sight deposits	Savings deposits	Time deposits <sup>2</sup>
<b>1999</b> .....	30,860.4	24,170.2	6,690.2	3,844.3	16,069.6	10,946.6
<b>2000</b> .....	33,345.4	25,408.8	7,936.6	3,750.6	17,350.3	12,244.5
<b>2001</b> .....	36,066.6	28,336.0	7,730.6	4,588.9	19,873.6	11,604.1
<b>2000</b> Jan. ....	31,071.4	24,176.3	6,895.2	3,658.6	15,825.1	11,587.7
Feb. ....	31,008.4	23,906.9	7,101.4	3,537.6	15,730.5	11,740.3
March ....	31,327.6	23,881.1	7,446.5	3,561.7	15,673.5	12,092.4
Apr. ....	31,889.4	24,056.6	7,832.8	3,510.7	15,939.7	12,438.9
May ....	32,052.3	24,250.4	7,801.9	3,533.8	16,203.5	12,315.1
June ....	33,203.6	24,888.4	8,315.2	4,054.8	16,565.5	12,583.3
July ....	32,004.9	24,433.3	7,571.6	3,946.2	16,399.1	11,659.6
Aug. ....	31,561.8	24,226.2	7,335.6	3,568.2	16,504.9	11,488.7
Sept. ....	32,008.1	24,272.7	7,735.4	3,484.8	16,581.4	11,941.9
Oct. ....	32,126.1	23,855.6	8,270.5	3,284.4	16,405.7	12,436.0
Nov. ....	32,116.9	23,859.2	8,257.7	3,305.1	16,395.0	12,416.8
Dec. ....	33,345.4	25,408.8	7,936.6	3,750.6	17,350.3	12,244.5
<b>2001</b> Jan. ....	32,294.3	24,595.7	7,698.6	3,408.9	17,070.6	11,814.8
Feb. ....	31,942.7	24,566.2	7,376.5	3,414.3	17,078.9	11,449.5
March ....	31,466.9	24,226.8	7,240.1	3,194.9	17,093.4	11,178.6
Apr. ....	31,786.0	25,104.0	6,682.0	3,458.5	17,375.2	10,952.3
May ....	31,368.6	24,822.8	6,545.8	3,244.7	17,433.1	10,690.8
June ....	31,826.1	25,287.2	6,538.9	3,452.6	17,814.5	10,559.0
July ....	31,784.5	25,440.1	6,344.4	3,457.3	17,898.8	10,428.4
Aug. ....	31,779.3	25,538.4	6,240.9	3,348.4	18,135.7	10,295.2
Sept. ....	31,490.3	25,352.0	6,138.3	3,356.3	18,308.4	9,825.6
Oct. ....	31,875.5	25,588.3	6,287.2	3,450.1	18,391.0	10,034.4
Nov. ....	32,753.8	26,300.9	6,452.9	3,734.0	18,669.8	10,350.1
Dec. ....	36,066.6	28,336.0	7,730.6	4,588.9	19,873.6	11,604.1

<sup>1</sup> Including deposits in the other legacy currencies.

<sup>2</sup> Including blocked deposits.

Source: Bank of Greece.

**Table 9**  
**ECB and Bank of Greece interest rates**  
*(Percentages per annum)*

1. ECB interest rates				2. Bank of Greece interest rates				
With effect from <sup>1</sup>	Deposit facility	Main refinancing operations <sup>3</sup>	Marginal lending facility	With effect from	Overnight deposit facility – first tier <sup>4</sup>	Overnight deposit facility – second tier <sup>4</sup>	14-day intervention rate	Lombard rate
<b>1999</b> 1 Jan.	2.00	3.00	4.50	<b>1999</b> 14 Jan.	11.50	9.75	12.00	13.50
4 Jan. <sup>2</sup>	2.75	3.00	3.25	21 Oct.	11.00	9.75	11.50	13.00
22 Jan.	2.00	3.00	4.50	16 Dec.	10.25	9.25	10.75	12.25
9 Apr.	1.50	2.50	3.50	27 Dec.	10.25	9.00	10.75	11.50
5 Nov.	2.00	3.00	4.00					
<b>2000</b> 4 Feb.	2.25	3.25	4.25	<b>2000</b> 27 Jan.	9.50	8.50	9.75	11.00
17 March	2.50	3.50	4.50	9 March	8.75	8.00	9.25	10.25
28 Apr.	2.75	3.75	4.75	20 Apr.	8.00	7.50	8.75	9.50
9 June	3.25	4.25	5.25	29 June	7.25	-	8.25	9.00
28 June <sup>3</sup>	3.25	4.25	5.25	6 Sept.	6.50	-	7.50	8.25
1 Sept.	3.50	4.50	5.50	15 Nov.	6.00	-	7.00	7.75
6 Oct.	3.75	4.75	5.75	29 Nov.	5.50	-	6.50	7.25
				13 Dec.	4.75	-	5.75	6.50
				27 Dec.	3.75	-	4.75	5.75
<b>2001</b> 11 May	3.50	4.50	5.50					
31 Aug.	3.25	4.25	5.25					
18 Sept.	2.75	3.75	4.75					
9 Nov.	2.25	3.25	4.25					

1 The date refers to the deposit and marginal lending facilities. For main refinancing operations, unless otherwise indicated, changes in the rate are effective from the first operation following the date indicated, with the exception of the change on 18 September 2001, which was effective on that same day.

2 On 22 December 1998 the ECB announced that, as an exception measure between 4 and 21 January 1999, a narrow corridor of 50 basis points would be applied between the interest rates for the marginal lending facility and the deposit facility, aimed at facilitating the transition to the new regime by market participants.

3 Until 21 June 2000: fixed rate tenders, from 28 June 2000: minimum bid rate in variable rate tenders.

4 On 29 June 2000 the second tier of the deposit facility was abolished; the interest rate thereafter applies to the unified deposit acceptance account.

**Sources:** ECB and Bank of Greece.

**Table 10**  
**Money market interest rates**  
*(Percentages per annum, period averages)*

Period	Overnight deposits <sup>1</sup>	1-month deposits <sup>2</sup>	3-month deposits <sup>2</sup>	6-month deposits <sup>2</sup>	9-month deposits <sup>2</sup>	12-month deposits <sup>2</sup>
<b>1999</b> .....	10.34	10.41	10.33	10.00	9.68	9.41
<b>2000</b> .....	8.24	8.28	7.89	7.32	6.90	6.55
<b>2001</b> .....	4.39	4.33	4.26	4.16	4.10	4.09
<b>2000</b> Jan. ....	9.40	9.46	9.13	8.69	8.30	7.92
Feb. ....	9.17	9.16	8.72	8.17	7.70	7.24
March .....	9.09	9.33	8.90	8.14	7.54	7.03
Apr. ....	8.47	8.95	8.69	7.99	7.39	6.81
May ....	8.65	8.77	8.50	7.92	7.39	6.88
June ....	8.41	8.74	8.41	7.84	7.30	6.81
July ....	7.99	8.31	8.16	7.70	7.10	6.66
Aug. ....	8.26	8.29	8.06	7.48	6.88	6.51
Sept. ....	7.91	7.91	7.57	6.72	6.36	6.19
Oct. ....	7.79	7.72	7.03	6.22	5.96	5.87
Nov. ....	7.58	7.20	6.25	5.86	5.73	5.64
Dec. ....	6.20	5.50	5.20	5.14	5.10	5.08
<b>2001</b> Jan. ....	4.75	4.81	4.77	4.68	4.60	4.58
Feb. ....	4.99	4.80	4.76	4.67	4.61	4.59
March .....	4.78	4.78	4.71	4.58	4.49	4.47
Apr. ....	5.06	4.79	4.69	4.57	4.50	4.49
May ....	4.65	4.67	4.64	4.57	4.53	4.53
June ....	4.54	4.53	4.45	4.35	4.33	4.31
July ....	4.51	4.52	4.47	4.39	4.33	4.31
Aug. ....	4.49	4.46	4.35	4.22	4.14	4.11
Sept. ....	3.99	4.05	3.98	3.88	3.80	3.77
Oct. ....	3.97	3.72	3.60	3.46	3.39	3.37
Nov. ....	3.51	3.43	3.39	3.26	3.20	3.20
Dec. ....	3.34	3.42	3.34	3.26	3.25	3.30
<b>2002</b> Jan. ....	3.29	3.35	3.34	3.34	3.39	3.48

1 Until December 2000: interbank overnight rate in Greece. As from January 2001: euro overnight index average (EONIA).

2 Until December 2000: interbank rates (ATHIBOR). As from January 2001: euro interbank offered rates (EURIBOR).

Sources: Bank of Greece and Bloomberg.

**Table 11**  
**Total bank lending to the private sector<sup>1</sup>**  
*(Balances in billion drachmas)*

End of period	Total	In drachmas, euro	In other currencies	Branches of economic activity					
				Agriculture	Industry <sup>2</sup>	Trade	Housing	Consumer credit	Other
<b>1996</b> . . . . .	9,676.1	7,362.2	2,313.9	1,087.6	3,028.9	1,890.4	1,554.4	574.5	1,540.3
<b>1997</b> . . . . .	11,145.8	8,407.5	2,738.3	1,118.4	3,185.4	2,316.9	1,924.4	731.6	1,869.1
<b>1998</b> . . . . .	12,817.7	9,703.1	3,114.6	1,128.1	3,200.0	2,971.5	2,332.3	1,000.6	2,185.2
<b>1999</b> . . . . .	14,636.6	10,796.3	3,840.3	1,231.9	3,571.6	3,141.1	2,927.9	1,315.9	2,448.2
<b>2000</b> . . . . .	18,810.4	13,609.4	5,201.0	1,323.8	4,028.9	4,216.5	3,840.9	1,878.0	3,522.3
<b>2001*</b> . . . . .	24,255.7	21,893.8	2,361.9	1,269.0	4,298.5	5,289.9	5,333.5	2,675.6	5,389.2
<b>2000</b> Jan. . . . .	14,901.2	10,978.4	3,922.8	1,207.0	3,540.9	3,261.4	2,979.5	1,338.2	2,574.2
Feb. . . . .	15,080.1	11,038.1	4,042.0	1,166.2	3,469.4	3,405.8	3,036.0	1,367.9	2,634.8
March. . . . .	15,108.4	10,941.8	4,166.6	1,181.1	3,453.0	3,457.4	3,031.5	1,345.9	2,639.5
Apr. . . . .	15,716.5	11,349.8	4,366.7	1,210.1	3,572.5	3,583.0	3,096.2	1,372.4	2,882.3
May . . . . .	15,990.3	11,496.8	4,493.5	1,224.1	3,573.2	3,633.4	3,168.6	1,418.8	2,972.2
June . . . . .	16,472.7	11,934.0	4,538.7	1,235.1	3,638.9	3,781.0	3,252.9	1,471.8	3,093.0
July. . . . .	16,854.2	12,140.1	4,714.1	1,251.0	3,661.7	3,904.2	3,344.4	1,523.9	3,169.0
Aug. . . . .	17,340.4	12,337.5	5,002.9	1,259.6	3,708.5	3,942.7	3,503.0	1,614.4	3,312.2
Sept. . . . .	17,931.9	12,706.6	5,225.3	1,266.2	3,847.9	4,130.7	3,587.8	1,647.1	3,452.2
Oct. . . . .	18,290.9	12,787.5	5,503.4	1,323.6	3,866.8	4,162.3	3,686.4	1,733.1	3,518.7
Nov. . . . .	18,575.9	13,039.4	5,536.5	1,293.9	4,008.8	4,200.8	3,769.7	1,798.5	3,504.2
Dec. . . . .	18,810.4	13,609.4	5,201.0	1,323.8	4,028.9	4,216.5	3,840.9	1,878.0	3,522.3
<b>2001</b> Jan. . . . .	19,402.0	16,496.8	2,905.2	1,298.1	3,958.5	4,215.3	3,933.2	1,908.6	4,088.3
Feb. . . . .	19,677.7	16,857.9	2,819.8	1,268.9	4,025.6	4,216.7	4,012.3	1,947.6	4,206.6
March. . . . .	20,302.6	17,510.0	2,792.6	1,318.4	4,079.5	4,338.2	4,112.0	2,035.5	4,419.0
Apr. . . . .	20,516.5	17,796.3	2,720.2	1,348.5	4,021.6	4,333.0	4,200.5	2,081.7	4,531.2
May. . . . .	21,225.7	18,300.3	2,925.4	1,307.8	4,151.9	4,640.9	4,345.5	2,154.3	4,625.3
June . . . . .	21,826.1	18,982.1	2,844.0	1,295.7	4,257.3	4,808.2	4,452.2	2,236.9	4,775.8
July. . . . .	22,117.9	19,366.2	2,751.7	1,297.4	4,331.9	4,775.5	4,610.9	2,292.4	4,809.8
Aug. . . . .	22,270.6	19,626.0	2,644.6	1,283.7	4,303.7	4,781.2	4,722.7	2,346.8	4,832.5
Sept. . . . .	22,820.1	20,206.0	2,614.1	1,302.3	4,376.5	4,926.2	4,856.0	2,425.3	4,933.8
Oct. . . . .	23,064.2	20,568.7	2,495.5	1,272.9	4,333.8	4,944.5	5,007.6	2,514.6	4,990.8
Nov. . . . .	23,659.7	21,150.3	2,509.4	1,249.5	4,338.8	5,028.1	5,175.2	2,567.7	5,300.4
Dec. . . . .	24,255.7	21,893.8	2,361.9	1,269.0	4,298.5	5,289.9	5,333.5	2,675.6	5,389.2

1 As of January 2001, loans in euro and in the euro legacy currencies were deducted from foreign currency loans and added to drachma loans. Besides, loans to residents came to include the balance of loans to off-shore companies.

2 Including mining and small-scale manufacturing.

\* Provisional data.

Source: Bank of Greece.

**Table 12**  
**Greek government paper yields**  
*(Percentages per annum, period averages)*

Period	Yield on one-year Treasury bills	Yield on drachma bonds					
		3-year	5-year	7-year	10-year	15-year	20-year
<b>1999</b> .....	8.95	7.49	6.58	6.47	6.30	6.48	–
<b>2000</b> .....	6.22	5.99	5.98	6.05	6.10	6.26	6.35
<b>2001</b> .....	4.08	4.28	4.58	4.82	5.30	5.51	5.76
<b>2000</b> Jan. ....	7.42	6.71	6.47	6.53	6.60	6.75	6.79
Feb. ....	6.84	6.35	6.31	6.42	6.48	6.59	6.62
March ....	6.64	6.09	6.09	6.16	6.24	6.34	6.41
Apr. ....	6.40	5.93	5.95	6.01	6.09	6.21	6.28
May ....	6.48	6.22	6.21	6.23	6.18	6.34	6.39
June ....	6.44	6.14	6.08	6.12	6.06	6.22	6.27
July ....	6.36	6.15	6.09	6.13	6.08	6.23	6.32
Aug. ....	6.27	6.12	6.04	6.08	6.04	6.14	6.25
Sept. ....	5.90	5.90	5.95	6.00	6.05	6.17	6.29
Oct. ....	5.59	5.68	5.77	5.86	5.97	6.17	6.32
Nov. ....	5.41	5.52	5.62	5.73	5.87	6.14	6.32
Dec. ....	4.89	5.02	5.21	5.31	5.54	5.85	6.05
<b>2001</b> Jan. ....	4.57	4.66	4.91	5.03	5.35	5.61	5.81
Feb. ....	4.59	4.66	4.90	5.04	5.35	5.56	5.78
March ....	4.47	4.50	4.73	4.94	5.28	5.49	5.71
Apr. ....	4.48	4.53	4.79	5.00	5.39	5.55	5.77
May ....	4.52	4.59	4.89	5.08	5.54	5.70	5.92
June ....	4.31	4.40	4.73	4.99	5.48	5.66	5.91
July ....	4.31	4.39	4.75	5.00	5.52	5.71	5.94
Aug. ....	4.11	4.17	4.52	4.80	5.33	5.56	5.82
Sept. ....	3.77	3.78	4.27	4.64	5.31	5.55	5.88
Oct. ....	3.37	3.40	3.97	4.39	5.07	5.30	5.64
Nov. ....	3.20	4.12	4.14	5.07	4.90	5.10	5.36
Dec. ....	3.30	4.15	4.37	4.73	5.13	5.28	5.52
<b>2002</b> Jan. ....	3.48	4.27	4.51	4.95	5.24	5.36	5.55

Source: Bank of Greece.

**Table 13**  
**Bank deposit and lending rates in Greece**  
*(Percentages per annum, period averages)*

Period	Deposit rates			Lending rates			
	Sight deposits	Savings deposits	12-month time deposits	Loans to firms		Loans to households	
				Short-term	Long-term	Consumer <sup>1</sup>	Housing <sup>2</sup>
<b>1999</b> .....	3.41	8.03	8.67	15.00	13.53	20.41	12.62
<b>2000</b> .....	2.73	5.71	6.14	12.33	11.52	17.00	9.76
<b>2001</b> .....	1.45	2.40	3.32	8.58	8.66	13.35	6.45
<b>2000</b> Jan. ....	3.38	7.50	7.74	14.15	13.04	19.86	11.72
Feb. ....	3.44	6.97	6.97	13.71	12.50	19.66	11.15
March ....	3.01	6.64	6.65	13.49	12.95	19.22	10.66
Apr. ....	3.04	6.32	6.32	12.80	12.08	18.54	10.19
May ....	2.97	5.96	6.17	12.64	11.45	17.90	9.87
June ....	2.50	5.95	6.20	12.46	11.56	17.82	9.74
July ....	2.41	5.51	5.97	12.18	11.31	15.87	9.55
Aug. ....	2.37	5.45	5.96	12.13	11.29	15.48	9.40
Sept. ....	2.48	5.03	5.80	11.78	11.45	15.15	9.15
Oct. ....	2.46	4.78	5.63	11.28	10.51	14.96	8.85
Nov. ....	2.47	4.62	5.42	11.14	10.28	14.85	8.68
Dec. ....	2.23	3.76	4.82	10.15	9.77	14.71	8.20
<b>2001</b> Jan. ....	1.66	2.93	3.84	9.40	9.12	14.37	7.31
Feb. ....	1.62	2.69	3.74	9.10	9.31	14.25	6.89
March ....	1.60	2.70	3.71	8.78	8.99	13.93	6.70
Apr. ....	1.69	2.71	3.62	8.88	9.08	13.80	6.60
May ....	1.54	2.57	3.64	8.87	8.98	13.53	6.55
June ....	1.52	2.47	3.57	8.65	8.69	13.25	6.49
July ....	1.42	2.46	3.55	8.64	8.61	12.97	6.50
Aug. ....	1.51	2.47	3.45	8.59	8.74	12.94	6.48
Sept. ....	1.31	2.30	3.05	8.35	8.38	13.07	6.38
Oct. ....	1.09	1.93	2.71	8.08	8.33	12.76	6.00
Nov. ....	1.28	1.90	2.51	7.87	8.00	12.68	5.77
Dec. ....	1.20	1.69	2.41	7.79	7.65	12.65	5.78

1 Average rate on all categories of consumer loans.

2 Average rate on variable-rate housing loans with a maturity of over 5 years.

Source: Bank of Greece.







