# **PORTUGUESE ECONOMY IN 2002**

## 1. INTRODUCTION

The Portuguese Gross Domestic Product (GDP) is likely to grow, in real terms, between 0 and 1 per cent in 2002. This reflects a marked deceleration of economic activity from 2001, when GDP grew by 1.8 per cent (see Table 1.1). The slowdown in the Portuguese economy covered most components of expenditure and productive sectors. Economic activity has decelerated gradually over the year, which is clearly illustrated by the trend of the coincident indicator of the Banco de Portugal as well as by the economic sentiment indicator published by the European Commission

The present target range is coincident with that published in the June Economic Bulletin, as regards both its central level and the spread. Notwithstanding that the central level of the target range has been maintained unchanged, there have been changes in terms of the expenditure composition, stress being laid on the downward revision of private domestic demand — particularly as regards consumption of durable goods and investment and on the upward revision of final expenditure of the general government and on the contribution of net external demand to output growth. The unchanged level of the target range spread<sup>(1)</sup> reflects the extraordinary degree of uncertainty to which the present projections are subject, to a large extent as a result of the successive revisions made to international trade data (see the Box entitled "Revisions to international trade data"). The instability of these data hinders the analysis of the development of the Portuguese economy in 2002, in particular

(1) On this subject, it should be noted that in the September issues of the *Economic Bulletin* for 1999, 2000 and 2001, the spread of the target range for GDP in the year under review stood at 0.5 percentage points, half of the one presented here.

#### Table 1.1

## MAIN ECONOMIC INDICATORS

#### Percentage rates of change

			Memo item:
	2001	2002	2002
			EB June 2002
Private consumption	1.0	-1⁄4 ;3⁄4	1/2 ; 11/2
Public consumption	2.9	1.1	0.9
GFCF	-0.4	-5¼;-3¼	-5.0 ; -3.0
Domestic demand	1.1	-1;0	-3⁄4 ; 1⁄4
Exports	1.7	<sup>3</sup> /4; 2 <sup>1</sup> /4	1;2½
Overall demand	1.3	1/2 ; 1/2	-1/4 ; 3/4
Imports	0.1	-21/2 ; -1/2	-11/2; 1/2
GDP	1.8	0;1	0;1
Current account + capital account balance (%GDP) .	-8.4	-6¾ ; -5¼	-6½;-5.0
Harmonised Index of Consumer Prices	4.4	3.5; 3.7	3.5; 4.5

regarding the behaviour of the market share of exporters, the trend of domestic demand and the balance of goods. The budget outturn for 2002, in particular as regards the risk of non-compliance with the target of 2.8 per cent of GDP defined by the Government for the general government deficit, is a second source of uncertainty.

The external framework of the Portuguese economy continued to be characterised by broadly unfavourable conditions. Therefore, and although the present projections advanced by international organisations continue to point to a recovery of GDP worldwide in 2002, economic activity in the euro area — that concentrates two thirds of economic transactions between the Portuguese economy and abroad — is expected to decelerate in the current year, with GDP growing by 0.9 per cent (1.5 per cent in 2001). Excluding the 1993 recession, this output growth is the lowest since the beginning of the 1990s. In parallel, conditions in the financial market continued to deteriorate sharply, with the major stock indices revealing substantial falls and high volatility levels. Against a background of moderate inflationary expectations, turbulence in the financial markets and growing doubts regarding the buoyancy of economic recovery led the monetary authorities of major advanced economies to decide, in the course of 2002, to maintain their key interest rates unchanged. As a result, in Portugal, bank interest rates remained virtually unchanged in the course of the current year, at very low levels, both in nominal and real terms.

The adjustment process of the Portuguese economy continued in 2002, in the context of a particularly unfavourable environment. The major characteristics of this adjustment process in 2002 were the following: reduction in real terms of the final expenditure of households and corporations; increase of the savings rate of households, reinforcing the increases observed in the two previous years; continuing changes in the pattern of economic growth, with a negative contribution of domestic demand to growth, which had not occurred since 1993, and a further increase in the contribution of net external demand: reduction of external borrowing requirements of the Portuguese economy. In turn, both consumption and investment of the general government are expected to decelerate significantly vis-à-vis the high growth observed in previous years.

Real growth in private consumption was marginally positive, reflecting a relatively wide set of factors: deceleration of disposable income, financial restrictions associated with the high indebtedness levels of households, and very low confidence levels. The major factor behind the latter is likely to be the less favourable prospects for the labour market, against the background of an increase in unemployment. In addition, financial consolidation difficulties experienced by the general government are also generating some uncertainty on the future behaviour of the economy, with a possible negative impact on consumer confidence. Household investment in housing seems to be decreasing in 2002, reflecting the same type of factors and also a continued adjustment process, after the very sharp expansion of the housing stock in the late 1990s. Corporate investment decreased further in 2002, reflecting less favourable development prospects for (domestic and external) demand, financial restrictions associated with the high indebtedness levels attained over the last few years and, also, lower levels of capacity utilisation. Finally, and as regards external demand, the developments projected in this Economic Bulletin assume, as a crucial scenario, an increase in exports of goods and services close to that observed in 2001 — this, in the context of a more unfavourable international scenario, corresponds to a more favourable behaviour of the market share of Portuguese exports - and a fall in real terms in imports, which had not occurred since 1993. The trend of imports reflects the behaviour of the components with higher import content, such as expenditure on consumption of durable goods and investment in equipment that declined significantly in real terms, in line with their usual cyclical pattern.

Data available permit to forecast, for 2002, a reduction in the joint deficit of the current and capital accounts — that reflects the external borrowing requirements of the Portuguese economy - from 8.4 per cent of GDP in 2001 to a range from -6 ¾ to -5 ¼ of GDP. Behind this reduction is decisively the reduction in the goods account deficit, that reflects two major factors: the trend projected for export and import volumes; and gains in terms of trade, partly justified by the trend of oil prices in the international markets. The strong recovery estimated for public transfers associated with inflows from the European Union will also allow for an improvement in the capital account and a stabilisation in the current account, in the framework of a decline in the balance of private transfers. Finally, a further widening is expected for the income account deficit, associated with the strong increase in external borrowing of the Portuguese economy in recent years.

In 2002, the inflation rate in Portugal, measured by the annual average change of the Harmonised Index of Consumer Prices (HICP), is expected to attain a figure between 3.5 and 3.7 per cent, which represents a reduction from the 4.4 per cent observed in 2001. The slowdown in prices chiefly reflects three major factors — lower growth of unprocessed food prices, decline in import prices and deceleration in nominal wages. Their joint effect prevailed over factors working in the opposite direction: the conversion process of prices of escudos into euros, that has affected the behaviour of prices over the first quarter, and the increase in the standard rate of the Value Added Tax (VAT), that had an impact on the trend of the HICP as of June 2002.

The trend of prices since May was translated into a more favourable behaviour of inflation than that forecast in the June Economic Bulletin. Thus, the 3.5 to 4.5 per cent spread then presented for the annual average change in the HICP has been revised to a 3.5 to 3.7 per cent spread. This change chiefly reflects a reassessment of the impact on prices of the rise in the VAT standard rate — that is now estimated to be less marked and more lagged than previously assumed — and a revision of the technical hypothesis for the year, as a result of the appreciation of the exchange rate of the euro<sup>(2)</sup> and a more favourable trend of most international prices of consumer goods than previously forecast (see the Box entitled "Inflation in 2002: deviation from the previous projection").

In the 2002 Rectifying Budget, the Government assumed that the general government deficit in the current year would stand at 2.8 per cent. This value was confirmed in the excessive deficit procedure notification of late August and in the State Budget Report for 2003, presented in early October. The information available, however, points to the considerable risk that in 2002 the 3 per cent reference value defined in the Treaty on European Union and in the Stability and Growth Pact may again be exceeded. The major risk factors are: the difficulty, under the present economic situation, of collecting the revenue forecast in the programme for the sale of real assets defined by the Government; the almost inevitable level of fiscal receipts below the Rectifying Budget target; the foreseeable expenditure overrun in some autonomous services, such as the National Health Service; and finally the possibility that the regional and local government deficit may exceed that envisaged in the excessive deficit procedure notification of August.

## 2. INTERNATIONAL FRAMEWORK

## 2.1. International framework in the euro area

As expected at the beginning of the year, world economy started to recover in 2002, after the strong deceleration observed in 2001. The recovery of economic activity was particularly significant in the first quarter of the year, with growth exceeding expectations in some regions of the world, particularly the United States and Asian emerging market economies. The information available for the second and third quarters points, however, to some loss of buoyancy, wherefore some doubts still persist on the pace and sustainability of world economic recovery. The most recent projections of the International Monetary Fund (IMF) released in late September, point to 2.8 per cent growth of world economy in 2002, after 2.2 per cent in 2001 (Table 2.1). Although the projections for world economic growth in 2002 remained unchanged vis-à-vis forecasts advanced in April, there were important changes across countries, stress being laid on the upward revision of growth forecast for Asian economies, on the significant deterioration of growth prospects in Latin America, and on the downward revision of growth for the euro area. GDP growth projections in the United States in 2002 were marginally revised downwards. World inflationary pressures continue relatively subdued. For 2002, projections point to a decline in the inflation rate in most economies or regions, except Latin America. Nonetheless, commodity prices increased in 2002, which seem to reflect the recovery of world economic activity, as well as, in the case of oil, the deterioration of the political situation in the Middle East (Chart 2.1). On 16 October, oil prices per barrel (Brent) stood at 28.5 dollars, accounting for an increase of approximately 8 dollars vis-à-vis prices observed in early 2002.

In spite of the economic recovery, the situation in international financial markets deteriorated sharply as from the end of the first quarter of 2002. The stock market major indices declined substantially and the volatility levels in the United States and the euro area exceeded those observed after the Asian and Russian crisis (Charts 2.2A and 2.2B). This behaviour reflected the increase in risk premia and the decline in expected profits of listed corporations, in particular US corporations, in the

<sup>(2)</sup> The Eurosystem's macroeconomic projections are prepared under the technical hypothesis of constant exchange rates.

## Table 2.1

## **IMF PROJECTIONS**

Percentage rates of change

		G	DP			Consum	er prices	
	2000	2001	2002	2002 (rev. Apr.02)	2000	2001	2002	2002 (rev. Apr.02)
World economy	4.7	2.2	2.8	0.0		_	_	
Countries in transition	6.6	5.0	3.9	0.0	20.2	15.9	11.3	0.5
Russia	9.0	5.0	4.4	0.0	20.8	20.7	15.8	1.7
Developing countries	5.7	3.9	4.2	-0.1	6.1	5.7	5.6	-0.2
Developing countries in Asia	6.7	5.6	6.1	0.2	1.9	2.6	2.1	-0.4
ASEAN-4 <sup>(a)</sup>	5.1	2.6	3.6	0.3	3.0	6.6	6.2	-0.4
Latin America	4.0	0.6	-0.6	-1.3	8.1	6.4	8.6	0.4
Brazil	4.4	1.5	1.5	-1.0	7.0	6.8	6.5	0.4
Advanced economies	3.8	0.8	1.7	0.0	2.3	2.2	1.4	0.1
NIC <sup>(b)</sup>	8.5	0.8	4.7	1.1	1.1	1.9	1.1	-0.2
USA	3.8	0.3	2.2	-0.1	3.4	2.8	1.5	0.1
Japan	2.4	-0.3	-0.5	0.5	-0.8	-0.7	-1.0	0.1
United Kingdom <sup>(c)</sup>	3.1	1.9	1.7	-0.3	2.1	2.1	1.9	-0.5
Memo item:								
European Union	3.5	1.6	1.1	-0.4	2.3	2.6	2.1	0.1
Euro area	3.5	1.5	0.9	-0.5	2.4	2.6	2.1	0.2

Source: IMF, World Economic Outlook September 2002.

Notes:

(a) Indonesia, Malaysia, Philippines and Thailand.

(b) Korea, Hong-Kong, Taiwan and Singapore.

(c) Consumer prices excluding mortgage interest payments.



context of several accounting irregularities and, subsequently, of the growing uncertainty sur-

rounding the sustainability of the economic recovery. Against this background, share prices in the euro area, measured by the Dow Jones Eurostoxx index, decreased by 34 per cent from the end of 2001, while US share prices, over the same period, measured by the S&P 500 index, decreased by 26 per cent (Table 2.2). The deterioration of investors' confidence led to a preference for lower-risk assets, resulting in a broadly based increase in bond market prices. The corresponding reduction in yields was sharper in government bonds, wherefore there was a widening of yield spreads between private debt and public debt, both in the United States and in the euro area, particularly in higher-risk securities. In the United States, for instance, where interest rates on 10-year Treasury bonds reached their trough since the 1960s, the interest rate spreads for corporations with the best rating widened by 53 basis points from the end of 2001 to 16 October 2002, while for corporations with the worst rating, that differential widened by 118 basis points. In the euro area, over the same





Source: Bloomberg and Banco de Portugal.



Source: Bloomberg. Note: (a) Banco de Portugal's calculations: standard deviation

in daily changes of the latest 60 observations

period, the interest rate differentials for corporations with the best rating remained virtually unchanged, while for corporations with the worst rating the differential widened by 78 basis points. Emerging markets saw also a deterioration of financing conditions, particularly marked in countries such as Brazil or Turkey, affected by uncertainties surrounding the developments of the political situation and doubts as to the sustainability of debt.<sup>(3)</sup> Finally, turning to the exchange rate market, the dollar depreciated vis-à-vis major currencies, reflecting the reduction in investment flows into the United States. From late 2001 to mid October 2002, the dollar depreciated by approximately 10 per cent vis-à-vis the euro. In nominal effective terms, however, the depreciation of the North-American currency was lower (6 per cent).

Against a background of moderate inflationary pressures, turbulence on the financial markets and growing doubts as to the buoyancy of the present recovery, the monetary authorities of major advanced economies decided to maintain their key rates unchanged. Therefore, the US Federal Reserve maintained the target for the Fed funds at 1.75 per cent — the level observed since 11 December 2001 — while the minimum interest rate applicable to main refinancing operations of the European Central Bank remained at the level fixed on 11 November 2001 (3.25 per cent).

According to IMF projections, the US economy is likely to grow by 2.2 per cent in 2002, after an increase of 0.3 per cent in the previous year.<sup>(4)</sup> After a significant GDP recovery in late 2001 and early 2002, economic activity moderated after the second quarter (Table 2.3). The particularly high growth of GDP in the first quarter (1.2 per cent from the previous quarter) was largely due to the significant contribution from changes in inventories of the private sector. Household expenditure, particularly on motor vehicles and housing, increased also strongly in the first quarter. Behind this trend was probably the marked decrease in interest rates in 2001, the improvement in real disposable income associated with tax cuts and with the behaviour of real wages, was well as the strong growth in housing prices. This has boosted recourse to credit for consumption purposes and has moderated the negative wealth effects due to the fall in share prices since 2000. In the second quarter, activity increased by 0.3 per cent from the previous quarter, reflecting a more moderate trend of the demand components that had recorded a higher increase in the first quarter. Non-residential gross fixed capital formation (GFCF) of the private

<sup>(3)</sup> For instance, in the case of Brazil, from late 2001 to 16 October 2002, the real depreciated by approximately 40 per cent vis-à-vis the dollar.

<sup>(4)</sup> Upon the usual annual revision of national accounts (carried out in mid-2002), growth in 2001 was revised downwards by 0.9 p.p.

## Table 2.2

## FINANCIAL MARKETS

## Percentage rates of change, unless otherwise indicated; daily figures

	Change	up to 16 October 2	002, since
-	Mar.2000 <sup>(a)</sup>	11 Sep. 2001	28 Dec. 2001
Stock market			
S&P 500	-40	-21	-26
Nasdag	-74	-27	-38
Nikkei 225	-55	-13	-16
FTSE100	-38	-19	-23
Dow Jones Eurostoxx	-54	-28	-34
Bond market			
Interest rates on corporate bonds			
United States			
Differential (change in the level; basis points)			
AAA - rated companies	16	48	53
BBB - rated companies	142	119	118
Euro area			
Differential (change in the level; basis points)			
AAA - rated companies	-14	-3	1
BBB - rated companies	147	20	78
Interest rates on 10-year Treasury bonds			
(change in the level; basis points)			
United States	-220	-76	-100
Euro area	-78	-29	-40
Japan	-75	-36	-31
Interest rate differentials in emerging markets			
(EMBI+,change in the level; basis points)	201	74	243
Foreign exchange market			
Dollar/Euro.	2	10	11
Yen/Euro	19	12	6
Effective exchange rate of the euro	5	5	5
Effective exchange rate of the dollar	7	-3	-6

Sources: Bloomberg; BIS and ECB.

Note:

(a) Corresponds to the month when US and euro area stock market indices reached historical highs

sector recorded again negative changes in the first half of the year, albeit less sharp than those evinced in the course of the previous year, in a context in which industrial capacity utilisation remained at low levels vis-à-vis the average for the last decade. Turning to the external sector, both exports and imports accelerated sharply. Data for the third quarter point to the continued high growth of private consumption, although again associated with incentives to the acquisition of motor vehicles. Entrepreneurial investment is expected to pursue the recovery trend evinced in the first half-year while residential investment seems to maintain its buoyancy. However, confidence indicators suggest more pessimism among entrepreneurs and consumers over the third quarter. It should be added that the high volatility in financial markets evinced over recent months has significantly raised uncertainty around growth prospects for the US economy. In particular, not only may stock market prices decline further, but there is also the possibility of a strong adjustment of the US dollar, given the maintenance of a high deficit of the current account. Notwithstanding the reduction in borrowing requirements of the private sector, the IMF forecasts a deterioration in the current account deficit as a percentage of GDP from 3.9 per cent in 2001 to 4.6 per cent in 2002. This trend reflects the significant increase in general government borrowing requirements.

Chain rate of change

## Table 2.3

	Year	on-yea	nr rate	e of cha	ange
 2001 2002 <sup>(a)</sup>	20	01			
	III	IV	Ι	II	III

## **USA - ECONOMIC INDICATORS**

	2001 2	2002 <sup>(a)</sup>	20	01		2002		2001		2002	
			III	IV	Ι	II	III	III	IV	Ι	II
National Accounts											
Gross domestic product	0.3	2.2	-0.4	0.1	1.4	2.2	-	-0.1	0.7	1.2	0.3
Private consumption	2.5	2.9	1.8	2.8	3.0	3.1	-	0.4	1.5	0.8	0.4
Public expenditure	3.7	4.4	3.2	5.1	5.1	4.0	-	-0.3	2.5	1.4	0.4
Gross fixed capital formation (private sector)	-3.8	-2.0	-5.1	-6.7	-6.3	-3.7	-	-1.1	-2.3	-0.1	-0.2
Non- residential	-5.2	-	-7.4	-9.3	-9.4	-6.3	-	-1.5	-2.8	-1.5	-0.6
Residential	0.3	-	1.9	1.0	2.4	3.2	-	0.1	-0.9	3.4	0.7
Domestic demand	0.4	2.7	-0.3	0.1	1.8	2.8	-	0.0	0.7	1.4	0.7
Exports	-5.4	-2.7	-10.1	-11.4	-9.3	-3.0	-	-4.6	-2.5	0.9	3.4
Imports	-2.9	2.6	-7.1	-8.0	-4.1	2.6	-	-3.1	-1.3	2.1	5.1
Labour market											
Unemployment rate (per cent)	4.8	5.9	4.8	5.6	5.6	5.9	5.7				
Employees (non-farm sector)	0.2	-	0.1	-0.8	-1.3	-1.1	-	-0.2	-0.6	-0.3	0.0
Manufacturing	-4.2	-	-5.2	-6.7	-7.2	-6.1	-	-1.9	-2.1	-1.7	-1.0
Construction	0.5	-	0.5	-0.6	-2.1	-2.3	-	-0.3	-0.6	-0.5	-0.9
Services	0.9	-	0.9	0.2	-0.2	-0.2	-	0.1	-0.4	0.0	0.1
Balance of Payments											
Current Account (as a percentage of GDP)	-3.9	-4.6	-3.6	-3.7	-4.4	-5.0	-				
Public Finance											
General Government balance (as a percentage of GDP) <sup>(a)</sup>	-0.2	-2.6									
General Government debt (as a percentage of GDP) $^{(a)}$	56.4	57.0									
Consumer prices	2.8	1.5	2.7	1.9	1.3	1.3	-	0.2	-0.1	0.3	0.8

Sources: Thomson Financial Datastream, Department of Commerce and International Monetary Fund.

Note:

(a) IFM estimates, World Economic Outlook, September 2002.

In Japan, deflation persists and economic activity is expected to deteriorate further in 2002, reflecting the absence of significant progress in the resolution of structural problems which, in recent years, have affected the economy and, in particular, the banking sector. Over the first half of the year, GDP recovered somewhat, supported by the behaviour of exports and by some improvement in internal demand.<sup>(5)</sup> In October, the Central Bank of Japan announced that it would purchase stock from commercial banks, within the scope of a range of measures permitting financial institutions to reduce their assets in shares, in order to facilitate the resolution of the problem of nonperforming bank loans and to ensure the stability of the financial system.

In the United Kingdom, according to IMF projections, GDP is expected to grow by 1.7 per cent in 2002, compared with 1.9 per cent last year. Economic activity revealed a relatively weak performance in the second half of 2001 and in early 2002, but improved in the second quarter. The recovery of economic activity in this guarter reflected the favourable trend evinced by the contribution of the external sector to growth, to a large extent as a result of the significant acceleration of exports. Private consumption increased further at sizeable rates, particularly benefiting from the favourable situation of the labour market, as well as from the increase in house prices — approximately 20 per

<sup>(5)</sup> Economic activity stabilised early in the year and registered a 0.6 per cent growth rate in the second quarter, after a reduction over the three previous quarters. Note that Japanese national accounts underwent a significant revision due to the introduction of methodological changes. The major changes were the identification of additional data sources (particularly on the supply side) and an improvement in the estimation method. Rates of change as from the second quarter of 2001 (inclusive) have reflected the new methodology, while the national accounts series for the previous period have remained unchanged. Note that the first quarter of 2002 underwent the most significant revision (chain rate of change declined from 1.4 to 0.0 per cent).

cent in the third quarter of 2002, in year-on-year terms — which continued to boost recourse to credit for consumption purposes. GFCF showed again negative growth during the first half of the year.

Economic recovery has been particularly intense in Asian emerging markets, with activity growing significantly since the beginning of the year, supported by a strong acceleration of industrial production and exports. In 2002, according to IFM projections, GDP growth in Asian new industrialised countries as a whole is expected to stand at 4.7 per cent, corresponding to 1.1 p.p. revision vis-à-vis projections released in April. In contrast to signs of recovery in different regions of the world, the economic and financial situation in Latin America has deteriorated over the first half of 2002, showing no signs of a reversal so far. A significant part of the fall in GDP in the whole region was due to the crisis in Argentina and to the contagion effects to some neighbouring countries. Brazil was the economy in this region that was more resilient to the effects of the crisis in Argentina, but it was faced with a strong deterioration in investors' confidence in the second quarter of 2002. This was reflected in a significant depreciation of the real and in a widening of the interest rate differentials. This change in investors' sentiment towards Brazilian economy was largely due to uncertainties related with the political stance resulting from the October presidential elections.

# 2.2. Euro area

## 2.2.1. Economic developments in the euro area

In line with IMF projections, economic activity in the euro area is expected to decelerate in 2002 from 1.5 to 0.9 per cent (Table 2.1). In the first half of the year, in spite of some recovery from the particularly negative behaviour evinced late last year, GDP recorded a modest increase, below that expected at the beginning of the year. The external sector evolved favourably and domestic demand, albeit stabilising somewhat, remained weak (Table 2.4). In the first two quarters of 2002, GDP growth stood at 0.4 per cent. Private consumption was particularly fragile at the beginning of the year, recovering slightly in the second quarter. The analysis of the confidence indicators suggests that consumers in the euro area may have postponed their consumption decisions during that period, since their evaluation has deteriorated over the last twelve months, both as regards the overall economic situation and their own financial situation. This may have been worsened by a particularly unfavourable perception as to the trend of inflation in the first months of the year that seems to be partly associated with the euro cash changeover. GFCF has been falling for six consecutive quarters, continuing, in the first half of the year, the weakening trend observed in the course of the previous year. This behaviour may be reflecting the uncertainty as to the trend of overall economy, as well as possible situations of financial fragility in some corporations of several euro area countries, which are becoming more apparent in the context of the deterioration of financial market conditions. Turning to the trend of the external sector, both exports and imports of goods and services accelerated in the first half of the year. The information obtained from composite indicators and equations of shortterm forecasts suggests that economic activity is not accelerating in the second half of the year. These indications are consistent with some signs of deterioration of consumer and industrial confidence apparent in the third quarter.

IMF projections point to a reduction of the euro area inflation rate to 2.1 per cent in 2002. The projected deceleration in prices reflects the deceleration in import prices due to the appreciation of the euro exchange rate, as well as less favourable prospects as to the trend of economic activity. After converging to 2.0 per cent at the end of 2001, the year-on-year rate of change of the Harmonised Index of Consumer Prices (HICP) increased to 2.7 per cent in January 2002. Behind this increase in the inflation rate were factors related to adverse meteorological conditions, the rise in oil prices, increases in indirect taxation and effects associated with the euro cash changeover. By the end of the first half of the year, inflation had declined, to stand at 1.8 per cent in June. This trend was largely due to the deceleration of unprocessed food (from an increase of 8.4 per cent in January to 1.1 per cent in June). Energy also evinced a significant deceleration (from a decrease of 1.9 per cent in January to a fall of 3.6 per cent in June). The downward trend of inflation was discontinued in the third quarter, to a large extent reflecting a base

#### Table 2.4

## **EURO AREA – ECONOMIC INDICATORS**

				Year	Year-on-year rate of change					Chain rate of change				
	2000	2001	2002 <sup>(e)</sup>	20	001		2002		20	01		2002		
				III	IV	Ι	II	III	III	IV	Ι	II	III	
National Accounts														
Gross domestic product	3.5	1.4	0.9	1.4	0.4	0.3	0.7	-	0.2	-0.3	0.4	0.4	-	
Private consumption	2.5	1.8	0.8	1.8	1.7	0.6	0.4	-	0.2	0.0	-0.2	0.3	-	
Public consumption	1.9	1.9	1.8	2.2	1.5	2.1	2.0	-	0.4	0.4	0.8	0.4	-	
Gross fixed capital formation	4.8	-0.7	-1.6	-1.7	-2.4	-2.7	-2.7	-	-0.7	-0.8	-0.6	-0.7	-	
Exports <sup>(a)</sup>	12.7	2.6	0.9	1.3	-2.9	-2.9	0.0	-	-0.2	-1.4	-0.2	1.8	-	
Imports <sup>(a)</sup>	11.2	1.3	0.3	-0.4	-4.6	-4.5	-2.6	-	-1.5	-1.5	-0.9	1.3	-	
Contribution (per cent):														
Domestic demand (exc. change in														
inventories)	2.8	1.3	0.6	1.1	0.7	0.1	0.0	-	0.0	-0.1	-0.1	0.1	-	
Change in inventories	0.0	-0.4	-0.1	-0.4	-0.8	-0.4	-0.3	-	-0.3	-0.2	0.2	0.1	-	
Net external demand	0.7	0.5	0.4	0.6	0.6	0.5	0.9	-	0.5	0.0	0.2	0.2	-	
Labour market														
Unemployment rate (per cent)	8.5	8.0	8.4	8.0	8.1	8.1	8.2	-						
Employment	2.1	1.3	0.4	1.1	0.8	0.7	-	-	0.1	0.2	0.1	-	-	
Industry	0.6	0.4	-	0.1	-0.5	-0.9	-	-	-0.2	-0.3	-0.3	-	-	
Services	2.9	1.7	-	1.7	1.5	1.5	-	-	0.4	0.4	0.3	-	-	
Construction	1.6	0.4	-	0.3	-0.2	-0.5	-	-	-0.2	-0.2	-0.2	-	-	
Balance of Payments														
Current Account (as a percentage														
of GDP) <sup>(b)</sup>	-0.3	0.4	1.1	-	-	-	-	-	-	-	-	-	-	
Public Finances														
General Government balance														
(as a percentage of GDP) <sup>(c)</sup>	-0.9	-1.5	-1.9	-	-	-	-	-	-	-	-	-	-	
General Government debt														
(as a percentage of GDP)	69.4	69.2	69.4	-	-	-	-	-	-	-	-	-	-	
НІСР	2.3	2.5	2.1	2.4	2.1	2.6	2.1	2.0	0.0	0.3	0.8	1.0	0.0	

Sources: Eurostat, European Central Bank and IMF.

Notes:

(a) Including trade among countries participating in the euro area.

(b) IMF estimates, World Economic Outlook September 2002, obtained by adding the balances on the accounts of the countries belonging to the euro area.

(c) Excluding proceeds from the sales of UMTS licenses.

(e) IMF estimates, World Economic Outlook, September 2002.

effect associated with significant falls in energy prices in the same period of the previous year. In September, the year-on-year rate of change of the HICP stood at 2.1 per cent.

Data available point to some deterioration of the budget balance and of public debt as a percentage of GDP in a wide group of euro area countries. According to IMF projections, the fiscal deficit in the euro area is likely to increase from 1.5 per cent of GDP in 2001 to 1.9 per cent of GDP in 2002. The economic behaviour of the different countries comprising the euro area is rather mixed (Table 2.5), reflecting different structural conditions and also asymmetries in the transmission of recent overall shocks, such as the increase in oil prices, the instability in financial markets or the decrease in international trade flows. Turning to larger economies, the economic behaviour has been particularly modest in Germany and Italy, while France and Spain have seen higher growth rates.

#### Table 2.5

#### **EURO AREA - IMF PROJECTIONS**

#### Percentage rates of change

		Gl	DP			Consum	er prices	
	2000	2001	2002	2002 (rev. Apr.02)	2000	2001	2002	2002 (rev. Apr.02)
Euro area	3.5	1.5	0.9	-0.5	2.4	2.6	2.1	0.2
Germany	2.9	0.6	0.5	-0.4	2.1	2.4	1.4	-0.1
France	4.2	1.8	1.2	-0.2	1.8	1.8	1.8	0.3
Italy	2.9	1.8	0.7	-0.7	2.6	2.7	2.4	0.2
Spain	4.2	2.7	2.0	-0.3	3.5	3.2	2.8	0.5
The Netherlands	3.4	1.2	0.4	-1.0	2.3	5.1	3.8	0.4
Belgium	4.0	1.0	0.6	-0.3	2.7	2.4	1.6	0.5
Austria	3.0	1.0	0.9	-0.4	2.0	2.3	1.8	—
Portugal	3.2	1.7	0.4	-0.4	2.8	4.4	3.7	0.8
Greece	4.1	4.1	3.7	0.3	2.9	3.7	3.8	0.5
Finland	5.6	0.7	1.1	-0.3	3.0	2.7	2.2	0.7
Ireland	11.5	5.9	3.8	0.6	5.3	4.0	4.4	—
Luxembourg	7.5	3.5	2.7	-0.3	3.2	2.7	2.0	-0.1
Memo item:								
Standard-deviation	2.5	1.6	1.3	—	0.9	1.0	1.0	—
Weighted standard-deviation <sup>(a)</sup>	1.2	1.0	0.7	_	6.3	8.3	7.9	_
Maximum-Minimum	8.6	5.3	3.4	—	3.5	3.3	3.0	—

Sources: IMF, World Economic Outlook, September 2002.

Note:

(a) In the case of GDP weighted by national weights in euro area GDP (2001 weights in PPP) and in the case of consumer prices weighted by national weights in euro area HICP (based on spending on private consumption, which is a national accounts concept).

In general terms, euro area economies whose growth has more significantly depended on the behaviour of exports seem to be more vulnerable to the materialisation of world economic recovery and, in particular, to the US economy (Chart 2.3).

In Germany, according to IFM projections, GDP will likely grow by 0.5 per cent in 2002, reflecting a downward revision of 0.4 p.p. from April projections. Activity went up by 0.3 per cent, both in the first and second quarters, after the falls seen in the two previous quarters. Private consumption was moderate, despite signs of some improvement in the second quarter (chain rate of change of 0.2 per cent, after decreases in the three previous quarters). The unfavourable trend of the labour market seems to be negatively affecting consumer expenditure, and pointing to a not very optimistic outlook as regards future economic activity. GFCF continues to evince a rather negative behaviour, both in equipment and transport material and in

construction. After the strong contraction in the last quarter of 2001, following the decline in international trade flows, in the wake of the 11 September events, exports of goods and services accelerated in the course of the first half of 2002, possibly reflecting the recovery of imports from the USA and from Asian emerging market economies. In turn, and as a result of the particularly unfavourable behaviour of domestic demand early in the year, imports recovered only in the second quarter. The inflation rate, measured by the HICP, remaindered relatively low, after a strong deceleration started in the second half of 2001 and only temporarily interrupted in January 2002 (Chart 2.4). In September, inflation stood at 1.0 per cent.

In France, GDP growth is expected to reach 1.2 per cent in 2002, which represents a downward revision of 0.2 p.p. from IMF April projections. After a strong deceleration in the last quarter of 2001, economic activity seemed to show more apparent





signs of recovery in the first half of 2002. The French economy grew by 0.5 per cent in the first and second quarters of 2002. Private consumption seems to be the major factor behind the economic recovery. GFCF improved somewhat from the very negative behaviour observed at the end of 2001. Exports and imports, after a significant contraction in late 2001, showed some signs of recovery, more evident in exports. In September, the year-on-year rate of change of the HICP stood at 1.8 per cent.

According to IMF most recent projections, GDP in Italy is expected to grow by 0.7 per cent in 2002, reflecting a downward revision of 0.7 p.p. from April projections. Among the largest countries in the area, Italy has been the country with the less apparent signs of recovery, together with Germany. The Italian GDP had a marginally positive growth in the first half of the year. Private consumption and GFCF continued to be modest, albeit evincing some improvement in the second quarter. After a particularly unfavourable behaviour of exports early in the year, only partly offset by the deceleration in imports, there was an improvement in the second quarter in both exports and imports, which translated into a marked increase in the contribution of the external sector to GDP growth. After decreasing over nearly the whole second quarter of 2001, inflation in Italy increased again in early 2002, to stand currently close to 2.5 per cent.

IMF growth projections point to a deceleration of GDP to 2.0 per cent in Spain in 2002, which represents a downward revision of 0.3 p.p. from April projections. In the two first quarters of 2002, the Spanish economy grew at month-on-month rates of change around 0.5 per cent, after a stabilisation at the end of 2001. Similarly to the French economy, private consumption was not as weak as in the German or Italian economies, but increased at more moderate rates than last year. GFCF remained relatively stable, with a less unfavourable behaviour than most large countries in the euro area. In the fist half of the year, the contribution of net external demand to growth evinced an improvement from the behaviour observed in late 2001. Turning to inflation, Spain is among the group of countries with inflation rates consistently above 3.0 per cent in the course of 2002, which also includes the Netherlands, Portugal, Ireland and Greece. The year-on-year rate of change of the HICP in Spain rose from 3.1 per cent in January 2002 to 3.5 per cent in September.

## 2.2.2 Monetary and financial developments

Over the first ten months of 2002, the ECB Governing Council kept the respective key rates unchanged at the levels observed since November 2001. As previously mentioned, the minimum interest rates applicable to main refinancing operations have thus stood at 3.25 per cent. The decision not to change the interest rates reflects the evaluation by the ECB Governing Council that their level is appropriate for the maintenance of price stability in the euro area in the medium term. In the first months of the year, the outlook for a swift recovery of economic activity in the euro area and concerns regarding the results of wage negotiations underway made the risks to price stability chiefly upward. However, as from the second quarter, some indicators have pointed to the deterioration of growth prospects in the euro area, gradually making risks to price stability more balanced. The appreciating trend of the euro since early April has also significantly contributed to ease inflationary pressures in the euro area. The euro attained its peak vis-à-vis the US dollar in mid-June, and stood briefly above parity. From March to mid-October, the euro, on average, appreciated by 12 per cent vis-à-vis the dollar (in nominal effective



terms, the euro appreciated by around 6 per cent over the same period).

Market expectations as to the trend of key interest rates in the euro area underwent significant changes since the start of the year (Chart 2.5). Up to May, against a background of predominantly upward risks to the inflation trend and major expectations of a clear recovery of economic activity in the euro area, markets expected a rise in key interest rates between 50 and 75 basis points up to the end of the year. However, as from the second quarter, in a framework of instability in international financial markets and of an overall increase in uncertainty, new signs pointed to some loss of buoyancy in activity, while doubts were cast on the pace and sustainability of economic recovery. As a result, expectations as to the size of the rise in ECB key interest rates were successively revised downwards. In mid-October, according to information on three-month rates implied in futures contracts, markets seemed to expect a reduction in ECB key interest rates.

The behaviour of the euro area money market yield curve throughout 2002 has reflected market expectations as to the future trend of key interest rates. The slope of the euro area money market

#### Table 2.6

#### EURO AREA - MONETARY AND FINANCIAL INDICATORS

	Units	2000	2001	2002					
		Dec.	Dec.	Jan.	Mar.	Jun.	Aug.	Sep.	Oct. <sup>(a)</sup>
Euro exchange rate									
Dollar	dollars, period average	0.897	0.892	0.883	0.876	0.955	0.978	0.981	0.984
Yen	yen, period average	100.6	113.4	117.1	114.7	117.8	116.3	118.4	121.8
Sterling pound	pounds, period average	0.613	0.620	0.617	0.616	0.644	0.636	0.631	0.630
Effective exchange rate index	1999 Q1=100, period average	85.4	87.7	87.6	86.8	90.6	91.1	91.2	91.8
Interest rates									
ESCB's intervention rates									
Main refinancing operations	%, end-of-period	3.00	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Marginal lending facility	%, end-of-period	4.00	4.25	4.25	4.25	4.25	4.25	4.25	4.25
Deposit facility	%, end-of-period	2.00	2.25	2.25	2.25	2.25	2.25	2.25	2.25
Interbank money market									
EONIA	%, period average	4.83	3.34	3.29	3.26	3.35	3.29	3.32	3.29
3-month Euribor	%, period average	4.94	3.34	3.34	3.39	3.46	3.35	3.31	3.26
12-month Euribor	%, period average	4.88	3.30	3.48	3.82	3.87	3.44	3.24	3.10
Government bond vields									
5-year	%, period average	4.82	4.33	4.48	4.90	4.70	4.15	3.85	3.78
10-year	%, period average	5.07	4.96	5.02	5.32	5.16	4.73	4.52	4.53
Stock markets									
Dow Jones Eurostoxx index	in points, period average	395.6	308.1	308.3	315.5	269.8	231.3	211.8	196.1
Monetary and credit aggregates									
M3	%, y-o-y r.c.	4.1	8.1	7.8	7.2	7.1	7.0	-	-
	3-month moving average	3.9	7.9	7.7	7.3	7.3	-	-	-
M2	%, y-o-y r.c.	3.6	6.5	6.8	6.2	6.5	6.5	-	-
M1	%, y-о-у r.с.	5.3	5.6	6.7	5.8	6.9	7.8	-	-
Credit to residents	%, y-о-у r.с.	6.0	5.2	5.2	4.9	4.4	4.2	-	-
Credit to the private sector	%, y-о-у r.c.	10.1	6.7	6.2	5.5	5.4	5.2	-	-
Credit to general government	%, у-о-у г.с.	-6.6	0.0	1.6	2.8	1.0	0.7	-	-

Source: ECB.

Note:

(a) Based on the average up to 16 October.

yield curve, measured by the difference between 1-year and 3-month interest rates, increased gradually, to reach values close to 50 basis points in May. Subsequently, the differential narrowed gradually to stand at -16 basis points in mid-October (Table 2.6).<sup>(6)</sup>

Ten-year government bond yields, probably reflecting the deterioration of the outlook for economic recovery in the euro area, started a marked downward trend as of the first quarter of 2002. In mid-October, this interest rate stood at 4.5 per cent, on average, i.e., approximately 80 basis points below the level recorded in March. In this period, long-term interest rates declined more significantly in the United States, wherefore the (negative) differential vis-à-vis the euro area, which had stood at 4 basis points in March, widened to approximately 50 basis points.

Euro area stock market indices, that were relatively stable since December 2001, started in March a rather sharp decreasing trend, in line with the behaviour of major international market indices. Therefore, from March to mid-October, the

<sup>(6)</sup> Is should be recalled that in 2001 the differential between money market 1-year and 3-month interest rates remained negative and relatively stable, reflecting parallel downward movements of the whole short end of the yield curve, in a context in which the ECB reduced its intervention rates on four occasions (in May, August, September and November).

Dow Jones Eurostoxx index declined, on average, by 38 per cent.

The growth rate of the monetary aggregate M3, despite a decrease from the levels observed in late 2001, has maintained high values. The threemonth average of the year-on-year growth rates, corresponding to the June-August period, stood at 7.1 per cent (0.2 p.p. below the average observed in the three months to July). In the context of the instability affecting the stock markets, the strong growth of M3 may reflect, to some extent, portfolio shifts by economic agents into short-term net assets. Turning to the counterparts of M3, the growth rate of credit granted to euro area residents has maintained a downward path, standing in August at 4.2 per cent (5.2 per cent in December 2001). Within a framework of favourable conditions in terms of financing costs, credit deceleration in the euro area seems to be reflecting the slowdown in economic activity in the euro area, as well as uncertainties surrounding its recovery.

# 3. MONETARY CONDITIONS OF THE PORTUGUESE ECONOMY

## 3.1. Monetary conditions

In 2002, monetary and financial developments in the Portuguese economy followed the trends in international financial markets described in the foregoing number. These were characterised by a relative stability of money market interest rates since the end of 2001, and by the continued reduction in long-term interest rates of government bonds and in share price indices, particularly since March.

Therefore, the instability recorded by the stock markets in the euro area throughout 2002 was also reflected in the significant fall of the PSI-General Index, which declined more than 22 per cent in September, in monthly average terms, when compared to December 2001. In line with the strengthening of inventors' demand for fixed-income securities, the yield on government bonds with a 10-year residual maturity has declined since June 2002, standing at 4.63 per cent (on monthly average) in September 0.38 p.p. below the level recorded in December of last year. The decline of the Portuguese bond interest rates was, nonetheless, less pronounced than that observed in the euro area, on average; as a result, the differential between long-term yields on Treasury bonds in Portugal and the average for the euro area widened from 5 basis points in December 2001 to 11 basis points in September 2002, which is still historically low.

Despite the changes in the slope of the yield curve, the short end of the euro money market yield curve (up to 3 months) was relatively stable in the course of 2002. In line with this trend, the nominal banks' interest rates in Portugal were left virtually unchanged throughout 2002 (Table 3.1 and Charts 3.1 and 3.2). Therefore, the interest rate on time deposits (181 days to 1 year) was 2.9 per cent in September, at the same level recorded in December 2001. In the first three quarters of the year, this rate fluctuated slightly between 2.9 and 3.1 per cent, while its average value (3.0 per cent) stood 0.4 p.p. below the 2001 average. Accordingly, the spread between money market interest rates and time deposits for equivalent maturities (which had declined significantly in the course of 2001) remained at 0.4 p.p. in September, the same level attained at the end of 2001.

Lending rates have also remained stable as of the end of 2001, close to the low recorded in mid-1999. As a matter of fact, the interest rate on loans to non-financial corporations (91 to 180 days) was 5.1 per cent in September 2002, i.e., 0.1 p.p. below the level observed in December 2001. On average, in the period from January to September, this rate stood at 5.1 per cent, 0.8 p.p. below the average in 2001. In turn, the interest rate on loans to households (over 5 years) was in September at the same level recorded in December 2001, i.e. 5.0 per cent. During the year, it remained stable, its average standing at 5.1 per cent, i.e., 1 p.p. below the 2001 average.

As a result of the stability of nominal interest rates, on one hand and higher inflation levels in Portugal than in the euro area average, on the other hand, in the nine months to September 2002, real interest rates remained around the historically low levels recorded since the beginning of 2001<sup>(7)</sup> (Chart 3.3).

The trend followed by the interest rates in the course of 2002 may have enabled the Portuguese

<sup>(7)</sup> The real interest rate is defined as the difference between the annual nominal interest rate and the year-on-year inflation rate.

#### Table 3.1

	ECB main refinancing operations <sup>(a)</sup>	Three-month Euribor	Treasury bonds yield (10-year)	Interest rate on time deposits	Interest rate on loans (except discount) to	Interest rate on loans (except discount) to house-
	·			(181 days to 1 year)	non-financial private corpora- tions (91 up to 180 days)	holds and emigrants (over 5 years)
1999						
Mar	3.00	3.1	4.2	2.5	5.5	5.2
June	2.50	2.6	4.7	2.2	4.8	4.9
Sep	2.50	2.7	5.4	2.3	4.9	4.9
Dec	3.00	3.5	5.5	2.4	5.1	5.0
2000						
Mar	3.50	3.8	5.6	2.6	5.7	5.2
June	4.25	4.5	5.5	3.0	5.6	6.0
Sep	4.50	4.9	5.6	3.3	6.4	6.6
Dec	4.75	4.9	5.3	3.5	6.4	6.9
2001						
Mar	4.75	4.7	5.1	3.6	5.9	6.6
June	4.50	4.5	5.4	3.6	6.0	6.2
Sep	3.75	4.0	5.2	3.2	5.8	5.9
Dec	3.25	3.3	5.0	2.9	5.2	5.0
2002						
Mar	3.25	3.4	5.4	2.9	5.1	5.1
June	3.25	3.5	5.3	3.1	5.1	5.2
Sep	3.25	3.3	4.6	2.9	5.1	5.0

## **PORTUGAL - NOMINAL INTEREST RATES**

Note:

(a) End-of-period. Monthly averages for the remaining rates.

economy to benefit from more accommodating monetary conditions than in the previous year. Up



to mid-April, conditions fostered by the maintenance of interest rates at historically low levels





were strengthened by the slight depreciation of the nominal effective exchange index (approximately 0.2 per cent, in April, when compared with the figure at the end of 2001). Subsequently the latter reversed its trend, reflecting the marked appreciation of the euro vis-à-vis the US dollar. At the end of September, it was 0.87 per cent above the December 2001 value, thus mitigating the accommodating character of the monetary conditions of the Portuguese economy, in the second and third quarters of the year.

Reflecting the persistence of negative real lending interest rates and the marked slowdown in economic activity (particularly, private domestic demand) the deposits held by the non-financial private sector grew moderately in 2002, when compared with the two previous years. Indeed, in 2002, the growth rate of the non-financial private sector deposits (including emigrants' deposits) with the resident banking system pursued the decelerating trend of last year. These deposits grew marginally in August (0.5 per cent) which compares with 4.4 per cent in December 2001. However, this development was much affected by the trend of emigrants' deposits, that declined by 11.0 per cent in August. In fact, deposits excluding the latter — those only held by resident households and non-financial corporations - recorded a less marked slowdown over the same period. The year-on-year rate of change of this aggregate was 2.1 per cent in August 2002 (3.0 p.p. below that ob-



served in December 2001), being around that level since February (Chart 3.4). The path of emigrants' deposits seems to be largely associated with the shift of savings from resident to non-resident banks, these latter, however, being within the scope of consolidation of the Portuguese banking groups.

If, instead of the deposits with the resident banking sector, we consider all the deposits held by the non-financial private sector (including emigrants) in Portugal and abroad,<sup>(8)</sup> the year-on-year rate of change of this aggregate is relatively stable in the first half of 2002, standing at a level close to that observed one year earlier (4.9 per cent in June 2002, after 3.1 per cent and 7.5 per cent respec-

<sup>(8)</sup> The data source for deposits abroad was the International Investment Position Statistics (with quarterly frequency).



tively, in June and December 2001) (Chart 3.5). Against this background, total deposits held by households (including emigrants) increased by 5.2 per cent in June 2002, 2.8 p.p. below the corresponding change in December 2001.<sup>(9)</sup> Concerning deposits of non-financial corporations, the growth rate was 3.7 per cent in June 2002, which still represents a decline in the pace of growth from December 2001 (less 2.4 p.p.), albeit contrasting with the decreases observed in deposits held by this sector with the resident banking system, since the beginning of the year.<sup>(10)</sup>

In parallel with the deceleration recorded by deposits held by the non-financial private sector, there seems to have been a higher preference of economic agents for transferable deposits to the detriment of time deposits, as a result of the low opportunity cost of holding highly-liquid financial assets, due to the historically low level of nominal interest rates (Chart 3.6). In a context of high volatility in stock markets, this liquidity preference of investors is likely to be reflected also in investments in other low-risk and highly-liquid assets, namely mutual funds with portfolios chiefly composed by deposits in the money market or bonds.

The above mentioned developments are consistent with the estimated increase in 2002 for the savings rate of households. This recovery should reflect, in part, the increase in savings due to precautionary motives — given the less favourable pros-



pects for income growth. Also as in the previous year, it may continue to be associated with the adjustment of the financial situation of households, in order to cope with the repayment of debt agreed over recent years.<sup>(11)</sup>

In 2002, banks' lending to the non-financial private sector kept on the decelerating trend evinced since mid-1999, in line with the slowdown of all components of private domestic demand. However, it continued to grow at a higher pace then nominal GDP, largely reflecting the historically low level of nominal and real interest rates. There-

<sup>(9)</sup> Excluding emigrants, households' deposits with the resident banking system increased, in August 2002 by 3.8 per cent, year-on-year 1.5 p.p. below the change observed in the last month of 2001. The pace of growth of this aggregate seems to have been relatively stable since the beginning of the year.

<sup>(10)</sup> The year-on-year rate of change of deposits held by non-financial corporations with the resident banking system was -4.9 per cent in August (4.0 per cent in December 2002).

<sup>(11)</sup> The households' debt burden is not expected to change significantly in 2002. Assuming complete roll-over of debt to maturities below 1 year, the debt burden will stand between 12 and 13 per cent of disposable income, in 2002, a level similar to that observed in 2001. Its composition, however, is likely to change slightly, reflecting the lagged effects of the reduction in implicit interest rates: interests share should decrease by approximately 0.5 p.p. of disposable income, while the burden due to debt repayments will likely increase roughly by the same figure.

# Economic policy and situation

fore, in August 2002, the growth rate of this aggregate, adjusted for securitisation operations,<sup>(12)</sup> was 9.1 per cent, 3.4 p.p. below that recorded at the end of 2001. Their components, however, showed diverging developments in the course of the first eight months of the year. While banks lending to non-financial corporations pursued on the slowing trend observed last year, the credit to households continued to expand at a significant pace close to that recorded in the last quarter of 2001 (particularly for house purchases, that accounts for more than 75 per cent of household outstanding debt) (Chart 3.7).

The growth rate of credit to non-financial corporations declined, from 13.3 per cent in December 2001 to 6.1 per cent in August 2002. This deceleration was broadly based across most branches of the economy. There were, in particular, significant decreases in the pace of growth of bank loans to construction (its growth rate declined from 19.6 per cent in December 2001 to 7.5 per cent in August 2002), real estate services (from 40.2 per cent to 26.3 per cent), supply of services to corporations (from 53.7 per cent to 5.1 per cent) and trade (from 1.9 per cent to -1.8 per cent). External borrowing of corporations seems to have followed a similar path to that of domestic credit, maintaining, in the first half of 2002, the same share in total (domestic and external) bank credit to non-financial corporations as in 2001 (approximately 11 per cent).

In August 2002, the growth rate of credit to households increased slightly by 0.4 p.p. from December 2001, to stand at 12.2 per cent. This development was marked by the strong pace that lending for house purchase continued to show. As a matter of fact, considering annualised quarterly growth rates on seasonally adjusted figures, this



component of credit to households has shown clearly an upward trend since the beginning of the year (Chart 3.8B). In effect, in August 2002, the year-on-year rate of change of credit to households was 15.3 per cent, compared with 15.0 per cent in December. This trend may have partly reflected the effects of the anticipation to the use of credit under the special subsidised regimes for house purchases, during the transition period following the announcement, in May, of its abolition. This subsidised system ceased at the end of September (for new credit contracts).

By contrast, credit to households for other purposes than house purchase decelerated slightly (from 3.2 per cent in December 2001 to 3.1 per cent in July 2002). Its rate of change followed an irregular path over the period, around values that stood below the average growth observed in the previous year. Given the high level of indebtedness attained by households - approximately 97 per cent of disposable income at the end of 2001, and expected to exceed 100 per cent at the end of the current year -, the continued deterioration of consumer confidence in 2002 and the disappearance of transitional effects due to the discontinuance of the subsidised credit system, it should be expected that credit to households, in the last quarter of the year, resumes the decelerating trend interrupted at the end of 2001.

<sup>(12)</sup> Over recent years, some securitisation operations were conducted by financial institutions, that seems to be reflected in a slowdown of bank credit, since they implied reductions in the relevant size of credit stock in the portfolio of banks, chiefly at the end of 2001. Note that these reductions in the credit portfolio of banks do not represent reductions at the overall indebt-edness level of the non-financial private sector, but rather correspond to a transfer of liabilities from this sector to the portfolio of other entities. Therefore, all credit aggregates analysed in this section were adjusted, except as otherwise specified, so that the amounts associated with these operations (as well as the respective repayments) would continue to be considered under credit granted to the non-financial private sector.





# 3.2 Developments of monetary survey<sup>(13)</sup>

Jan.00

Note: Latest observation: August 2002.

35 cent 30

25

20

15

10

Jan.99

Jul.99

Per

The developments of credit to and deposits held by the non-financial private sector from the beginning of the year up to August 2002 were reflected in apparent changes in the Monetary Survey over that period, when compared with the same period of 2001 (Table 3.2).<sup>(14)</sup> Therefore, the

Jul.00 Jan.01

Jul.01 Jan.02 Jul.02

changes on domestic credit granted by resident monetary financial institutions over the first eight months of the year amounted to slightly more than half of those recorded one year earlier, reflecting the significant deceleration of bank credit to the non-monetary private sector (in particular to non-financial corporations). Only the change in credit to households exceeded the amount observed in the same period of 2001, in line with the still significant growth of credit for house purchase.

As deposits of the non-financial corporations and households decreased markedly, the resources obtained domestically by the resident banking system were not sufficient to finance the expansion of its assets. As a result, the creditor position of the resident monetary sector vis-à-vis the non-financial private sector increased in the period under review (6.6 p. p. of GDP, when compared to 2001). In turn, there was a deterioration of the external debtor position of resident monetary institutions (of approximately 5 p.p. of GDP) (Chart 3.9). However, it should be pointed that the increase in net liabilities vis-à-vis non-resident subsidiaries of Portuguese banks accounted largely for that deterioration.

Most of the external liabilities of the monetary sector are denominated in euro. However, in the period under review, the share of external liabilities, in net terms, denominated in other currencies increased. Moreover, a significant share of this external financing was raised by subsidiaries abroad of Portuguese banks: on one hand, through the issue of securities, and, on the other, through the collection of deposits from customers. Over this period, in particular, the decline in deposits held by non-financial corporations and households with the monetary system seems to have been partly offset by an increase in investments by these sectors in subsidiaries and branches abroad, falling within the scope of consolidation of the Portuguese banking groups, as suggested by the

<sup>(13)</sup> Credit aggregates considered in this section were not adjusted for securitisation operations.

<sup>(14)</sup> The figures presented in the table refer to assets less liabilities of other non-resident financial institutions, according to the criteria used in Monetary and Financial Statistics. Therefore, the figures partly reflect operations with non-resident institutions integrated in financial groups subject to the consolidated supervision of the Banco de Portugal.

#### Table 3.2

# **MONETARY SURVEY**

EUR million

							Absolute	changes	
	1999	2000	2001	2001	2002	Dec. 99	Dec. 00	Dec. 00	Dec. 01
	Dec.	Dec.	Aug.	Dec.	Aug.	Dec. 00	Aug. 01	Dec01	Aug. 02
Net external assets Banco de Portugal Other monetary financial institutions of which:	8 985 18 623 -9 637	-6 788 14 985 -21 773	-15 308 15 194 -30 502	-19 270 16 050 -35 321	-25 310 14 501 -39 811	-15 773 -3 638 -12 136	-8 520 209 -8 729	-12 483 1 065 -13 548	-6 040 -1 550 -4 490
Denominated in euro	-10 741	-19 559	-28 595	-34 518	-37 718	-8 818	-9 036	-14 959	-3 200
Credit to General Government	8 764	8 496	8 517	9 082	7 327	-268	21	585	-1 755
Domestic credit (except (general government)     Households.     Non-financial corporations     Non-monetary financial institutions.	129 577 56 859 56 500 16 217	160 783 68 921 70 667 21 195	175 397 73 879 77 584 23 934	179 401 76 063 80 085 23 253	186 962 81 443 82 274 23 244	31 206 12 062 14 167 4 977	14 615 4 958 6 917 2 740	18 618 7 142 9 418 2 059	7 561 5 380 2 189 -9
Currency in circulation	5 620	5 392	5 369	4 451	6 080	-228	-23	-941	1 630
Deposit-like instruments - total Non-monetary financial institutions General government Non-financial corporations and households	114 507 9 661 8 872 95 974	120 125 9 843 8 181 102 100	118 298 9 011 6 807 102 480	123 236 10 360 6 329 106 547	119 506 10 019 6 540 102 947	5 618 182 -690 6 126	-1 827 -833 -1 374 380	3 111 517 -1 852 4 447	-3 731 -341 211 -3 600
Securities other than capital	13 319	17 476	21 926	22 514	23 428	4 157	4 450	5 037	915
Money market fund shares	0	115	153	166	335	115	38	51	169
Capital and reserves	20 827	25 920	26 534	27 867	28 597	5 093	614	1 947	730
Sundry (net)	-6 947	-6 538	-3 673	-9 021	-8 968	410	2 865	-2 483	53
Memo:						Year-on-year rate of change			ange
						Dec.00	Aug. 01	Dec.01	Aug. 02
Contribution to the euro area M1 aggregate Contribution to the euro area M3 aggregate	45 537 113 135	47 723 119 794	47 670 124 496	51 177 126 685	51 915 131 393	4.8 5.9	5.5 6.5	7.2 5.8	8.9 5.5



Note:

(a) Net claims of the monetary sector on each sector defined as the difference between the monetary sector's assets and liabilities vis-à-vis that sector. trend of total deposits held by residents in the respective consolidated accounts. Based on consolidated accounts, it is also possible to confirm that the issue of securities in international financial markets continues to increase while interbank (net) financing abroad is falling in 2002.<sup>(15)</sup>

## **4. FISCAL POLICY**

In early May, the Government elected on 17 March submitted to the Parliament the Law amending the State Budget for 2002 (2002 Supplementary Budget). The major objective of this document was to ensure that the general government deficit in 2002, on a National Accounts basis, would not exceed the reference value defined in the Treaty on European Union and in the Stability

(15)See text "The banking system in the first half of 2002", published in the present *Economic Bulletin*. Pact. In fact, in the framework defined by the State Budget for 2002, the budget outturn for the first months of the year, the compilation of new data on public accounts in 2001, the need to change some methodological procedures, in particular regarding the recording of taxes and social contributions, and the unfavourable revisions of the macroeconomic scenario made apparent the risk of reaching in 2002 a deficit clearly above 3 per cent of GDP. In order to reverse the likely increase of the deficit, the Supplementary Budget included a set of measures intended to increase revenue and to control expenditure, setting the target for the deficit at 2.8 per cent of GDP.

On the revenue side, stress should be particularly laid on the increase in the VAT standard rate from 17 to 19 per cent. As regards expenditure, the major measures included the setting of ceilings on the increase of the autonomous services and funds expenditure and on additional borrowing by local governments, the freezing of part of expenditure on investment by the central government without affecting expenditure related to projects cofinanced by the European Union, and the elimination of interest rate subsidies in new loans for house purchase.

The excessive deficit procedure notification of late August and the State Budget Report for 2003 confirm the target assumed in spring for the deficit in 2002. However, this outcome now depends on the sale of real assets by the State in the last months of the year, including the sale of the fixed telephone network to Portugal Telecom, which may reach 0.6-0.7 per cent of GDP. In fact, the revision of the 2001 accounts, the gradual deterioration of the macroeconomic scenario, and the difficulties in controlling expenditure in several areas hindered the fulfil the target for the deficit defined in the Supplementary Budget, without the adoption of additional measures on the revenue side. In any case, the information available points to a risk that the Portuguese general government deficit in 2002, compiled in compliance with the National Accounts methodology, may exceed 2.8 per cent of GDP.

According to the August excessive deficit procedure notification, the public debt ratio is expected to increase from 55.5 per cent at the end of 2001 to 59.3 per cent at the end of 2003. This development can, to a large extent, be explained by the sizeable amount of the deficit-debt adjustments, estimated at 3.4 per cent of GDP, that result from financial operations affecting the public debt but not the deficit; the payment by the 2002 Budget of expenditure relating to previous years; and debt settlements by the Treasury, particularly concerning the National Health Service.

# 5. OUTPUT DEVELOPMENTS IN 2002

According to the estimates of the Banco de Portugal shown in this issue of the Economic Bulletin (Table 1.1), the Portuguese economy will likely grow between 0 and 1 per cent in real terms in 2002 (1.8 per cent in 2001).<sup>(16)</sup> Current estimates are subject to a higher than usual degree of uncertainty, related to external trade data. These data have been subject to significant revisions in the course of 2002, thus making it difficult to assess the behaviour of external trade flows in the first half of the year and to make forecasts for the second half-year (see the Box entitled "Revisions to international trade data"). Thus, conversely to the usual procedure, the magnitude of forecast ranges is maintained, compared with the June issue of the Economic Bulletin.

The shift in the economic growth pattern seen in the two previous years will likely sharpen in 2002. The contribution of domestic demand to growth, which had been gradually decreasing, became negative this year. This trend is determined by the deceleration in private consumption and the reduction in GFCF — aggregates which recorded extremely high growth rates in the late 1990s — and corresponds to the pursuance of the adjustment process of the Portuguese economy started in 2000. Public consumption also decelerated, but its growth is likely to exceed that of output. Export growth may be close to that seen in the

<sup>(16)</sup> The estimate of GDP growth in 2001 was revised from 1.9 to 1.8 per cent, reflecting the inclusion of new data meanwhile released. On the one hand, account was taken of the information on general government released in early September, within the scope of the excessive deficit procedure. On the other hand, the National Statistical Office published final figures for external trade in goods in 2001, which resulted in a downward revision of nominal export and import growth rates, from 5.8 per cent and 2.3 per cent to 3.6 per cent and 1.8 per cent respectively (see the Box entitled "*Revisions to international trade data*"). Finally, new data relevant for private consumption were included.

previous year. In a context of deceleration of external demand for Portuguese producers, this will imply gains in the market share above those seen in 2001. Given that, on the other hand, imports decelerated significantly — since the goods component is likely to reflect the lower demand for imported goods to meet domestic demand — the contribution of net external demand to growth is expected to be more positive than in the previous year.

The current forecast range for GDP growth does not differ from that shown in the June 2002 issue of the Economic Bulletin. However, in terms of composition, domestic demand may grow less than previously projected. This results from the weaker dynamics forecast for the private component of internal demand - consumption and investment given that growth estimates for investment and, to a lesser extent, for general government consumption, are now higher than previously projected. In particular, general government GFCF is estimated to register a nominal growth of around 6 per cent in 2002,<sup>(17)</sup> contrary to the "spring projection", that assumed a reduction. The contribution of net external demand to growth is estimated to be more positive than previously considered: export growth will probably be slightly lower, albeit offset by a more marked reduction in imports. It should be noted that the revision of growth forecast for exports is less significant than the revision of external demand for Portuguese exporters: the change in the relevant external demand indicator was revised downwards by around 1.5 percentage points (p.p.) between the June issue of the Economic Bulletin and current estimates, reflecting the lower increases projected for major economies of destination of Portuguese exports (see section 2 of this article). Thus, the current estimate for export growth assumes gains in the external market share above those considered in the June 2002 issue of the Economic Bulletin.

The deceleration in economic activity shown by these estimates is also suggested by the coincident indicator of economic activity, whose growth in the first three quarters of the year stood clearly below that seen in 2001 (Chart 5.1). The indicator further suggests that the intra-annual profile of GDP



will decelerate from the first to the second halfyear, as also shown by the economic sentiment indicator for Portugal, released by the European Commission.

Private consumption is likely to grow between -¼ and ¾ per cent in 2002 (1 per cent in 2001). The deceleration in household expenditure is suggested by both the coincident indicator of private consumption in the first half-year — which summarises qualitative data on this variable — and the strong reduction in the consumer confidence indicator up to the third quarter of 2002, which has reached the trough of the historical series (Chart 5.2).

Compared with the previous year, the slower growth pace of private consumption can be observed in the different consumption classes, with the exception of cars. In fact, consumption of cars is one of the expenditure components expected to decrease in 2002, albeit less than in the previous year.<sup>(18)</sup> The number of light passenger cars sold, including off-the-road vehicles, declined by 8.9 per cent in the period from January to September, compared with a 12 per cent reduction in 2001. Household expenditure on this type of goods seems to have dropped less sharply than suggested by the number of vehicles sold in the period under consideration, given that the demand for higher-range cars has been relatively less affected than that for lower-range vehicles. Exclud-

<sup>(17)</sup> It should be noted that this estimate for general government GFCF does not include the sale of real assets (to be recorded as negative investment).

<sup>(18)</sup> Reference should be made to the fact that in 2001 light passenger car sales, in particular off-the-road vehicles, were especially affected by changes in car taxes.



ing cars, the deceleration in private consumption becomes more marked, in particular in the other goods component. This is shown by the strong deceleration in the retail trade turnover index (which excludes car and fuel sales), both in nominal and real terms, in the period from January to August compared with the previous year. Expenditure on durable goods, which is traditionally more sensitive to developments in the business cycle, is likely to show a negative real change, as also suggested by the retail trade turnover index for this type of goods. Consumption of services is also expected to decelerate, although maintaining growth rates above those for total consumption.

There are several factors behind the behaviour of private consumption expenditure in 2002. On the one hand, real disposable income is likely to grow less than in the previous year, as a result of both a lower change in employment and some deceleration in wage growth (see section 6. Employment and wages). On the other hand, restrictions imposed by the high household indebtedness levels and the need to reduce their growth pace to more sustainable levels seem to have also contributed to curb the growth of this variable, as seen in 2001. This effort to adjust the financial situation of households will be reflected in a new rise in the savings rate in 2002, despite the forecasted slowdown for real disposable income. Finally, in a context of uncertainty due to the unfavourable economic outlook — reflected, as already referred to, in rather low consumer confidence levels households appear to have decided to postpone some consumption decisions, namely regarding durable consumer goods, and to raise the savings rate for precautionary reasons.

According to current estimates, public consumption is likely to record a volume growth of 1.1 per cent in 2002 — slightly above that envisaged in the June issue of the *Economic Bulletin* following a 2.9 per cent growth in 2001. Behind this deceleration will be staff costs, with a real growth of 1.7 per cent (2.8 per cent in 2001), and especially expenditure on goods and services, with a real decrease of 0.8 per cent (3.2 per cent growth in 2001) (see section 4. Fiscal policy).

Gross fixed capital formation (GFCF) will decrease in 2002 more markedly than in the previous year. This variable is estimated to decrease between 5<sup>1</sup>/<sub>4</sub> and 3<sup>1</sup>/<sub>4</sub> per cent (-0.4 per cent in 2001), which corresponds to a slightly more negative central estimate than that of the forecast range presented in the June issue of the Economic Bulletin. The decline in GFCF will be broadly based across all its components (transport equipment, machinery and equipment and construction). In terms of institutional sectors, stress should be laid on the reduction of corporate and household investment. As already referred to, general government investment will likely record a nominal growth of around 6 per cent in 2002, i.e. a deceleration from the previous year (by around 15 per cent). In intra-annual terms, there will probably be a much sharper reduction in the second half of the year, to a large extent influenced by developments in GFCF in construction.

Investment in transport equipment is estimated to decline by more than 20 per cent, following the significant reduction already seen in 2001 (-14.7 per cent).<sup>(19)</sup> Indicators on sales of commercial vehicles illustrate the negative trend of this investment component, with a decline in these sales of 12.3 per cent in the period from January to September 2002, whereas the sales of heavy commercial vehicles fell by 31.5 per cent during the same

<sup>(19)</sup> Similarly to cars for private consumption, the car component of GFCF also decreased significantly in 2001, as a result of the changes introduced in taxes on light commercial vehicles.

period. GFCF in machinery and equipment is also likely to decline, although less markedly than in the previous year. The reduction estimated for GFCF in equipment (transport equipment and machinery) in 2002 is basically a result of two types of factors. On the one hand, both domestic and external demand decelerated while the outlook for their future developments remains uncertain. These developments were translated into a deterioration of industrial confidence in 2002 (see Chart 5.3). On the other hand, the high investment rates recorded in the recent past implied a significant increase in corporate productive capacity, which in the context of cyclical developments in the Portuguese economy, limits the need for new investments in the near future. In the quarters of 2002 for which data are available, the rate of productive capacity utilisation in manufacturing continued to stand at levels below those in the same period a year earlier, according to the European Commission's Survey. Finally, the behaviour of this type of investment will likely continue to be conditioned by the high corporate indebtedness level.

Investment in construction will likely fall, after a real growth of 3 per cent in 2001. This fall in GFCF in construction in 2002 reflects on the one hand the deceleration in the public works sub-sector — partly accounted for by the lower growth of general government  $\text{GFCF}^{(20)}$  — and on the other the decrease estimated for the housing segment (which had already shown negative developments in 2001). Negative developments in GFCF in housing will mainly reflect a readjustment, following the rather marked and fast expansion of the housing stock in the late 1990s.

Construction sector entrepreneurs have been revealing greater pessimism, according to the *INE's* monthly survey to this sector, an opinion shared by entrepreneurs from the public works and residential construction sub-sectors. Chart 5.4 shows a downward profile for balances of respondents regarding the assessment of activity in these two sub-sectors since the beginning of the year. As regards the segment construction of residential buildings, the reduction in activity is also suggested by the decrease in the number of construction permits for new dwellings (around -9 per cent



until August, after a 10.2 per cent fall in 2001) and of concluded dwellings (-9.9 per cent in the first half of 2002, against -2 per cent in 2001). The real estate confidence indicator showed a nil yearon-year change in September 2002, compared with a 2.1 per cent change in December 2001. This deceleration in housing prices also provides an indication of the slowdown in this market. However, it should be noted that credit granted to households for house purchase showed high growth rates up to August (15.3 per cent, against 15.0 per cent in

<sup>(20)</sup> It is worth mentioning that not all investment in public works is directly promoted by general government.

December 2002). The year-on-year difference between the balances on lending for house purchase — indicator which translates the flow of new credit less repayments of principal — stood at 17.9 per cent in the period from January to August, compared with a 10.8 per cent reduction in 2001. These developments in credit seem to be associated with the purchase of new dwellings constructed in previous years and presumably in stock,<sup>(21)</sup> and with the purchase of used dwellings.

Construction activity, in particular in the housing segment, is estimated to be more negatively affected in the latter part of the year, which is evident in the opinions of construction entrepreneurs regarding prospects for activity and order books.

In 2002 exports of goods and services will likely grow between <sup>3</sup>/<sub>4</sub> and <sup>2</sup>/<sub>4</sub> per cent, compared with 1.7 per cent in 2001. The growth in exports of goods may stand close to that in the previous year, despite the deceleration in external demand for Portuguese exporters (around 1.5 percentage points). According to the estimates of the Banco de Portugal, exports of goods seem to have recorded a virtually nil real change<sup>(22)</sup> in the first half of the year (compared with 1.8 per cent in 2001 as a whole). External demand for Portuguese exports is estimated to have dropped in this period, which indicates a positive behaviour of the external market share of Portuguese producers. Thus, the annual forecast for the growth of exports of goods also envisages a gain in market share, conditional on the estimate for the change in exports in the first half-year which, as already referred to, is subject to a higher than usual degree of uncertainty (see the Box entitled "*Revisions to international trade data*"). This gain in market share will likely exceed that observed in 2001<sup>(23)</sup> and will probably be associated with increased efforts of resident companies for selling their products in the external market, in a context of weakening domestic demand. Turning to the services component, tourism exports will experience a decrease, partly offset by an acceleration in exports of other services. In intra-annual terms, there will possibly be an acceleration of exports of goods in the second half-year, in line with the behaviour forecast for external demand.

Regarding imports of goods and services, the estimates of the Banco de Portugal point to a decrease between 2<sup>1</sup>/<sub>2</sub> and <sup>1</sup>/<sub>2</sub> per cent, compared with a virtually nil change in the previous year. This estimate corresponds to a relatively significant downward revision of the projections presented in the June issue of the *Economic Bulletin*. Developments estimated for imports in 2002 are consistent with the behaviour of domestic demand and reflect, in particular, the strong reduction in consumption of durable goods and investment in transport equipment and machinery. In the first half of 2002 imports of goods appear to have recorded a real decline of almost 0.5 per cent, according to estimates of the Banco de Portugal<sup>(24)</sup> (1.2 per cent increase in 2001 as a whole).

The estimates of the Banco de Portugal for real developments in exports and imports in 2002 as a whole, on the one hand, reflect an increase in the contribution of net external demand to output growth vis-à-vis 2001 (around 0.5 p.p.) and, on the other hand, imply a positive volume effect on the change in the goods and services account balance with abroad (i.e. they contribute to a narrowing of the deficit from the previous year). The narrowing

<sup>(21)</sup> In general, according to the European System of Accounts, the construction of new dwellings should be considered an accumulation of stocks until dwellings are sold. Then, there would be a reduction in stocks and an increase in gross capital formation in construction. However, given the limitations of the statistical indicators available, the construction of new dwellings is immediately recorded in the estimates of the Banco de Portugal as investment in construction (not at the time of sale). This procedure does not affect estimates for gross fixed capital formation (GFCF plus changes in inventories) and consequently for gross domestic product each year. However, it can bias the estimates for the breakdown of investment in construction into households and corporations each year.

<sup>(22)</sup> This estimate was based on a nominal rate of change in exports in the first half-year lower than the rate implied in external trade data released in July (-0.5 per cent), in an attempt to anticipate further data corrections. The estimate of the Banco de Portugal for the deflator in this period is -2.5 per cent, based on data supplied by the *INE*.

<sup>(23)</sup> The revision of external trade data for 2001 (from provisional to final) referred to in footnote 1 resulted in a significant downward revision of the gain in the market share of exports recorded that year and presented in the 2001 annual report (2.7 per cent). In the light of the new data, this gain is now marginal (0.4 per cent). See the Box entitled "*Revisions to international trade data*".

<sup>(24)</sup> Similarly to exports, these estimates were based on a nominal rate of change in imports in the first half-year lower than the rate implied in external trade data released in July (-4.7 per cent), in an attempt to anticipate further data corrections. The estimate of the Banco de Portugal for the import deflator in this period is -4.9 per cent, based on data supplied by the *INE*.

# Economic policy and situation

of the goods and services account deficit in 2002 will also result from a positive terms of trade effect. The Banco de Portugal estimates for external trade deflators in 2002 imply a gain in terms of trade. Similarly to the previous year, albeit to a lesser extent, this change is partly explained by developments in international oil market prices.

## 6. EMPLOYMENT AND WAGES

In the course of 2002 total employment growth is likely to decline - stressing developments since 1999 —, accompanied by an increase in the employment rate, confirming the upward trend throughout 2001. This behaviour is due to continued strong growth rates of employment supply, with a sustained increase in labour force. Employment decelerated, in a context of strong slowdown in activity, and the change in apparent labour productivity is expected to be negative in 2002. Nominal wages are likely to increase less than in the previous year, translating into lower growth of real wages, albeit higher than productivity growth — for the fifth consecutive year. The combination of these factors should lead to the maintenance of high growth of unit labour costs.

According to the estimates of the Banco de Portugal, the unemployment rate in 2002 is likely to stand between 4.5 and 4.7 per cent (4.1 per cent in 2001) thus maintaining the upward trend in the number of unemployed recorded in 2001. In the first half of 2002, according to the *Inquérito ao Emprego* of *INE* (the Portuguese labour force survey), the unemployment rate stood at 4.5 per cent, 0.4 p.p. above that recorded in the same period of 2001. The number of unemployed increased significantly by around 12 per cent between the first half of 2001 and the first half of 2002.<sup>(25)</sup>

The estimates of the Banco de Portugal for total employment in 2002 point to a growth of around 0.8 per cent, 0.8 p.p. less than in 2001. According to the Labour Force Survey data of the *INE*, the change in total employment stood at 1.0 per cent

in the first semester. This evolution, qualitatively similar to that in 2001, was the result of an increase of 1.3 per cent in salaried employment and a change of 0.5 per cent in all other forms of employment. However, conversely to the previous year, the growth of salaried employment results exclusively from an increase in the number of fixedterm contract employment (more 11.5 per cent), since the number of workers with a permanent contract declined (less 1.3 per cent). At the sectoral level, construction and services were the sectors that contributed the most for total employment growth. Over the first half of 2002, manufacturing and agriculture recorded negative changes in the employment volume.

Nominal wages per employee in the private sector are estimated to have grown at a rate of 4.5 per cent, 1.3 p.p. below the estimation for 2001. On the basis of the information available on change in wages agreed in the collective bargaining process for the private sector until August 2001, this value sets the wage drift estimated at 0.8 per cent, 1.1 p.p. below the value estimated for 2001. This reduction probably reflects changes in the labour market with a slight deceleration in employment growth and an increase in the unemployment rate. However, growth of real wages underlying these forecasts stood at 0.8 per cent, which, albeit smaller than in 2001 (1.2 per cent), is clearly above the estimate for the change in the apparent labour productivity per employee (-0.3 per cent).

## 7. INFLATION

In 2002 the inflation rate in Portugal, as measured by the annual average change in the Harmonised Index of Consumer Prices (HICP),<sup>(26)</sup> is expected to stand within a range of 3.5 to 3.7 per

<sup>(25)</sup> The introduction of the information concerning the Census 2001 in the calculation of the *INE* prevents an accurate comparison of the first halves of 2001 and 2002. The data released by the *INE* provide only an analysis in terms of year-on-year change in the second quarter of each year. The unemployment growth in this period was considerably higher, standing at around 17 per cent.

<sup>(26)</sup> As referred to in the June issue of the *Economic Bulletin*, the projections then disclosed were part of a joint forecast exercise of the Eurosystem. In the context of these periodical exercises, the relevant price index is the HICP, since the ECB Governing Council announced the quantitative definition of price stability on the basis of this price index. This index is obtained from the same monthly information that supports the calculation of the CPI, diverging from the latter chiefly by the relative weights used to aggregate the elementary price indices. These weights refer to the structure of consumer expenditure in the Portuguese territory, therefore including tourists, and not only resident consumers, as the CPI. In practice, however, the annual average change of both indices is very similar.



cent, which represents a reduction vis-à-vis the 4.4 per cent recorded in 2001 (see Chart 7.1). Developments in prices as from May reflected a more favourable behaviour of inflation than foreseen in the June issue of the *Economic Bulletin*, which indicated a change within a range of 3.5 to 4.5 per cent. This change chiefly reflects a revaluation of the impact of the increase in the VAT standard rate on prices - now estimated to be less intense and more lagged than previously envisaged — and a revision of the technical hypotheses of the exercise, as a result of the appreciation of the exchange rate of the euro<sup>(27)</sup> and of a more favourable evolution of most international prices of consumer goods than foreseen. The reason for the revision of the target range is presented in Box "Inflation in 2002: deviation from the previous projection".

The slowdown in prices in 2002 reflects three major factors — lower growth of unprocessed food prices, decline in import prices and deceleration in nominal wages —, whose joint effect prevailed over factors working in the opposite direction: the conversion process of prices in escudos into euros and the increase in the standard rate of the Value Added Tax (VAT), which have affected consumer price developments in the first quarter and as from June 2002, respectively.

The reduction in the inflation rate in 2002 mainly resulted from a decline in the annual average growth of unprocessed food prices, compared to the unusually high levels recorded in 2001. The prices of these goods tend to show relatively sudden and significant swings, often determined by pronounced changes in weather conditions. Indeed, according to developments in the CPI (Consumer Price Index),<sup>(28)</sup> these prices grew by 0.3 per cent in the first three quarters of 2002, after an annual average growth of 8.8 per cent in 2001.<sup>(29)</sup> Given the still significant weight of this type of goods in the CPI basket, these developments contributed significantly to the reduction in inflation.

The decline in import prices was another factor behind the reduction in inflation.<sup>(30)</sup> According to estimates of the Banco de Portugal made on basis of information disclosed by the *INE*, goods import prices registered a change of around -4.9 per cent in the first half of 2002 (an increase of 0.4 per cent in 2001). Consumer goods import prices recorded a more marked swing, having increased by 4.0 per cent in 2001 (an increase standing at around 3.1 and 4.4 per cent in food import prices and other consumer goods, respectively), and declining by 2.1 per cent in the first half of 2002 (-2.2 and -2.1 per cent respectively).

The slowdown of pressures on the labour market was a third favourable aspect for the behaviour of inflation. In 2002 whole-economy nominal compensation per employee declined by 1.6 p.p. (from 5.9 per cent in 2001 to 4.3 per cent in 2002), in a context of significant slowdown of both economic activity and employment and growth of the unemployment rate. It should be stressed, however, that the pass-through of this wage deceler-

<sup>(27)</sup> The macroeconomic projections of the Eurosystem are prepared under the technical hypothesis of constant exchanges rates.

<sup>(28)</sup> The analysis of the remaining of this section is based on the CPI evolution, with the exception of its final part, in which the HICP is used for the analysis of the inflation differential vis-à-vis the euro area.

<sup>(29)</sup> A more disaggregated analysis referred to in the main text indicates that the components "meat" and "vegetables, potatoes and other root tubers" of the CPI reached a peak in the second quarter of 2001, the respective prices being on a downward trend since then. This behavior induces significant base effects in the evolution of the CPI. It should be noted that unprocessed food have a weight of 13.0 per cent in the CPI basket.

<sup>(30)</sup> This factor is partly related to the previous one, as a significant share of unprocessed food consumption is imported. All in all, the overall reduction in import prices will tend to pass through to the remaining consumer prices.



ation to consumer prices has probably been tempered by the negative change in apparent labour productivity. Indeed, current estimates include a reduction in the growth rate of unit labour costs, from 2001 to 2002, lower than that recorded by nominal compensation per employee.

In 2002 price developments were unfavourably affected by two main effects. First, the conversion process of prices in escudos into euros affected the evolution of price indices in the first quarter. The findings disclosed in a study published in this Economic Bulletin<sup>(31)</sup> indicate that this impact should have been at around 0.2 per cent of the CPI in the first three months of 2002. By type of goods, stress should be laid on the high impact of services, estimated at around 0.5 p.p., on the price rate of change. Second, the increase in June in the standard rate of the Value Added Tax (VAT), from 17 to 19 per cent, implied a gradual upward impact on price indices, since the INE collects prices of some items of the index on a quarterly basis. In the case of full pass-through to consumer prices, this impact would reach an accumulated magnitude of around 0.8 p.p. However, the available evidence points to a little — not above 0.6 p.p. — and more lagged impact. A more detailed reading of the evolution of the elementary items of the CPI sug-

(31) See "Analysis on the impact of the conversion of escudos into euros", by D. Santos, R. Evangelista, T. Nascimento and C. Coimbra. gests that the rise of the VAT standard rate is likely to have had a significant pass-through to prices of most services and unprocessed food subject to the VAT standard rate, while in the case of non-energy industrial goods there was a relatively small pass-through to some goods.

The effect of these opposite forces on inflation is reflected on the evolution of trend measures normally used by the Banco de Portugal. These measures tend to exclude or to attach a very reduced weight to components whose prices show abnormally volatile behaviours, which is often the case of unprocessed food. In the period up to September 2002, these indicators showed an average change close to that recorded in 2001, in the case of trimmed average, or slightly above, in the case of the main component (see Chart 7.2 and Table 7.1). It should also be mentioned that the CPI yearon-year rate of change stood above the trend indicators in the course of 2001 and below them in the course of 2002. The evolution of these indicators therefore illustrates the prominent role of the behaviour of unprocessed food in the deceleration of inflation. The remaining effects - reduction in import prices, deceleration in labour costs, conversion process of prices in escudos into euros and the change in the VAT standard rate - tend to cover a significant range of prices, leading to a direct influence on trend indicators. These indicators suggest that over 2002, and excluding the above abnormal price reductions, the aforementioned combined effects resisted strongly to the reduction in inflation.

The year-on-year rate of change of the CPI declined from 3.9 per cent in the last quarter of 2001 to 3.3-3.4 per cent in the first two quarters of 2002, going up to 3.6 per cent in the third quarter (Table 7.1). As mentioned above, the evolution of the CPI in this period was much influenced by the evolution of unprocessed food — whose quarter-onquarter change went down from 5.9 per cent in the last quarter of 2001 to -1.5 per cent in the third quarter of 2002. In addition, the evolution of the CPI was also influenced by the behaviour of fuel prices. These prices declined by 4.8 per cent in January 2002,<sup>(32)</sup> but as from March, maximum fuel prices became sensitive to the international oil

<sup>(32)</sup> Previously fuel consumer prices had only been raised in January 2001, having remained unchanged since then.

#### Table 7.1

# CPI – MAIN AGGREGATES

Year-on-year rates of change, per cent

		-						
	Weights in	2000	2001	2002	2001	2002	2002	2002
	the total			Jan Sep.	IV	Ι	II	III
Total	100	2.9	4.4	3.4	3.9	3.3	3.4	3.6
Total excluding unprocessed food and								
energy	78.1	2.5	3.6	4.4	3.8	4.1	4.3	4.7
Aggregates								
Goods	68.9	2.2	4.2	2.3	3.6	2.5	2.3	2.2
Food	25.8	1.9	6.1	2.0	4.8	3.4	1.6	1.0
Unprocessed	13.0	2.5	8.8	0.3	5.9	2.8	-0.5	-1.5
Processed	12.8	1.4	3.1	3.9	3.6	4.0	4.0	3.7
Industrial	43.1	2.4	3.1	2.6	2.8	2.0	2.8	3.0
Non-energy	34.3	1.4	2.5	3.1	2.9	3.1	3.2	3.1
Energy	8.8	6.1	5.2	0.6	2.6	-2.0	1.3	2.4
Services.	31.1	4.2	4.8	5.8	4.8	5.1	5.6	6.5
Memo:								
Trend measures								
10 per cent trimmed mean		2.8	3.9	3.8	3.8	3.6	3.8	4.0
Main component		2.7	3.4	3.7	3.5	3.6	3.6	3.8

Sources: INE and Banco de Portugal.

quotation, which translated into successive increases in these prices until May.<sup>(33)</sup> Following these increases, there were also price adjustments in some sectors particularly sensitive to fuel prices, such as gas and transport services.<sup>(34)</sup> As a result of the rise in fuel prices and consumer gas, the energy component of the CPI accelerated since the end of the first quarter.

Excluding unprocessed food and energy,<sup>(35)</sup> the year-on-year change of the CPI increased regularly, from 3.8 per cent in the last quarter of 2001 to 4.7 per cent in the third quarter of 2003 (Chart 7.3). The acceleration of this subcomponent of the CPI was determined by developments in services prices, since the year-on-year change in prices of

both processed food and non-energy industrial goods in the third quarter of 2002 was only marginally higher than that recorded in the fourth quarter of 2001.

Services prices accelerated markedly, from 4.8 per cent in the fourth quarter of 2001 to 6.5 per cent in the third quarter of 2002. This acceleration,



<sup>(33)</sup> Unchanged fuel consumer prices in June were due to the temporary decline in the tax on oil products, which offset the impact of the rise in the VAT standard rate on fuel prices.

<sup>(34)</sup> Usually the revision of these prices occurs in January. However, in 2002, the updating took place in March (after the end of compulsory dual display of prices) and again in August.

<sup>(35)</sup> There is extended empirical evidence that the CPI excluding unprocessed food and energy - also referred to as underlying inflation — is not an adequate indicator for trend inflation, in particular for being relatively delayed vis-à-vis observed inflation. For the case of Portugal see C. Coimbra and P.D. Neves (1997), "Trend inflation indicators", *Economic Bulletin* of the Banco de Portugal, volume 3, number 1, March 1997.



particularly as from the second quarter of the year,<sup>(36)</sup> is not completely accounted for by the effects of the conversion process of prices in escudos into euros and the rise in the standard rate of the VAT. Thus, available evidence points to a significant persistence of sharp broadly-based price rises in this aggregate, in some cases with accelerations clearly above those attributable to the two specific factors mentioned.<sup>(37)</sup> This suggests, in the case of services, a relatively reduced pass-through of wage deceleration to consumer prices.

With regard to processed food, the year-onyear change in the third quarter of 2002 stood very close to that observed in the last quarter of 2001. This indicates that the effects of favourable factors, such as the behaviour of import prices of this type of goods, were probably offset by the effects of the conversion process of prices in escudos into euros and by the rise in the VAT standard rate.

Finally, the quarterly year-on-year change of non-energy industrial goods — a grouping of the CPI to which the VAT standard rate falls on a higher share of consumption expenditure — remained relatively stable. It should be mentioned that price developments in the item "clothing and footwear" suggest a somewhat delayed passthrough of the increase in VAT to consumer prices until the launching of new collections, thus contributing to a lagged impact on the price index.

The HICP is the most appropriate indicator to assess developments in the inflation differential between Portugal and the euro area. On the basis of this price index, the inflation differential decreased from 1.9 p.p. in the fourth quarter of 2001 to 0.8 p.p. in the first quarter of 2002, increasing further in the second and third quarters to 1.4 and 1.7 p.p., respectively (Chart 7.4). Developments in the inflation differential between Portugal and the euro area have been particularly influenced by the diverging behaviour of unprocessed food prices the most volatile component of the index, having a considerably higher weight in Portugal<sup>(38)</sup> — and energy industrial goods, as a result of the different spillover from oil prices in international markets to consumer prices. Excluding these two aggregates from the HICP, for analysis purposes, this inflation differential stood at 1.5 p.p. in first quarter of 2002, and fluctuated around this level throughout 2001. This shows that the impact of the conversion of prices in escudos into euros has not determined, during this period, specific effects distinguishing Portugal from the euro area as a whole. However, in the second and third quarters this differential widened to 1.8 p.p. and 2.3 p.p. respectively. This widening is likely to be mainly related to price adjustments in the Portuguese HICP, as a result of the change in the VAT standard rate.

Chart 7.4 also shows a wide differential in services, which is related to the fact that labour costs in Portugal increased more than those in the euro area as a whole. In 2002, although in a downward trend, unit labour costs growth in Portugal remained at high levels. This persistent difference is an obstacle to the significant reduction of the inflation differential between Portugal and the euro area. The widening of the differential in the second and third quarters reflects, to a large extent, the above effect of the change in the VAT standard rate on price developments in Portugal.

## 8. BALANCE OF PAYMENTS

In 2002, the borrowing requirements of the Portuguese economy are expected to decrease, as in the previous year. Thus, the aggregate deficit of current and capital accounts should stand between 5¼ and 6¾ per cent of GDP in 2002, which compares with 8.4 per cent in 2001 (Table 1.1). A further reduction in the deficit of goods and services account (of around 2 p.p. of GDP) is behind the reduction in this deficit. The strong recovery envisaged for public transfers associated with inflows from the European Union will allow an improvement in the capital account and a stabilisation of

<sup>(36)</sup> Indeed, the increase of 0.6 percentage points (p.p.) of the year-on-year change in services of the CPI, between December 2001 and March 2002, was mainly related to significant increases in the prices of the items "maintenance and repairs", "restaurants and cafes", "entertainment" and "hairdressing salons", which should have been associated with the conversion process of prices in escudos into euros. Estimates presented in the article "Analysis on the impact of the conversion of escudos into euros", published in this Economic Bulletin, point to an impact of around 0.5 p.p. on that aggregate of the CPI.

<sup>(37)</sup> For instance, the quarterly year-on-year change in prices of the item "restaurants and hotels" went up from 4.0 per cent in the fourth quarter of 2001 to 6.2 in the third quarter of 2002 and was not affected by the rise in the VAT standard rate.

<sup>(38)</sup> The weight of unprocessed food in the HICP is 12.8 per cent in Portugal and 8.1 per cent in the euro area.

the current transfers account — in spite of the expected reduction in the balance of private transfers. Finally, a further widening is foreseen for the income account deficit, associated with the increase in indebtedness of Portuguese economy abroad — in particular of monetary financial institutions — in recent years.

In the first half of 2002, the deficit resulting from the sum of the current and capital account stood at 8.9 per cent, against 10.7 per cent in the same period of 2001 (Table 8.1). This resulted from a favourable behaviour both from the current and the capital account. The narrowing of the current account deficit from 11.0 to 10.0 per cent of GDP resulted from a further reduction in the goods deficit and from a slight increase in the services account surplus (Chart 8.1). With regard to the remaining components, current transfers declined (by around 0.6 p.p. of GDP) and the income account deficit widened further (from 2.8 to 3.1 per cent of GDP).

The goods deficit narrowed from 12.3 per cent of GDP in the first half of 2001 to 10.5 per cent of GDP in the first half of 2002. As illustrated in Chart 8.2, the narrowing in the trade deficit resulted, to a large extent, from a terms of trade effect, associated with the significant positive change in terms of trade in goods (2.5 per cent in the period January-June of 2002, which compares with -0.9 per cent over the same period of the previous year), partly related to the behaviour of oil prices. According to preliminary estimates<sup>(39)</sup>, in the first half of 2002, export prices of goods have declined by 2.5 per cent while import prices of goods have declined by 4.8 per cent, resulting in a significant contribution from price effect, in contrast with the two previous years. In real terms, there was a virtually nil exports growth (0.1 per cent) and a reduction of around 0.5 per cent in imports, determining a positive volume effect.

In the first half of 2002, the services account surplus amounted to 1.5 per cent of GDP, against 1.3 per cent in the same period of 2001. Over this period the transport services deficit narrowed, partly as a result of the evolution of the deficit associated with freights of goods and the increase of other services supplied by corporations surplus.



On the other hand, the travel and tourism balance, as a percentage of GDP, declined slightly in the first six months of 2002 compared with the same period of the previous year, from 2.3 to 2.2 per cent of GDP. Nominal tourism receipts grew by 1.2 per cent when compared with the same period of the previous year, having decelerated from the previous year. This is in line with the unfavourable developments in the number of nights spent by foreigners in Portuguese hotels and similar establishments. Travel and tourism expenditure abroad by residents increased by 1.4 per cent, in nominal terms, showing a less buoyant behaviour than in the previous year.

The income account deficit widened from 2.8 to 3.1 per cent of GDP in the first half of 2002. This behaviour was due to a widening of other investment income deficit, from 1.3 to 1.9 per cent of GDP. Direct income deficit recorded figures similar to those observed in the previous year (0.8 per cent of GDP) while portfolio investment income deficit narrowed slightly (from 0.6 to 0.5 per cent of GDP).

The current transfers surplus narrowed from 2.7 per cent, in the first half of 2001, to 2.1 per cent of GDP, in the same period of 2002, as a result of developments in private transfers. This resulted both from a reduction of around 8 per cent in emigrants remittances — mainly from France and Germany — and a further increase in immigrants remittances above 100 per cent, associated with immigrant flows from Eastern Europe. In the same period, with regard to current public transfers, net

<sup>(39)</sup> Estimates of the Banco de Portugal, based on the information provided by the *Instituto Nacional de Estatística (INE)*.

# Table 8.1

# **BALANCE OF PAYMENTS**

#### EUR million

	JanDec. 2001	Dec. January to June 2001			Janu	ary to June 2002		Balance as a % of GDP			
_	Balance	Debt	Credit	Balance	Debt	Credit	Balance	JanDec. 01	JanJun. 01	JanJun. 02	
Current Account	-11 539.4	31 363.0	24 704.8	-6 658.2	30 630.9	24 333.3	-6 297.6	-9.3	-11.0	-10.0	
Goods	-14 923.3	22 039.0	14 605.9	-7 433.1	20 878.6	14 262.8	-6 615.7	-12.1	-12.3	-10.5	
Services	2 924.5	3 485.0	4 292.9	807.9	3 445.7	4 383.4	937.7	2.4	1.3	1.5	
Transport	-445.6	1 105.8	832.9	-272.9	1 034.0	843.5	-190.5	-0.4	-0.5	-0.3	
Travel and tourism	3 768.6	1 135.8	2 516.9	1 381.2	1 151.5	2 547.9	1 396.3	3.0	2.3	2.2	
Insurance services	-39.6	51.2	35.9	-15.3	77.6	42.2	-35.4	0.0	0.0	-0.1	
Royalties and license fees	-232.6	150.1	12.5	-137.6	163.9	14.3	-149.5	-0.2	-0.2	-0.2	
Other services	-48.5	925.9	837.2	-88.8	923.6	872.2	-51.4	0.0	-0.1	-0.1	
Government services	-77.6	116.3	57.5	-58.7	95.1	63.3	-31.8	-0.1	-0.1	-0.1	
Income	-3 423.5	4 670.6	2 988.6	-1 681.9	4 887.2	2 928.4	-1 958.8	-2.8	-2.8	-3.1	
Compensation per employees	4.7	78.0	81.2	3.1	79.8	62.7	-17.1	0.0	0.0	0.0	
Investment income	-3 428.1	4 592.5	2 907.5	-1 685.1	4 807.4	2 865.7	-1 941.7	-2.8	-2.8	-3.1	
Current transfers	3 882.8	1 168.5	2 817.3	1 648.9	1 419.4	2 758.6	1 339.2	3.1	2.7	2.1	
Public transfers	188.3	740.3	726.2	-14.1	831.4	756.4	-74.9	0.2	0.0	-0.1	
Private transfers	3 694.5	428.2	2 091.1	1 662.9	588.0	2 002.2	1 414.1	3.0	2.7	2.2	
Capital Account.	1 195.6	109.8	321.6	211.8	103.5	797.9	694.5	1.0	0.4	1.1	
Capital transfers	1 214.5	87.1	302.0	214.9	90.1	785.9	695.8	1.0	0.4	1.1	
Public transfers.	1 206.9	22.8	237.8	215.0	30.4	730.4	700.0	1.0	0.4	1.1	
Private transfers	7.7	64.3	64.3	-0.1	59.6	55.5	-4.2	0.0	0.0	0.0	
Acquisition/disposable of non-produced											
non-financial assets	-19.0	22.7	19.6	-3.1	13.4	12.0	-1.4	0.0	0.0	0.0	
Financial Account	10 550.0	341 326.6	347 886.6	6 560.0	312 293.4	318 284.5	5 991.1	8.5	10.8	9.5	
Direct investment	-2 100.6	17 952.4	15 720.5	-2 231.9	10 450.7	12 207.4	1 756.7	-1.7	-3.7	2.8	
Portuguese investment abroad	-8 818.9	8 727.8	2 137.3	-6 590.5	1 971.0	1 292.1	-678.9	-7.1	-10.9	-1.1	
Foreign investment in Portugal	6 718.3	9 224.5	13 583.1	4 358.6	8 479.7	10 915.2	2 435.6	5.4	7.2	3.9	
Portfolio investment	2 248.5	78 611.4	78 101.3	-510.1	88 921.2	88 925.1	3.9	1.8	-0.8	0.0	
Assets	-7 174.6	28 164.5	24 546.2	-3 618.3	41 482.0	37 976.4	-3 505.7	-5.8	-6.0	-5.6	
Liabilities	9 423.1	50 447.0	53 555.2	3 108.2	47 439.2	50 948.7	3 509.5	7.6	5.1	5.6	
Financial derivatives	284.3	1 811.0	2 019.8	208.8	1 587.8	1 492.3	-95.5	0.2	0.3	-0.2	
Other investment	11 087.6	216 195.9	225 405.6	9 209.7	185 330.6	190 563.4	5 232.9	9.0	15.2	8.3	
Assets	-5 429.9	109 722.6	109 220.3	-502.3	98 558.9	90 385.3	-8 173.6	-4.4	-0.8	-13.0	
Liabilities	16 517.5	106 473.2	116 185.3	9 712.0	86 771.7	100 178.2	13 406.5	13.3	16.1	21.3	
Reserve assets	-969.8	26 755.9	26 639.4	-116.5	26 003.1	25 096.3	-906.8	-0.8	-0.2	-1.4	
Errors and omissions	-206.2			-113.6			-387.9	-0.2	-0.2	-0.6	
Memo:											
Current Account + Capital Account	-10 343.9	31 472.8	25 026.4	-6 446.4	30 734.4	25 131.2	-5 603.2	-8.4	-10.7	-8.9	



Notes:

- (a) The change in the trade balance can be broken down into:
  - volume effect effect of the change of exported and imported volumes

 $[X_{t-1} \cdot Vx_{t} \cdot (1 + Px_{t})] - [M_{t-1} \cdot Vm_{t} \cdot (1 + Pm_{t})]$ 

- price effect effect of the average growth of external trade prices
  - $(X_{t-1}, P_t) (M_{t-1}, P_t)$
- terms of trade effect effect of the relative change in export and import prices

 $[X_{t-1} \cdot (Px_t - P_t)] - [M_{t-1} \cdot (Pm_t - P_t)]$ 

where:

 $X_{t-1}$  and  $M_{t-1}$  – exports and imports in year *t*-1, at current prices

 $Vx_t \in Vm_t$  – growth of exports and imports, in volume terms, in year *t* 

 $P\mathbf{x}_t \in P\mathbf{m}_t$  – growth of export and import prices, in year t

 $P_t$  – average growth of external trade prices, in year  $t [(P_{X_t} + P_{m_t})/2]$ 

Note that the volume effect includes the price-volume cross effect, so that the sum of the three effects adds up to the total change. This cross-effect, however, is not significant.

(b) A negative change means an increase in the trade deficit.

inflows from the European Union decreased slightly. In turn, the capital account surplus increased from 0.4 to 1.1 per cent of GDP, reflecting an increase in official transfers from the European Union. In particular, receipts within the framework of the ERDF increased significantly in the first half of the year, after negative changes in the past two years.



The Financial Account recorded net inflows, equivalent to 9.5 per cent of GDP, which compares with 10.8 per cent in the first six months of 2001 (Table 8.2). Analysing by resident institutional sector (Chart 8.3), monetary financial institutions remained the sector that contributed the most to developments in the first half of 2002 (7.9 per cent of GDP), albeit to a lesser extent than in the same period last year (17.7 per cent of GDP). Financial transactions abroad of monetary authorities were behind further inflows (2.8 per cent in the first six months of 2002, against 2.3 per cent of GDP over the same period of 2001). Financial transactions of general government and non-financial corporations and private individuals also contributed, conversely to the previous year, to net inflows into the Portuguese economy. As in the previous year, operations conducted by non-monetary financial institutions, in particular by investment funds, resulted in a net outflow.

By type of investment (Chart 8.4), operations included in Other Investment continued to be the main source of net inflows, albeit in a smaller amount, as a percentage of GDP, compared with the same period of the previous year (15.2 and 8.3 per cent of GDP in the first six months of 2001 and 2002 respectively). These inflows resulted both from external operations conducted by monetary

financial institutions and directly through the TARGET system.<sup>(40)</sup> Thus, the monetary sector as a whole, monetary financial institutions and monetary authorities accounted for net inflows of this type of funds equivalent to 10.1 per cent of GDP in the first half of this year (16.7 per cent in the first half of 2001). As in the previous year, the raising of resources by monetary financial institutions was associated with deposit and long-term loans (7.6 per cent of GDP against 11.4 per cent of GDP in the same period of the previous year). The bulk of these inflows were related to the transfers to resident monetary financial institutions of funds obtained through the issuance of medium and long-term debt securities in international markets by branches abroad of Portuguese banks.<sup>(41)</sup> In the first half of 2002, operations conducted within the framework of the TARGET system reached 3.2 per cent of GDP (2.7 per cent of GDP in the first six months of 2001). Conversely, operations included in the item Other Investment conducted by non-financial corporations and private individuals, mostly deposits, resulted again in net outflows (1.3 and 1.6 per cent of GDP in the first half of 2001 and 2002 respectively).

In the first six months of 2002, Direct investment operations between Portugal and abroad resulted in net inflows equivalent to 2.8 per cent of GDP, by contrast with the outflows recorded in the same period of the previous year (3.7 per cent of GDP). In net terms, foreign direct investment in Portugal and Portuguese direct investment abroad decreased from the previous year, much more significant in the second case. These flows, in the first half of 2002, were not affected by intra-group operations conversely to the two previous years. In addition, the deceleration in global economic activity has also contributed to a reduction in direct investment flows. Foreign direct investment in Portugal reached 3.9 per cent of GDP (7.2 per cent in the first half of 2001), while Portuguese direct investment abroad reached only 1.1 per cent of GDP in the first half of 2002 against 10.9 per cent in the same period of 2001.



Portfolio investment operations recorded a nil balance, in net terms, contrasting with a slight deficit in the first six months of 2001 (0.8 per cent of GDP). This reflects both an increase in net investment by non-residents in national securities (from 5.1 to 5.6 per cent of GDP) and a reduction in net investment by residents in foreign securities (from 6.0 to 5.6 per cent of GDP). Investment by nonresidents was again chiefly directed to bonds and other long-term securities (7.6 against 5.9 per cent of GDP) mainly reflecting the higher investment in general government debt securities (from 0.8 to 5.4 per cent of GDP). Conversely, net disinvestments in money market instruments were more marked in the first six months of this year, when compared with the same period last year (3.8 and 0.6 per cent respectively). This is directly related to developments in redemptions of short-term securities issued by general government. In the first half of 2002, non-residents also invested in equity securities (1.8 per cent of GDP), compared with a basically nil balance (-0.2 per cent of GDP) in the first half of 2001. Resident investors redirected most of their investment abroad to bonds and other long-term debt securities (4.3 against 4.1 per cent of GDP), with a reduction in direct investment in money market instruments (from 0.9 to 0.1 per cent of GDP) and a slight increase, as a percentage of GDP, in net investment in equity securities (from 1.0 to 1.3 per cent of GDP). Thus, Portfolio

<sup>(40)</sup> Operations conducted by resident monetary financial institutions within the scope of the TARGET system are recorded in the Balance of payments as a change in Liabilities of Monetary Authorities under the item Other Investment.

<sup>(41)</sup>See text "The banking system in the first half of 2002", published in this *Economic Bulletin*.

#### Table 8.2

## FINANCIAL ACCOUNT<sup>(a)</sup>

As a percentage of GDP

	Jan-Dec. 2001	January-June 2001			January-June 2002		
	Net change	Change in liabilities	Change in assets	Net change	Change in liabilities	Change in assets	Net change
Financial Account	8.5	25.4	-14.6	10.8	28.2	-18.7	9.5
Direct Investment	-1.7	7.2	-10.9	-3.7	3.9	-1.1	2.8
Portfolio Investment	1.8	5.1	-6.0	-0.8	5.6	-5.6	0.0
Financial derivatives	0.2	-3.0	3.3	0.3	-2.5	2.4	-0.2
Other Investment	9.0	16.1	-0.8	15.2	21.3	-13.0	8.3
Reserve assets	-0.8	-	-0.2	-0.2	-	-1.4	-1.4
By institutional sector of the resident investor:							
Monetary Authorities	-0.3	2.3	0.0	2.3	3.8	-1.0	2.8
Portfolio Investment.	0.4	-	0.1	0.1	-	0.2	0.2
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Investment	0.1	2.3	0.0	2.3	3.8	0.2	4.0
Reserve assets	-0.8	-	-0.2	-0.2	-	-1.4	-1.4
General Government	2.8	-0.1	-0.6	-0.7	1.4	0.1	1.5
Direct Investment	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Portfolio Investment.	2.9	0.6	-1.1	-0.6	1.9	-0.4	1.5
Financial derivatives	0.1	-0.6	0.6	0.1	-0.5	0.4	-0.1
Other Investment	-0.2	-0.1	-0.1	-0.2	0.0	0.0	0.0
Monetary Financial Institutions	13.4	15.2	2.5	17.7	17.7	-9.8	7.9
Direct Investment	-0.4	0.0	0.6	0.6	0.1	0.1	0.3
Portfolio Investment	1.6	3.2	-0.9	2.3	1.7	0.0	1.7
Financial derivatives	0.2	-2.1	2.5	0.5	-1.9	1.7	-0.1
Other Investment	12.0	14.1	0.2	14.4	17.8	-11.8	6.1
Non-monetary Financial Institutions	-4.0	0.1	-6.4	-6.3	1.6	-4.8	-3.2
Direct Investment	-1.3	0.2	-3.0	-2.9	0.8	0.0	0.8
Portfolio Investment	-2.8	0.1	-3.5	-3.5	0.9	-4.7	-3.8
Financial derivatives	0.0	-0.1	0.1	0.0	-0.1	0.1	0.0
Other Investment	0.0	0.0	0.1	0.0	0.0	-0.2	-0.2
Non-financial Corporations and Private Individuals .	-3.4	7.9	-10.1	-2.2	3.7	-3.2	0.5
Direct Investment	0.0	7.1	-8.5	-1.4	3.0	-1.2	1.7
Portfolio Investment	-0.3	1.3	-0.6	0.7	1.1	-0.8	0.3
Financial derivatives	-0.1	-0.2	0.0	-0.2	-0.1	0.1	0.1
Other Investment	-3.0	-0.3	-1.0	-1.3	-0.3	-1.3	-1.6

Note:

(a) A (+) sign means an increase in foreign liabilities or a decrease in foreign assets, i.e. a financial inflow. A (-) sign means a decrease in foreign liabilities or an increase in foreign assets, i.e. a financial outflow.

investment abroad continued to be carried out by non-monetary financial institutions, particularly by investment funds, which is probably related to portfolio diversification strategies of these institutions within the scope of the Portuguese participation in the euro area.

## 9. CONCLUSION

The range for the GDP rate of change in 2002 included in the projections disclosed in the June 2002 issue of the *Economic Bulletin*, which corresponded to the Spring projection exercise, has not
been revised. However, there were some changes at the level of the composition of growth. Private domestic expenditure was revised downwards, particularly expenditure on durable consumer goods and investment, the components with higher import content, which will clearly record negative rates of change in 2002. As a whole, general government final expenditure is also expected to decelerate in 2002, albeit less than forecast in the Spring projection exercise. The contribution of total private and public domestic demand for Portuguese GDP growth in 2002 is expected to be negative, standing between -1 and 0 percentage points.

Consistent with the domestic demand revision, goods and services imports were significantly revised downwards. Given that the growth rate of goods and services exports remained broadly unchanged from the Spring projection, despite the significant deterioration of external demand relevant for the Portuguese economy, the contribution to growth of net exports was revised upwards, thus offsetting the reduction in domestic demand and enabling modest GDP growth.

As mentioned above, current projections are affected by a considerable degree of uncertainty, higher than usual at this time of the year. In addition to the significant uncertainty concerning the budgetary outturn for 2002, external trade statistics have been subject to an anomalous revision pattern (including the final data for 2001). Despite heightened uncertainty, no relevant qualitative changes are expected in the assessment made by the Banco de Portugal of recent developments in the Portuguese economy. The most important aspects of the analysis concern the inevitability of the adjustment of imbalances generated in the second half of the 1990s. In this period, the growth pattern of the Portuguese economy was characterised by strong expansions of public and private domestic expenditure, the latter financed by a considerable increase in household and corporate indebtedness, in a context of a marked decline in nominal and real interest rates. The growing deficit of the trade balance, which reached a peak in 2000, mirrored the unbalanced growth pattern of the Portuguese economy, giving rise to the widening of the joint deficit of the current and capital accounts. As from 2000, the private sector started to gradually adjust its behaviour, with a deceleration in private domestic demand and a gradual reduction in its borrowing requirements. Conversely, in 2001 general government borrowing requirements increased considerably and the general government deficit reached 4.1 per cent of GDP. This resulted from a deceleration in tax revenue, partly explained by the economic slowdown and the resilience of the strong growth of public expenditure.

The evolution of the private sector behaviour in 2002 is consistent with the continued adjustment process, albeit within a much more unfavourable international environment than in previous years. Financial consolidation difficulties of the general government are also likely to be giving rise to uncertainty in the private sector about the future behaviour of the economy, in parallel with the unfavourable short-term effects on the activity associated with a bigger tightness of fiscal policy.

Despite the adjustment already made by the private sector, when compared with the situation at end-1990s, this process is far from being concluded and it is expected to be gradually pursued in the coming years. The joint deficit of the current plus capital accounts, which reflects the net external borrowing requirements of resident economic agents, still remains very high in 2002, standing between 5¼ and 6¾ per cent of GDP, and it should be narrowed in the coming years to values that stabilise the international investment position of the Portuguese economy.

With regard to the general government, the effort of financial restructuring and consolidation has just started and will have to be deepened in the coming years. As acknowledged by the Government, some windfall generating measures, such as the large sales of real assets envisaged for 2002 and 2003, should be seen as emergency measures intended to bring down as soon as possible the public deficit to values below the reference value of 3 per cent of GDP laid down in the Treaty on European Union and in the Excessive Deficit Procedure Protocol annexed thereto. These measures do not reflect a true fiscal consolidation; they only provide more time permitting to take consolidation measures. It is crucial that the effort, which has barely started, continues determinately in the coming years — preferably resorting to a reduction in the primary current expenditure — even if this means to increase somewhat in the short run the effects on economic growth resulting from the endogenous adjustment of private demand components. Should the current deficit levels remain close to or even above 3 per cent of GDP, the recent increase in the public debt GDP ratio would be difficult to revert, and this should, by the end of 2002, reach a value close to the reference value of 60 per cent.

It is misleading to believe that the current controversy on the Stability and Growth Pact is a valid argument to postpone the fiscal consolidation effort. On the one hand, the Portuguese starting position, in relative terms, is more unfavourable than that of other Member States. On the other hand, the non-existence of clear rules of fiscal behaviour in a monetary union such as the euro area might raise risks for price stability, leading the European Central Bank to tighten the monetary policy, thereby offsetting the fiscal stimulus. Furthermore, the lack of rules ensuring the sustainability of government fiscal positions of individual Member States across the euro area would tend to penalise more the small countries with worse fiscal position, due to their need to finance the deficits in capital markets and would partly lose the confidence supported by credible common rules. Therefore, a fiscal deregulation in the euro area is likely to jeopardise rather than benefit the Portuguese position if fiscal consolidation is not pursued with determination. In fact, it should be stressed that the need for fiscal consolidation does not arise from the obligation to fulfil the Stability and Growth Pact requirements but rather from the need of ensuring sustained economic growth conditions for Portugal.

Wage moderation will be a fundamental aspect of the Portuguese economy adjustment in the near future. As repeatedly stated by the Banco de Portugal, the average growth of real compensation per employee in the economy as a whole cannot continue to be higher than productivity growth, as happened in the past six years. Otherwise, the Portuguese economy would continue to lose competitiveness, giving rise to inevitable high costs in terms of higher unemployment and lower growth. In order to favour wage moderation, a clear containment in the wage scale update of civil servants will potentially assume an important signalling role, also particularly justified by fiscal adjustment concerns. Additionally, it is important that the effects on consumer prices of the increase in the VAT standard rate, introduced in May 2002 Supplementary Budget, do not entail wage compensation phenomena. Should this compensation occur, a temporary disturbance of the inflation rate would turn into a more permanent effect, with potentially adverse effects on the competitiveness of the Portuguese economy.

Completed with information available as at 16 October 2002

#### **Box 1: REVISIONS TO INTERNATIONAL TRADE DATA**

Statistics on exports and imports of goods are a key element in the production of national accounts estimates by the Banco de Portugal. They not only determine a significant share of the contribution of net external demand to growth, but they also influence domestic demand estimates. Thus, the continuous revisions made throughout 2002 to the year-on-year rates of change in goods trade imply a higher degree of uncertainty for the estimates disclosed in this "Economic bulletin".

Preliminary results for international trade released on a monthly basis by the National Statistical Office (INE) arise, in the case of intra-Community trade, from the accumulation of figures reported by enterprises whose turnover from trade stands above the specific statistical thresholds.<sup>(1)</sup> For example, the release of international trade data for March shows the figures on intra-Community exports and imports for the period between January and March, included in data reported up to the cut-off date for the March issue. Given that there is no extrapolation of results to include non-reported data, the figures for each month are, in general, systematically revised upwards in the following issues, due to the (delayed) reporting of new data referring to the January-March period.

Revisions in 2002 represent a significant change from the revision pattern seen in previous years. In fact, the usual upward revision of figures for a given month is now far less significant than in previous years.<sup>(2)</sup> As a result, monthly or cumulative year-on-year changes — calculated by comparing the levels of an issue in a given month in 2002 with the same levels of the corresponding issue in 2001, so as to ensure consistency<sup>(3)</sup> — have been subject to substantial downward revisions in the course of 2002. These revisions were more significant in recent months (June and July issues) (see Table 1). For example, it should be noted that the rate of change in goods ex-

#### Table 1

		Month	ly year-	on-year per cent	rate of	change,		Cumulative year-on-year rate of change, (per cent)						
				Issue in	:			Issue in						
	Jan.	Feb.	Mar.	Apr.	May	June	July	Jan.	Feb.	Mar.	Apr.	May	June	July
Imports														
2002														
Jan	-2.8	-1.5	-2.6	-4.3	-4.0	-3.8	-4.9	-2.8	-1.5	-2.6	-4.3	-4.0	-3.8	-4.9
Feb		4.1	0.2	-2.1	-1.9	-2.8	-2.7		1.3	-1.2	-3.2	-3.0	-3.3	-3.8
Mar			-6.7	-8.6	-8.6	-10.1	-11.0			-3.2	-5.2	-5.0	-5.8	-6.5
Apr				7.6	7.6	6.2	5.8				-2.2	-2.0	-2.9	-3.5
May					-4.3	-7.7	-7.2					-2.5	-3.9	-4.3
June						-2.5	-6.6						-3.7	-4.7
July							5.8							-3.3
Exports														
2002														
Jan	-0.6	4.5	1.9	-0.3	0.2	-0.6	-1.4	-0.6	4.5	1.9	-0.3	0.2	-0.6	-1.4
Feb		-0.1	2.2	1.1	1.8	-1.2	-1.8		2.2	2.1	0.4	1.0	-0.9	-1.6
Mar			-2.5	-2.3	-4.0	-5.6	-6.8			0.4	-0.5	-0.8	-2.6	-3.5
Apr				15.0	16.4	12.7	12.1				3.1	3.2	1.0	0.2
May					4.6	1.3	-0.9					3.5	1.1	0.0
June					-10	1.7	-2.9					210	1.2	-0.5
July							9.1							0.9

### INTERNATIONAL TRADE – REVISIONS TO MONTHLY AND CUMULATIVE YEAR-ON-YEAR RATES OF CHANGE IN 2002

(1) Extra-Community trade data are exhaustively reported by customs authorities.

(2) In the July issue, there were even downward revisions of data, in levels, for some months, in particular of data on exports, which represents an unprecedented fact.

(3) The rationale behind the comparison of first versions lies in the fact that if cut-off dates for each issue are not substantially changed each year, it will be possible to obtain a similar sample of reporting firms for both periods.

_	Cumulative rate of chan per	nge January-December, cent	Revision, in p.p
_	Issu	e in:	
_	Dec.(A)	Final (B)	(B)-(A)
Imports			
Total	2.3	1.8	-0.5
Consumer goods	7.5	6.9	-0.6
Food	10.7	11.0	0.3
Other	5.8	4.7	-1.1
Capital goods	-0.8	-0.3	0.6
Transport equipment	-5.4	-4.5	0.9
Other	3.6	3.7	0.1
Fuel	-4.6	-4.4	0.3
ntermediate goods	4.6	2.7	-1.9
Exports			
Гоtal	5.8	3.6	-2.2
Consumer goods	4.9	2.4	-2.6
Food	2.7	1.8	-0.9
Other	5.4	2.5	-2.9
Capital goods	17.2	15.0	-2.1
Transport equipment	18.9	15.9	-3.0
Other	14.7	13.8	-0.9
Fuel	-24.1	-24.3	-0.2
Intermediate goods	-1.6	-3.4	-1.8

# \_\_\_\_

ports in the first quarter, released in the March issue, stood at 0.4 per cent, being revised to -2.6 per cent in the June issue and to -3.5 per cent in the July issue. As regards imports, the quarterly change released in the March issue, (-3.2 per cent), was subsequently revised to -5.8 and -6.5 per cent in June and July respectively.

In this context, when preparing the estimates of goods trade outflows in the first half-year, the Banco de Portugal chose to consider nominal growth rates of exports and imports for this period below those implied in the "INE's" July issue, in an attempt to anticipate further data revisions. However, these corrections can be more or less significant than the assumptions of the Banco de Portugal, thereby representing a considerable source of uncertainty. It should also be noted that nominal data revisions are also likely to imply a revision of the "INE's" external trade quarterly deflators for the first two quarters of the year — used in the estimates of the Banco de Portugal — whose calculation was based on the first data versions for each quarter.

Although of a different nature, there was also a substantial revision of the rates of change in exports and imports for 2001, with the release by the National Statistical Office of final data for international trade. As a result, nominal export and import growth was revised to 3.6 per cent and 1.8 per cent respectively in 2001 as a whole. In view of the increases implied in the release of international trade data for December 2001, these rates imply a downward revision of 2.2 and 0.5 percentage points respectively (see Table 2). This revision — more marked in the case of exports — largely explains the downward revision of GDP growth in 2001.<sup>(4)</sup> The lower export growth implied in final data also resulted in a significant downward revision of the gain in the external market share of Portuguese exporters in 2001. The estimate of this gain in the 2001 annual report was 2.7 per cent, based on provisional data for external trade. When considering final data, this gain is now marginal (0.4 per cent).

(4) See footnote 1 in the main text.

### Box 2: INFLATION IN 2002: DEVIATION FROM THE PREVIOUS PROJECTION

This Economic Bulletin updates the projection for the average rate of change of the Harmonised Index of Consumer Prices (HICP) in 2002 to a range of 3.5 to 3.7 per cent. It is thus a downward revision against the projection published in the June 2002 issue of the Economic Bulletin (between 3.5 and 4.5 per cent). The more favourable behaviour of the HICP, against the previous projection, mainly reflects two factors:

(i) The impact on prices of the rise in the standard VAT rate in June, from 17 to 19 per cent, will have been lower than previously anticipated.

The available data suggests that the impact of the rise in the standard VAT rate on the consumer price index is likely to have been lower than expected (0.6 against 0.8 per cent), reflecting an incomplete pass-through of the rise in the standard VAT rate to consumer prices, associated with a narrowing of profit margins, in a context of weak buoyancy of private consumption.

On the other hand, the pass-through of the VAT rise to consumer prices appears to have been slower than expected, thus also contributing to a lower impact on the 2002 average inflation rate. In this context, references should be made to the tobacco price performance (the existence of tobacco stocks is likely to have contributed to this wider lag), and, in particular, to the evolution of prices of "clothing and footwear". In the latter, the pass-through of the VAT rise to consumer prices seems to have been postponed until the launch of the new collections due to the usual sales period. The price reductions registered this year seem to have been particularly strong, even contributing to a decline of the year-on-year rate of change of the prices of this component (see Chart).



As a result, the impact of the rise in the VAT rate on the annual average change in the HICP in 2002 is now estimated to stand at around 0.2 percentage points, compared with 0.4 percentage points, as previously estimated.

#### (ii) The import prices of consumer goods developed more favourably than previously projected.

In contrast to other factors with an impact on inflation — which were in line with the previous projections, namely wages and administered prices —, import prices of consumer goods followed a more favourable trend than forecasted in June. In fact, import prices of consumer goods are likely to record, in annual average terms, a virtually nil growth, in contrast to an increase, as projected in the previous exercise. Part of this revision appears

to have been related to more positive developments in most international prices of consumer goods and to the appreciation of the exchange rate of the euro in the second half of the year (see Chart). It should be noted that the Eurosystem macroeconomic projections are based on the technical assumption of unchanged exchange rates. These developments are estimated to have contributed around 0.1-0.2 percentage points to the deviation of the average inflation rate in 2002.

### THE BANKING SYSTEM IN THE FIRST HALF OF 2002

### **1. INTRODUCTION**

Following the procedure adopted in the 2001 *Annual Report*, the analysis of the banking system<sup>(1)</sup> presented in this section is based on consolidated activity data,<sup>(2)</sup> since they best reflect the economic situation of banks as business groups. Banks' total accounts are thus analysed irrespective of the territory in which they are developed. Given the reduced internationalisation of the banks that have their head office in Portugal, the most significant part of their results obviously arises from activity carried out in Portugal.

In the first half of 2002, the activity of the Portuguese banking system decelerated, due to the fall in the growth rate of credit to customers (Table 1.1). In turn, there was a slight acceleration in resources from customers. The slowdown in credit to customers appears to be reflecting an adjust-

(2) The analysis focuses mainly on the aggregated banking system — consolidated activity calculated as a simple aggregation of: (i) balance sheets of financial groups, on a consolidated basis, which include in their perimeter of consolidation at least one MFI carrying on its activity chiefly in Portugal and (ii) balance sheets of MFIs, on an individual basis, which are not consolidated in Portugal. However, whenever applicable (whether due to the need of greater detail or the need to analyse longer periods), data will be analysed on an individual basis and Monetary and Financial Statistics will be used. For more details, see the Supplement to the *Statistical Bulletin* of August 2001, entitled "Statistical balance sheet and Accounting balance sheet of other monetary financial institutions". ment of the economic agents' financial situation, given the slowdown in domestic economic activity and its high indebtedness level, being particularly apparent in credit granted to non-financial corporations.

The slowdown in economic activity seems to have also contributed to a slight increase in delinquency ratios, which, nevertheless, still remain at rather reduced levels. In view of these developments, there was a significant rise in provisioning, which prevented a further deterioration of credit provisioning ratios.

The imbalance between rates of growth of credit and resources from customers decreased during the first half of 2002. This, together with the continued recourse to financing through the issuance of securities and the contracting of subordinated loans, allowed for a significant reduction in (net) interbank financing, particularly interbank financing from non-resident institutions (thus strengthening a development already apparent in 2001, and which indicates a reversal of the trend started when Portugal joined the Monetary Union). In this context, there was an improvement in liquidity ratios.

In the first half of 2002, profitability indicators recorded levels comparable to those seen in 2001 as a whole, although clearly below those seen in the corresponding period in 2001. It should be noted, however, that results obtained in the first half of 2001 were largely associated with particularly low provisioning during that period.<sup>(3)</sup> The financial margin narrowed (mainly as a result of the

<sup>(1)</sup> Except otherwise specified, the aggregate considered for the Portuguese banking system refers to all banks (including *Montepio Geral* Savings Bank), other savings banks and mutual agricultural credit banks, excluding banks having their head office or carrying on their activities chiefly in the Madeira off-shore and/or carrying on their activities chiefly with non-residents. Branches of credit institutions having their head office in another European Union Member State — except those that are not classified as monetary financial institutions (MFIs) — as well as branches of credit institutions from third countries are also considered as banks and included in this aggregate.

<sup>(3)</sup> In the first half of 2001, the flow of provisions accounted for 0.38 per cent of average assets, compared with 0.56 per cent in the first half of 2000 and 0.54 per cent in the first six months of 2002.

### Table 1.1

### SUMMARY TABLE

#### On a consolidated basis

	1999	2000	2001	2000	2001	2002
	Dec.	Dec.	Dec.	June	June	June
As a percentage of total average assets						
Financial margin.	2.45	2.21	2.24	2.30	2.26	2.10
Other current income	1.33	1.30	1.17	1.45	1.21	1.25
Banking product	3.77	3.51	3.41	3.75	3.47	3.35
Administrative expenses.	2.07	1.79	1.73	1.90	1.70	1.66
Extraordinary gains	0.40	0.27	0.01	0.12	0.01	0.09
Depreciation for the year.	0.31	0.25	0.24	0.26	0.23	0.22
Net provisions.	0.66	0.63	0.45	0.56	0.38	0.54
Taxes on profit for the year	0.20	0.19	0.16	0.24	0.22	0.17
Income before minority income	0.92	0.91	0.85	0.91	0.95	0.85
Net income for the year	0.70	0.70	0.69	0.59	0.78	0.73
Return on equity (ROE) <sup>(a)</sup>	14.7	15.1	14.9	14.7	16.5	15.3
Return on equity (ROE) <sup>(b)</sup>	16.1	16.6	17.2	13.8	19.1	18.8
Administrative expenses (as a percentage of banking product)	54.8	51.1	50.7	50.7	49.1	49.6
Coverage of interbank liabilities by highly liquid assets						
(percentage)	101.4	88.6	91.4	91.8	88.9	94.0
Credit and interest overdue (as a percentage of gross credit)	n.a.	2.18	2.12	n.a.	2.11	2.21
Specific provision of credit (as a percentage of gross credit)	1.78	1.48	1.42	1.67	1.41	1.44
Credit and interest overdue, net of specific provisions						
(as a percentage of credit net of specific provisions)	n.a.	0.72	0.71	n.a.	0.71	0.78
Rates of change						
Income before minority income	17.4	14.9	3.4	n.a.	18.6	-3.4
Net income for the year	15.4	16.8	9.4	n.a.	48.2	0.3
Credit to customers (gross)	25.9	21.7	13.2	n.a.	17.5	9.6
Resources from customers	9.3	9.9	7.0	n.a.	4.6	7.4
Capital adequacy ratio (percentage) <sup>(c)</sup>	10.8	9.2	9.5	9.5	9.8	9.8
Employees	61 969	58 485	56 147	61 869	58 738	55 268
Branches	5 482	5 649	5 590	5 606	5 582	5 472
Average total assets (EUR million)	204 773	237 223	264 622	229 298	259 915	278 558

Notes:

(a) Net income before minority income as a percentage of equity capital.

(b) Net income deducted of minority income as a percentage of equity capital deducted of minority income.

(c) Own funds/(Total requirements\*12.5).

Whenever necessary, six-month figures are annualised.

fall in differentials between lending and deposit interest rates). However this was largely offset by a rise in other current income (resulting from the significant rise in income from financial operations).

In June 2002, capital adequacy ratios remained at levels rather similar to those seen in the corresponding period in 2001 (and slightly above those recorded in December 2001). It should be noted, however, that in the course of the last 12 months, developments in own funds were mainly supported by the issuance of debt securities, with base own funds remaining broadly unchanged. During the first half of 2002, there was an increase in base own funds, in contrast to what happened in the second half of 2001.

#### 2. MARKET STRUCTURE

At the end of the first half of 2002, there were 59 banks operating in Portugal,<sup>(4)</sup> of which 28 were non-domestic banks (Chart 2.1).<sup>(5)</sup> The Portuguese banking system also included 133 mutual agricultural credit banks and 5 savings banks. Compared with December 2001, 2 new banks started to operate (one of which a non-domestic bank) and 4 mutual agricultural credit banks ceased their activity.

<sup>(4)</sup> Including Montepio Geral Savings Bank.

<sup>(5)</sup> This subset includes subsidiaries (meaning institutions having their head office in Portugal, with the majority of their capital held by banking groups having their head office abroad) and branches of foreign banks, including subsidiaries of banks having their head office in the European Union.



At the end of June 2002, banks represented more than 95 per cent of the total banking system, measured in terms of both net assets, credit to customers and resources from customers (Table 2.1). The importance of the activity of savings banks and mutual agricultural credit banks remained relatively subdued when compared with that of banks. Although the former represent 2.5 and 67.5 per cent respectively of the total number of institutions, and 0.4 and 12.4 per cent respectively of the total number of branches, their combined weight in terms of net assets, credit to customers and resources from customers does not exceed 3.0, 3.1 and 4.8 per cent of the total banking system. Overall, these are institutions with a small average size and whose activity is mainly of a local nature.

The market share of the five major banking groups (on a consolidated basis) decreased slightly during the first half of 2002, in line with what has been seen since 2000 (Table 2.2). Their weight in total assets decreased from 79.6 per cent (of the total banking system) in December 2001, to 78.4 per cent in June 2002. The most significant decrease, by 2.6 percentage points, to 76.4 per cent, was recorded in terms of the weight in total resources from customers. The decrease in credit to customers was negligible, by 0.4 percentage points, to 79.7 per cent.

With regard to the weight of non-domestic banks in the Portuguese banking system as a whole, their share in the total assets of the banking system stood at 18.1 per cent (17.7 per cent in December 2001). The most significant change was the

#### Table 2.1

# BANKING SYSTEM STRUCTURE<sup>(a)</sup> 30 June 2002

	Banks <sup>(b)</sup>	%	of which: non- domestic	%	Savings banks	%	Mutual agricultural credit banks	%
Number of institutions	59	29.9	28	14.2	5	2.5	133	67.5
Net assets	272 888.0	97.0	50 902.4	18.1	340.9	0.1	8 190.5	2.9
Credit to customers	182 435.1	96.9	31 542.9	16.8	217.6	0.1	5 635.2	3.0
Resources from customers	143 688.6	95.2	25 844.3	17.1	282.6	0.2	7 028.4	4.7
Branches	4 773.0	87.2	806.0	14.7	20.0	0.4	679.0	12.4
Employees	51 795.0	93.7	9 036.0	16.3	146.0	0.3	3 327.0	6.0

Notes:

EUR million

(a) On a consolidated basis for balance sheet variables (assets, credit and resources) and individual data for the number of employees and branches. Excludes banks having their head office and carrying on their activity chiefly in Madeira's off-shore and/or carrying on their activities chiefly with non-residents.

(b) Including Montepio Geral Savings Bank.

### Table 2.2

# MARKET SHARE OF THE FIVE MAJOR BANKING GROUPS

# On a consolidated basis

Per cent					
	1999	2000	20	2002	
	Dec.	Dec.	June	Dec.	June
-					
Credit to customers	75.6	81.6	81.0	80.1	79.7
Resources from					
customers	77.9	80.9	78.9	79.0	76.4
Assets	75.0	81.8	80.2	79.6	78.4
Branches	67.3	71.5	70.8	69.5	68.6

Note: Excludes banks having their head office and carrying on their activity chiefly in Madeira's off-shore and/or carrying on their activities chiefly with non-residents.

rise in the share of these institutions in resources from customers, which, after increasing by 1.4 percentage points during the first half of 2002, stood at 17.1 per cent in June 2002 (Table 2.3). It should be noted that the increase in the share of these institutions regarding resources was closely associated with developments in a small set of institutions, which recorded a significant rise in nonresident deposits.<sup>(6)</sup>

# **3. BANKING ACTIVITY**

Banking activity, on a consolidated basis and measured in terms of total assets, rose by 5.9 per cent in the first half of 2002 year-on-year, compared with 10.9 and 11.1 per cent respectively in June and December 2001 (Tables 3.1 and 3.2). The deceleration observed was closely associated with the slowdown in the growth of credit to customers (net of specific provisions), which rate of change decreased by 3.7 percentage points between December 2001 and June 2002, standing at 9.6 per cent at the end of the first half of 2002. The decrease in the rate of change in total assets can also be explained by the fall in contributions from investment in other credit institutions and from seTable 2.3

# MARKET SHARE OF NON-DOMESTIC BANKS

# On a consolidated basis

Per cent

	1999	2000	200	)1	2002
	Dec.	Dec.	June	Dec.	June
Credit to customers (gross) Resources from	8.1	15.9	15.7	16.9	16.8
customers	5.2 10.6 6.0	14.9 16.0 14.0	16.1 16.9 14.1	15.7 17.7 15.6	17.1 18.1 14.7

Note: Excludes banks having their head office and carrying on their activity chiefly in Madeira's off-shore and/or carrying on their activities chiefly with non-residents.

curities and financial fixed assets (net of provisions). On the liabilities side, special reference should be made to the decrease in resources from other credit institutions (particularly from credit institutions abroad, thus reversing the trend observed during the past few years), and to the acceleration (albeit slight) in resources from resident customers.

### 3.1. Credit

In the first half of 2002, credit granted by the banking system continued to slowdown, a trend already seen in 2001. In June 2002, in terms of consolidated data for the banking system, the year-on-year rate of change in credit to customers (net of specific provisions) stood at 9.6 per cent, which compares with 13.3 per cent at the end of 2001 (and 17.8 per cent in June 2001).

Developments in aggregate credit granted by the banking system have been conditioned by securitisation operations, through which credit originally granted by banking institutions is transferred to other institutions (thereby leading to their withdrawal from the banking institutions' balance sheet). Available information suggests that the weight of securitised loans in total loans originally granted by the banking system to the non-financial private sector (non-financial corporations and households) rose to 1.7 per cent in June 2002, from 0.7 and 1.5 per cent in June and December 2001.

<sup>(6)</sup> If resources from non-residents taken by this set of institutions were not considered, instead of a rise in the total system from 7.0 to 7.4 per cent in the rate of change in resources from customers (Table 1.1), there would have been a decrease in this rate, from 6.2 to 5.5 per cent.

# Table 3.1

# BALANCE SHEET OF THE BANKING SYSTEM

# On a consolidated basis

#### EUR million

	1998	1999	2000	2000	2001	2001	2002
	Dec.	Dec.	June	Dec.	June	Dec.	June
Cook and accets in control banks	0.007	10.090	0.020	0.049	7 000	10.002	0 1 9 1
cash and assets in central banks	0 00/	10 829	8 930 9 159	9 042	1 892	10 003	8 121 7 971
Or which: cash and assets in the banco de Portugal	0000	10 020	0 100	8 392 20 500	0 897	0 90/	1 3/1
	30 984	27 254	31 174	28 596	32 318	33 887	33 425
In the country	n.a.	n.a.	n.a.	10 952	10 283	12 /68	10 185
	n.a.	n.a.	n.a.	1/ 644	22 036	21 119	23 240
Credit to customers (net of provisions)	103 523	131 213	145 930	160 235	171 860	181 468	188 288
Credit overdue	n.a.	n.a.	n.a.	3 553	3677	3 903	4 222
Provisions	2 577	2 377	2 473	2 406	2 458	2 609	2 754
Securities and financial fixed assets (net of provisions)	33 594	31 843	36 308	36 984	37 427	35 950	33 593
Non-financial fixed assets and other assets	13 560	17 880	17 235	15 262	16 306	17 096	17 992
Total assets	190 527	219 019	239 577	250 719	265 804	278 464	281 419
Resources from central banks	1 690	3 158	2 954	3 462	3 061	2 766	2 149
of which: Banco de Portugal	1 383	2 658	2 658	3 300	2 818	2 238	1 934
Resources from other credit institutions	41 748	44 920	52 692	51 834	55 602	57 017	52 019
In the country	n.a.	n.a.	n.a.	10 024	8 513	11 099	9 420
Abroad	n.a.	n.a.	n.a.	41 810	47 089	45 918	42 599
Resources from customers.	116 729	127 606	134 422	140 205	140 655	150 033	150 997
Deposit of resident customers	n.a.	n.a.	n.a.	109 976	105 109	113 851	110 603
Deposit of non-resident customers	n.a.	n.a.	n.a.	30 181	35 462	36 083	40 403
Liabilities represented by securities.	6 606	13 225	18 633	23 106	30 604	32 973	39 042
of which: bonds	5 239	10 072	14 997	18 214	24 435	27 307	31 204
Subordinated debt	3 892	4 521	5 100	5 392	7 200	8 076	8 305
Provisions	1 847	2 263	2 536	3 119	3 422	3 354	3 382
Other liabilities	6 217	9 487	8 832	9 015	10 314	8 810	9 986
Equity capital.	11 798	13 840	14 408	14 587	14 947	15 436	15 539
Net income for the year	1 241	1 431	681	1 672	1 008	1 829	1 011
Total liabilities and equity capital	190 527	219 019	239 577	250 719	265 804	278 464	281 419
Memo:							
Demand deposits	37 659	44 363	44 828	47 188	45 343	53 033	51 222
Time and savings deposits	78 975	83 195	89 490	92 969	95 228	96 901	99 784
Credit to other credit institutions net of resources	-10 764	-17 666	-21 518	-23 237	-23 283	-23 130	-18 594
In the country	n.a.	n.a.	n.a.	928	1 770	1 669	765
Abroad	n.a.	n.a.	n.a.	-24 165	-25 054	-24 799	-19 359
Resources from customers (including securities issued) of which:	n.a.	n.a.	n.a.	149 071	150 061	160 518	162 077
Resources from customers (deposits and deposit-like							
instruments)	116 729	127 606	134 422	140 205	140 655	150 033	150 997
Issued securities held by resident customers (estimate) $\ldots \ldots$	n.a.	n.a.	n.a.	8 866	9 405	10 485	11 080
In the domestic institutions subgroup							
Credit to other credit institutions net of resources	-8 319	-14 038	-18 704	-19 753	-21 567	-18 612	-16 454
In the country	n.a.	n.a.	n.a.	727	901	156	-36
Abroad.	n.a.	n.a.	n.a.	-20 480	-22 468	-18 768	-16 418
Resources from customers (including securities issued)	n.a.	n.a.	n.a.	126 812	125 527	135 045	134 154
Resources from customers (deposits and deposit-like							
instruments)	110 268	120 976	114 386	119 381	117 953	126 449	125 155
Issued securities held by resident customers (estimate)	n.a.	n.a.	n.a.	7 431	7 574	8 596	8 999

# Table 3.2

# **BALANCE SHEET OF THE BANKING SYSTEM**

On a consolidated basis

_			Year-on-year rate of change								
_	1998	1999	2000	2001	2001	2002	1999	2000	2001	2001	2002
_	Dec.	Dec.	Dec.	June	Dec.	June	Dec.	Dec.	June	Dec.	June
Cash and assets in central banks	4.7	4.9	3.8	3.0	3.6	2.9	22.1	-11.0	-11.6	4.4	2.9
of which: cash and assets in the Banco de Portugal	4.5	4.6	3.4	2.6	3.2	2.6	16.5	-14.3	-15.5	4.6	6.9
Credit to other credit institutions	16.3	12.4	11.4	12.2	12.2	11.9	-12.0	4.9	3.7	18.5	3.4
In the country	n.a.	n.a.	4.4	3.9	4.6	3.6	n.a.	n.a.	n.a.	16.6	-1.0
Abroad	n.a.	n.a.	7.0	8.3	7.6	8.3	n.a.	n.a.	n.a.	19.7	5.5
Credit to customers (net of provisions)	54.3	59.9	63.9	64.7	65.2	66.9	26.7	22.1	17.8	13.3	9.6
Credit overdue	n.a.	n.a.	1.4	1.4	1.4	1.5	n.a.	n.a.	n.a.	9.8	14.8
Provisions	1.4	1.1	1.0	0.9	0.9	1.0	-7.8	1.2	-0.6	8.4	12.0
Securities and financial fixed assets (net of provisions)	17.6	14.5	14.8	14.1	12.9	11.9	-5.2	16.1	3.1	-2.8	-10.2
Non-financial fixed assets and other assets	7.1	8.2	6.1	6.1	6.1	6.4	31.9	-14.6	-5.4	12.0	10.3
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	15.0	14.5	10.9	11.1	5.9
Resources from central banks	0.9	1.4	1.4	1.2	1.0	0.8	86.8	9.6	3.6	-20.1	-29.8
of which: Banco de Portugal	0.7	1.2	1.3	1.1	0.8	0.7	92.1	24.2	6.0	-31.6	-31.4
Resources from other credit institutions	21.9	20.5	20.7	20.9	20.5	18.5	7.6	15.4	5.5	10.0	-6.4
In the country	n.a.	n.a.	4.0	3.2	4.0	3.3	n.a.	n.a.	n.a.	10.7	10.7
Abroad	n.a.	n.a.	16.7	17.7	16.5	15.1	n.a.	n.a.	n.a.	9.8	-9.5
Resources from customers of which:	61.3	58.3	55.9	52.9	53.9	53.7	9.3	9.9	4.6	7.0	7.4
Deposits to resident customers	n.a.	n.a.	43.9	39.5	40.9	39.3	n.a.	n.a.	n.a.	3.5	5.2
Deposits to non-resident customers	n.a.	n.a.	12.0	13.3	13.0	14.4	n.a.	n.a.	n.a.	19.6	13.9
Liabilities represented by securities	3.5	6.0	9.2	11.5	11.8	13.9	100.2	74.7	64.2	42.7	27.6
of which: bonds	2.7	4.6	7.3	9.2	9.8	11.1	92.3	80.8	62.9	49.9	27.7
Subordinated debt	2.0	2.1	2.2	2.7	2.9	3.0	16.2	19.3	41.2	49.8	15.3
Provisions	1.0	1.0	1.2	1.3	1.2	1.2	22.5	37.8	35.0	7.5	-1.2
Other liabilities.	3.3	4.3	3.6	3.9	3.2	3.5	52.6	-5.0	16.8	-2.3	-3.2
Equity capital	6.2	6.3	5.8	5.6	5.5	5.5	17.3	5.4	3.7	5.8	4.0
Net income for the year	0.7	0.7	0.7	0.4	0.7	0.4	15.4	16.8	48.2	9.4	0.3
Total liabilities and equity capital											
Memo:											
Demand deposits	19.8	20.3	18.8	17.1	19.0	18.2	17.8	6.4	1.1	12.4	13.0
Time and savings deposits	41.5	38.0	37.1	35.8	34.8	35.5	5.3	11.7	6.4	4.2	4.8



Nevertheless, the share of credit to customers in the assets of the banking systems continued to rise, standing at 66.9 per cent in June 2002 (compared with 65.2 per cent in December 2001). Considering figures on an individual basis, it can be observed that the year-on-year rate of change in credit to residents (which accounts for around 94 per cent of total credit granted, net of provisions) was 8.1 per cent in June 2002, compared with 13.0 per cent at the end of 2001 (and 19.7 per cent in June 2001).

From the analysis of Monetary and Financial Statistics<sup>(7)</sup> it can be concluded that the slowdown in credit to residents in the first half of 2002 was



mainly due to the significant deceleration in credit to non-financial corporations. In contrast, the growth of credit to households remained relatively sustained (due to credit operations for house purchase).

# 3.1.1. Households

In June 2002, the year-on-year rate of change in credit to households stood at 10.3 per cent (10.2 per cent in August), compared with 10.4 per cent in December 2001 (Table 3.3 and Chart 3.1). The rate of change in credit for house purchase was 13.1 per cent (similarly to December 2001 and August 2002). Determinants of housing affordability via borrowing remained relatively stable (Chart 3.2). In the second quarter of 2002, similarly to the corresponding period in 2001, there was a rise in the number of credit contracts for house purchase under all systems (Chart 3.3). It should be noted that at the beginning of May the Government announced the end of the subsidised credit system regarding new contracts for house purchase, construction, maintenance and improvement. This measure, which entered into force at the beginning

<sup>(7)</sup> These statistics are the data source used to analyse, by institutional sector, developments in credit to the non-financial private sector, which includes households and non-financial corporations.

# Table 3.3

# BANK LOANS TO THE NON-FINANCIAL PRIVATE SECTOR

# Year-on-year percentage rate of change

		Households		Non-financial corporations							Total		
_	Total	By pur	pose	Total				By sector	of activity				households and
		Housing	Other		Agriculture,	Mining	Manufact-	Production	Construction	tion Services			non-financial
			credit (a)		livestock, forestry and		uring	and distribu- tion of		Total	of whic	h:	corporations
					fishing			electricity, gas and water			Services pro- R vided mainly to corporations	eal estate ac- tivity	
1998											<b>I</b>		
Dec 1999	31.4	34.6	23.5	22.9	4.6	3.1	15.6	23.1	33.3	24.4	35.6	25.5	27.3
Mar	31.5	34.5	23.6	27.5	15.8	19.3	15.1	42.2	30.5	32.4	55.4	30.9	29.6
June	34.9	37.6	27.9	26.7	16.3	41.1	14.6	66.9	29.0	29.5	60.2	32.3	31.0
Sep	31.2	32.6	27.4	28.0	30.2	41.9	13.4	52.0	33.7	31.2	91.1	33.4	29.7
Dec	27.6	30.1	20.9	26.6	24.8	37.1	13.5	41.9	31.6	29.8	74.5	41.8	27.1
2000	07.0	00.4	00.0	07.0	10.0	10.0	10.7	00.1	40.0	00.1	0.0.0	40.0	07.0
Mar	27.3	28.4	23.9	27.2	10.0	10.8	16.7	33.1	40.9	28.1	62.9 52.4	42.0	27.2
Sop	20.4	22.2	15.0	20.0	10.8	-1.9	20.5	26.0	41.0	25.0	15.3	38.9 44.0	23.2
Бер Dec	20.3	20.3	24.1	20.5	5.3	61	14.6	40.5	39.9	23.3	49.9	30.5	22.5.1
2001	81.8	20.0	~ 1.1	<i>w</i> 1.1	0.0	0.1	11.0	10.0	00.0	22.1	10.0	00.0	22.0
Mar	17.9	17.5	19.0	23.0	-0.8	7.4	11.9	6.0	32.2	26.3	64.8	32.1	20.3
Apr	18.6	18.1	20.2	18.3	4.4	2.7	11.9	5.5	30.3	18.3	24.5	29.8	18.4
May	16.9	16.7	17.7	18.2	-0.7	-1.6	10.2	15.9	29.8	18.5	22.0	33.3	17.5
June	16.5	16.4	16.9	22.7	4.4	0.6	8.9	5.7	30.1	27.6	69.9	40.2	19.4
July	16.4	16.2	17.0	20.8	2.7	10.0	9.6	1.1	26.3	25.3	68.7	36.7	18.5
Aug	15.5	15.9	14.1	20.8	4.3	10.0	8.4	3.2	29.8	24.2	67.4	36.1	18.0
Sep	14.7	15.9	11.4	20.3	0.8	12.7	8.3	0.8	28.4	23.9	71.2	36.6	17.4
Oct	13.8	15.8	7.8	17.0	3.1	22.4	7.1	-5.4	25.8	19.5	55.1	35.9	15.3
Nov	13.1	15.7	5.5	17.3	2.8	17.6	6.0	-6.3	24.7	21.1	57.3	36.5	15.1
Dec	10.4	13.1	2.8	16.4	8.0	24.4	9.9	-11.1	19.6	19.7	48.3	41.7	13.2
2002	10.5	19.4	2.0	15.0	6.9	99.9	75	7.6	10.7	10.1	10 /	27.0	12.0
Jan Feb	10.5	13.4	2.0	10.8	0.8	23.2	7.0	-7.0	19.7	19.1	48.4	37.9	13.0
Mar	11.2	13.7	4.0 5.0	14.5	4.5	29.1	5.4	-0.5	18.1	11.2	12 4	34.8	11.5
Apr	10.9	13.3	3.6	11.5	0.8	31.6	2.8	8.1	18.0	12.6	16.0	36.9	11.5
Mav	11.2	13.7	3.7	10.6	0.9	23.3	1.8	-1.6	16.7	12.3	18.6	36.1	10.9
June	10.3	13.1	1.8	9.4	0.3	14.1	4.7	1.5	12.5	10.5	13.6	28.0	9.9
July	10.0	13.2	0.4	9.2	2.2	23.6	5.8	-1.2	11.0	10.1	8.5	29.4	9.6
Aug	10.2	13.1	1.3	7.7	1.2	21.1	6.3	5.6	7.5	8.3	6.8	26.5	9.0
Memo:													
Percentage of credit to the non-financial													
private sector in Dec. 2001	51.5	38.9	12.6	48.	5 0.6	0.4	9.0	1.4	9.8	27.	.1 5.8	5.9	100.0

Source: Monetary and Financial Statistics. Note: (a) Includes all credit granted to households other than housing credit, namely consumer credit.



of October, appears to have temporarily boosted the demand for housing credit (under subsidised credit systems), in so far as it seems to have brought forward the signing of contracts, so that benefits would still be obtained before the end of this system. However, this does not seem to have exerted sizeable pressure on house prices, given that, when compared with the situation observed from 1998 to 2000, developments in housing market prices have been rather moderate for some months now. In August, the rate of change in house prices stood at 1.1 per cent (Chart 3.4).<sup>(8)</sup>

Credit to households for other purposes decelerated, and the corresponding rate of change decreased from 2.8 per cent in December 2001 to 1.8 per cent in June 2002 (1.3 per cent in August). Developments in this segment seem to be reflecting more immediately unfavourable economic developments, a lower pressure of demand being combined with possibly increased caution on the part of banks when granting this type of credit (typically without real guarantees).

### 3.1.2. Non-financial corporations

The growth of credit to non-financial corporations stood at 9.4 per cent in June 2002 (compared with 7.7 per cent in August), having decreased significantly since the end of 2001 (when it stood at 16.4 per cent). This deceleration seems to be reflecting an adjustment in the financial situation of companies against the background of clear slowdown in economic activity recently observed in Portugal. The annualised six-month rate of change remains consistently below the year-on-year rates of change, standing at 6.9 per cent in August 2002 (suggesting that the downward trend of the year-on-year rate of change may continue). Moderation in recourse to credit by resident nonfinancial corporations has also been observed in syndicated loan contracts negotiated in international markets (Table 3.4).

The sectoral analysis suggests that this deceleration was associated with developments in loans to the services and construction sectors (in these sectors the rates of change decreased from 19.7 and 19.6 per cent in December 2001, to 10.5 and 12.5 per cent respectively in June 2002 (8.3 and 7.5 per cent in August). It should be noted that the deceleration was particularly marked in the "services provided mainly to corporations" subsector, with the corresponding rate of change moving from 48.3 per cent at the end of 2001, to 13.6 per cent in June 2002 (6.8 per cent in August). This subsector includes bank loans to the holdings of major Portuguese non-financial groups, which subsequently distribute these funds to the remaining companies of the group.<sup>(9)</sup>

At the end of the first half of 2002, the share of loans related to the real estate sector in total loans granted by the banking system reached 55.5 per cent (56.3 per cent in August), compared with 54.6 per cent in December 2001. This rise was mainly due to the increase in the share of credit to households for house purchase, which represented 40.5 per cent of total loans granted by the banking system in August 2002 (38.9 per cent in December 2001).

#### 3.1.3. Exposure to emerging markets

The aggregate exposure of Portuguese banks with exposures in emerging markets represented 1.3 per cent of total assets adjusted for interbank

<sup>(8)</sup> In real terms, the change was negative (-2.5 per cent), as seen since May 2001.

<sup>(9)</sup> This fact restricts the analysis of sectoral developments in credit granted to non-financial corporations.

#### Table 3.4

# INTERNATIONAL SYNDICATED LOANS TO RESIDENT NON-FINANCIAL CORPORATIONS IN PORTUGAL <sup>(a)</sup>

EUR million

	1996	1997	1998	1999	2000	2001	1 <sup>st</sup>	2 <sup>nd</sup>
							half 2002	half 2002 <sup>(b)</sup>
Totalof which:	1 335.9	2 260.4	3 596.3	2 676.6	5 724.7	4 369.9	1 650.0	670.0
For the acquisition of corporations Financing of road infrastructure (namely projects with	0.0	0.0	2 731.4	25.0	3 083.7	1 765.0	0.0	0.0
"shadow toll concessions")	24.6	208.7	419.0	1 262.5	1 881.2	1 409.9	0.0	670.0
Amount estimated of the involvement of Portuguese banks								
Totalof which:	310.6	444.7	1 612.3	1 127.9	1 343.7	680.1	57.7	0.0
For the acquisition of corporations Financing of road infrastructure (namely projects	0.0	0.0	1 480.0	5.0	601.7	75.1	0.0	0.0
with "shadow toll concessions")	8.2	0.0	147.9	812.5	655.1	570.4	0.0	0.0

Source: Dealogic.

Note:

(a) The amounts presented refer to new loans granted each year. Part of these loans refer to credit facilities; thus, can only be entered under effective credit at a date later than the corresponding contracting date, as these credit facilities are used.

(b) Until mid-September.

activity in June 2002 (Table 3.5).<sup>(10)</sup> The exposure in Brazil, which is the most significant amongst those taken into consideration, appears to have remained relatively stable in June 2002, compared with June 2001 (i.e. 1.0 per cent of total assets adjusted for interbank activity).

#### 3.1.4. Delinquency rates and credit provisioning

In the first half of 2002, indicators point to a rise in delinquencies associated with bank credit. These developments appear to be reflecting (with some lag) less favourable developments in the overall economic activity (Chart 3.5). In consolidated terms, the growth rate of the stock of credit and interest overdue was 14.8 per cent in June 2001, compared with 9.8 per cent in December 2001. The ratio of credit and interest overdue to (gross) total credit stood at 2.21 per cent in June 2002, compared with 2.11 per cent in June 2001 and 2.12 per cent in December 2001 (Chart 3.6). Nevertheless, it should be noted that the delinquency rate of the portfolio of Portuguese banks remains at historically low levels.

Taking into account data on an individual basis, it may be concluded that the overall delinquency rate of credit to customers (as measured by the ratio of credit and interest overdue to gross credit granted) stood at 2.12 per cent in June 2002, slightly above the level recorded at the end of 2001 (i.e. 2.04 per cent) (Chart 3.6). The same indicator,

#### Table 3.5

# AGGREGATE EXPOSURES OF THE PORTUGUESE BANKING SYSTEM EMERGING MARKETS

On an individual basis

	As a p	ercentag for in	ge of tota terbank	ıl assets activity	adjusted
	4	2000	2	001	2002 <sup>(a)</sup>
	June	Dec.	June	Dec.	June
Total (Latin America,					
Eastern Europe and Asia).	1.6	1.6	1.5	1.4	1.3
of which: Brazil	0.9	0.8	0.9	1.0	1.0

Note: Only the banks with effective exposure in the mentioned emerging markets are taken into account.

(a) The perimeter of geographical areas was slightly changed.

<sup>(10)</sup> No intertemporal comparisons are made, since the universe of countries considered in the various regions changed slightly in June 2002, namely, due to the exclusion of some countries that are ending their negotiations for entry in the European Union. Anyway, the international exposure of the Portuguese banking system still appears to be limited in overall terms. As to what concerns country-risk, it should be noticed that 24.5 per cent of the exposure of Portuguese banks are provision exempted (see no. 12 of Aviso no. 3/95).



but considering only the most recent delinquencies (credit overdue for less than one year), has also recorded, over the same period, a slight rise, of 0.06 percentage points, to 0.73 per cent. Taking as a basis monetary and financial statistics data, it may be concluded that the rise in delinquencies was common to both non-financial corporations and households (Chart 3.7).

In June 2002, the rate of change in credit overdue by non-financial corporations was 2.8 per cent



(having increased to 5.6 per cent in August). The delinquency rate of non-financial corporations stood at 2.42 per cent, compared with 2.36 per cent at the end of 2001 (and 2.57 per cent in June 2001). In sectoral terms, special reference should be made (due to its overall importance) to the rise in the ratio related to the construction sector, which, despite remaining below the average for all the sectors, increased by 0.48 percentage points in June, compared with December 2001, standing at 2.20 per cent in June 2002 (compared with 2.19 per cent in August).

The stock of credit overdue by households recorded a rate of change of 21.7 per cent in June 2002 (against 27.4 per cent in August). The delinquency rate of households increased from 1.97 per cent in December 2001 to 2.06 per cent in June 2002 (against 2.16 per cent at the end of August) (Chart 3.8). This indicator reached a minimum of 1.84 per cent in December 2000, having gradually risen since then. This rise has been mainly caused by the increase in delinquency in credit for other purposes (other than housing), whose rate increased from 4.43 per cent in December 2001 to 4.66 per cent in June 2002 (against 4.90 per cent in August). In the first half of 2002, the delinquency rate of housing credit (historically lower) increased by 0.11 percentage points, to 1.29 per cent (1.36 per cent in August).

On a consolidated basis, the ratio of creditspecific provisioning (which considers the specific





provisions for credit as a percentage of total gross credit) increased from 1.42 per cent at the end of 2001, to 1.44 per cent in June 2002. In turn, the ratio of credit and interest overdue, net of specific provisions for credit, to credit granted, also net of these provisions, increased from 0.71 per cent at the end of 2001 (and in June 2001) to 0.78 per cent in June 2002 (Chart 3.9).<sup>(11)</sup> Underlying these de-



velopments were rises of 9.6 per cent in the gross stock of credit, 12.0 per cent in provisions and 14.8 per cent in credit and interest overdue. Therefore, there was a decrease in the degree of coverage of credit and interest overdue by specific provisions, with the corresponding ratio moving from 66.7 per cent at the end of 2001 (against 66.8 per cent in June 2001) to 65.2 per cent in June 2002.

Developments in consolidated terms were in line with data on an individual basis. The total provisioning ratio of credit overdue (by specific provisions for credit and by provisions for overall credit risks) stood at 121.6 per cent, i.e. a decrease of 4.8 percentage points from the level observed in December 2001 (after having decreased by 8.7 percentage points in 2001) (Chart 3.10). Developments recently observed reflect the fact that growth rates of credit overdue have systematically exceeded the rates associated with developments in provisions (for example, in June 2002 credit overdue increased by 14.4 per cent, whereas total provisions for credit, excluding country-risk provisions, recorded a rate of change of 7.9 per cent). The ratio of total credit provisions to total credit granted remained at 2.61 per cent, unchanged from the end-2001 level.

The overall decrease in provisioning ratios appears to be due to the aforementioned acceleration in new delinquencies and to the progressive nature of minimum provisioning requirements. In

<sup>(11)</sup> Chart 3.9 presents figures on an individual basis, given that there are no figures on a consolidated basis prior to 2000.

fact, the increase in the share of credit whose delinquency has been more recently identified gives rise to lower credit-specific provisioning requirements (this means that, as long as delinquencies persist, provisioning requirements will gradually increase).

# 3.1.5. Securities portfolio

In June 2002, the value of the securities and financial fixed assets portfolio of the banking system (on a consolidated basis, net of provisions) decreased by 10.2 per cent (in December 2001, the rate of change was -2.8 per cent). These developments were due to the 14.9 per cent decrease in the securities portfolio, which was only partly offset by the 6.9 per cent rise in the portfolio of financial fixed assets.

In gross terms, the fixed-income component of the securities portfolio, which holds a dominant position in the total portfolio (Chart 3.11), decreased by 18.0 per cent, mainly due to the fall in the securities portfolio issued by both public and private national issuers. The variable-income securities portfolio (which in June 2002 accounted for around 14 per cent of the total securities portfolio of the banking system) increased by 19.5 per cent in gross terms (19.0 per cent, net of provisions). This rise was due to the increase in investment in variable-income securities of resident issuers (this component rose by 28.8 per cent year-on-year in June 2002), as the securities component issued by foreign issuers decreased by 13.3 per cent.

#### 3.2. Resources

In June 2002, the year-on-year rate of change in resources from customers (mainly constituted by customers' deposits) stood at 7.4 per cent (7.0 per cent at the end of 2001 and 4.6 per cent in June 2001). The acceleration observed was associated with the rise in the rate of change in residents' deposits, from 3.5 per cent in December 2001, to 5.2 per cent in June 2002. In turn, non-resident customers' deposits decelerated, with the corresponding rate of change decreasing from 19.6 per cent to 13.9 per cent over the same period.

The slight recovery in the growth pace of customers' deposits, particularly deposits of resident customers, is in line with the rise in the savings



rate (which seems to reflect in part a cautious approach in view of the overall deterioration of the economic juncture and the weak expectations as to future developments) and with the rise in the aversion to instruments bearing higher risks (against continuously unfavourable developments in stock markets). In this context, and albeit the low (nominal and real) level of deposit interest rates, there may be a channelling of funds towards fixed-income investment (e.g. deposits). In terms of composition, the year-on-year rate of change of both demand and time deposits increased, from 12.4 to 13.0 per cent, for demand deposits, and from 4.2 to 4.8 per cent, for time deposits.

Notwithstanding the significant slowdown in credit granted and the higher growth of resources from customers, growth rates continued to be higher for credit granted than for resources from customers, thus persisting the trend of an increasing use of resources from customers. In June 2002, credit to customers (net of provisions) represented 124.7 per cent of resources from customers (Chart 3.12), which is a rise when compared with 121.0 per cent at the end of 2001 (and 122.2 per cent in June 2001).<sup>(12)</sup> However, it should be noted that,

<sup>(12)</sup> For the domestic institutions subset, credit to customers (net of provisions) represented 125.2 per cent of resources from customers in June 2002, compared with 119.3 per cent at the end of 2001 (and 122.8 per cent in June 2001).



over the past twelve months, there was a slowdown in the use of resources from customers when compared with the figure observed since 1998.

The same conclusion is drawn considering an alternative measure of resources steadily taken from customers and adding to resources from customers an estimate of securities (issued by banks) held by the resident non-monetary sector. When compared with this measure, credit to customers (net of provisions) accounted for 116.2 per cent in June 2002 (which is a rise compared with 107.5 and 113.1 per cent in December 2000 and 2001 respectively).<sup>(13)</sup>

Over the past few years, this increasing imbalance between credit and resources from customers has been counterbalanced by banks through the increased recourse to alternative sources of financing, namely by issuing securities and by contracting subordinated loans. Nevertheless, in terms of financing structure, resources from customers continue to be the main financing source of banks, accounting for 80.2 per cent of total credit granted by the banking system in June 2002 (against 82.7 per cent in December 2001 and 87.5 per cent at the end of 2000) (Charts 3.13 and 3.14). The weight of liabilities represented by securities increased gradu-



ally, mainly reflecting the higher recourse to international bonds markets (fostered by the low level of long-term interest rates).

In June 2002, as mentioned above, there was a slight acceleration in resources from customers, together with a slowdown in credit granting (compared with December 2001). Therefore, the discrepancy between (annual) flows of credit and resources from customers decreased, with the ratio between them reaching 63.0 per cent, compared

<sup>(13)</sup> For the domestic banks subset, this ratio moved from 106.3 per cent, at the end of 2000, to 111.7 per cent in December 2001, and subsequently to 116.9 per cent in June 2002.



with 46.3 per cent at the end of 2001 and 24.0 in June 2001 (Chart 3.15).<sup>(14)</sup> The amount of resources raised through the issuance of securities accounted for 51.4 per cent of the annual flow of credit granted (compared with around 46 per cent in June and December 2001). The fall in interbank liabilities (net of assets) accounts for 28.5 per cent of the credit flow and reflects a significant decrease in interbank foreign liabilities (net of assets). For the domestic banking groups subsector, the decrease was even more marked, accounting for around 43 per cent of the flow of credit granted



between June 2001 and June 2002 (Chart 3.16). For this subset of institutions, the issuance of bonds in international markets, through subsidiaries having their head office abroad, continued to be an important funding source (Chart 3.17).

In addition to contributing to the increase in the capital adequacy ratio (see section 5. Solvency), recent developments in the financing structure of the banking system also contributed to the slight recovery in the measures of liquidity of the system. In June 2002, the ratio of assets with high liquidity<sup>(15)</sup> to interbank liabilities stood at 94.0 per cent, compared with 91.4 per cent at the end of 2001 and 88.9 per cent in June 2001 (Chart 3.18).

In June 2001, the banking system's equity capital, on a consolidated basis, increased by 4.0 per cent year-on-year, accounting for 5.5 per cent of total assets, which is a level similar to that recorded at the end of 2001.

<sup>(14)</sup> Considering again the broader concept of resources from customers (including securities issued by banks and held by the resident non-monetary sector), the ratio of the annual flow of credit to that of resources increased from 53.9 per cent in December 2001 to 73.1 per cent in June 2002 (this value is similar to that obtained for the domestic banks subset).

<sup>(15)</sup> Including interbank assets and securities held by public (and similar) entities.



# **4. PROFITABILITY**

Taking as a basis consolidated data, net income of the banking system increased by 0.3 per cent in the first half of 2002 compared with the first half of 2001 (Tables 4.1 and 4.2). Net income before minority interests decreased by 3.4 per cent when compared with that recorded in the corresponding period in 2001, with the persistence of the deceleration trend started in the second half of 2001. In fact, in the first half of 2001, the year-on-year rate of change in net income (before minority interests) was 18.6 per cent, compared with only 3.4 per cent in 2001 as a whole. Following these developments, profitability ratios decreased significantly against those in the corresponding period in 2001 (Chart 4.1), but stood at levels close to those recorded in 2001 as a whole. It should be noted that developments in the first half of 2002 were strongly conditioned (in particular in net returns) by the reduced provisioning made during the first half of 2001 (decreasing by 22.9 per cent against the corresponding period in 2000). Therefore, although there might have been a slight deterioration in returns (from what can be inferred from the gross return on assets), they remained, during the first half of 2002, at a level similar to that of 2001 as a whole.



The net return on average assets (ROA)<sup>(16)</sup> stood at 0.85 per cent at the end of the first half of 2002, representing a decrease of 0.10 percentage points from the level observed in the corresponding period in 2001. The gross return on average assets<sup>(17)</sup> also decreased, from 1.77 per cent in the first half of 2001, to 1.69 per cent in the corresponding period in 2002. The net return on equity (ROE) stood at 15.3 per cent in the first half of 2002, compared with 16.5 per cent in the corresponding period in 2001 (and 14.9 per cent in 2001 as a whole). These developments were associated with negative developments in the financial margin, which decreased significantly, and with combined developments in other items (mainly the significant rise in provisions, which recorded a rate of change of 51.6 per cent compared with the first half of 2001) (Chart 4.2). These negative developments were partly offset by the positive contribution of developments in "Other current income", which increased by 10.8 per cent compared

<sup>(16)</sup> In order to calculate net return on assets and equity, income before minority interests was considered.

<sup>(17)</sup> The gross return on average assets is defined as the ratio of the overall gross income to average assets.

#### Table 4.1

# PROFIT AND LOSS ACCOUNT

#### On a consolidated basis

EUR million

	2000 June			Year-on-ye of chan	ear rate 1ge	
	2000	2001	2002	2001	2002	
	June	June	June	June	June	
1. Interest income	7190	8666	7382	20.5	-14.8	
2. Interest expenses	4556	5727	4459	25.7	-22.1	
3. Financial margin (1-2)	2633	2939	2923	11.6	-0.5	
4. Income from securities	124	152	153	22.4	0.3	
5. Net commissions	878	802	857	-8.6	6.8	
6. Income from financial operations	383	158	285	-58.7	80.4	
7. Income from affiliated companies and branches excl. from						
consolidation (net) <sup>(a)</sup>	112	107	103	-5.0	-3.5	
8. Other operational profits (net)	165	350	341	111.8	-2.5	
9. Other current income (4+5+6+7+8)	1663	1569	1738	-5.6	10.8	
10. Banking product (3+9)	4296	4508	4662	4.9	3.4	
11. Staff costs	1379	1358	1383	-1.5	1.8	
12. Other administrative costs	798	856	928	7.2	8.5	
13. Administrative expenses (11+12)	2177	2214	2311	1.7	4.4	
14. Overall gross income (10-13)	2119	2295	2351	8.3	2.4	
15. Extraordinary gains	137	8	124	-94.2	1453.4	
16. Depreciation for the year	303	297	300	-1.7	0.9	
17. Net provisions	639	492	747	-22.9	51.6	
18. Income before and minority interests (14+15-16-17)	1314	1513	1428	15.1	-5.6	
19. Taxes on profit for the year	276	281	237	1.8	-15.5	
20. Income before minority interests <sup>(b)</sup> (18-19)	1039	1232	1190	18.6	-3.4	
21. Minority interests (net)	358	224	179	-37.5	-19.9	
22. Profit/loss for the year (20-21)	681	1008	1011	48.2	0.3	

Notes:

(a) The item "income from affiliated companies and subsidiaries excluded from consolidation" records income generated by affiliated companies and subsidiaries excluded from consolidation, which is attributable to the group according to the percentage of shares held in these companies. Affiliated companies are companies whose management is under significant influence, assuming that this situation occurs when shares held correspond to, at least, 20 per cent of the voting rights. In addition, affiliated companies excluded from consolidation are companies whose activities are incompatible with the objective of consolidated accounts, namely commercial, industrial, agricultural and insurance corporations.

(b) Income before minority interests enables a more accurate measure of income generated by all consolidated assets and, therefore, it should be used in order to compare income with profitability on an individual basis.

with the first half of 2001, largely reflecting developments in income from financial operations.

In the first half of 2002, the financial margin decreased by 0.5 per cent year-on-year, in contrast with the rises of 11.6 and 13.5 per cent respectively, observed in the first half of 2001 and in 2001 as a whole. As a percentage of total average assets, the financial margin stood at 2.10 per cent in the first half of 2002, compared with 2.26 in June 2001 (Chart 4.3). The reduction of the financial margin as a percentage of total average assets was associated with the narrowing of the differential between average lending and deposit rates (Chart 4.4 and Table 4.3). This effect was only partly offset by the rise in the weight of credit in the banking system's assets. It should be noted that credit is the asset that provides banks with the highest return; thus, the rise in the weight of this item in total assets contributes to the increase of the financial margin. On the other hand, increased recourse by the banking system to the issuance of securities as a funding source appears to have also penalized the financial margin due to the increase in interest to be paid, given that this type of liabilities is typically remunerated at higher rates than those from other funding sources (namely deposits and interbank liabilities).

#### Table 4.2

# PROFIT AND LOSS ACCOUNT

#### On a consolidated basis

As a percentage of average assets

	2000	2001	2002
	June	June	June
1. Interest income	6.27	6.67	5.30
	3.97	4.41	3.20
3. Financial margin (1-2)	2.30	2.26	2.10
4. Income from securities	0.11	0.12	0.11
	0.77	0.62	0.61
	0.33	0.12	0.20
<ul> <li>7. Income from affiliated companies and branches excl. from consolidation (net) <sup>(a)</sup></li> <li>8. Other operational profits (net)</li> <li>9. Other current income (4+5+6+7+8)</li> </ul>	0.10 0.14 1.45	0.08 0.27 1.21	0.07 0.24 1.25
10. Banking product (3+9)	3.75	3.47	3.35
11. Staff costs.         12. Other administrative costs         13. Administrative expenses (11+12).         14. Overall gross income (10-13)	1.20	1.05	0.99
	0.70	0.66	0.67
	1.90	1.70	1.66
	1.85	1.77	1.69
<ul> <li>15. Extraordinary gains</li></ul>	0.12	0.01	0.09
	0.26	0.23	0.22
	0.56	0.38	0.54
	1.15	1.16	1.02
19. Taxes on profit for the year.         20. Income before minority interests <sup>(b)</sup> (18-19)	0.24	0.22	0.17
	0.91	0.95	0.85
21. Minority interests (net)22. Profit/loss for the year (20-21)	0.31	0.17	0.13
	0.59	0.78	0.73
Average assets (EUR million)	229 298	259 915	278 558

Notes:

(a) The item "income from affiliated companies and subsidiaries excluded from consolidation" records income generated by affiliated companies and subsidiaries excluded from consolidation, which is attributable to the group according to the percentage of shares held in these companies. Affiliated companies are companies whose management is under significant influence, assuming that this situation occurs when shares held correspond to, at least, 20 per cent of the voting rights. In addition, affiliated companies excluded from consolidation are companies whose activities are incompatible with the objective of consolidated accounts, namely commercial, industrial, agricultural and insurance corporations.

(b) Income before minority interests enables a more accurate measure of income generated by all consolidated assets and, therefore, it should be used in order to compare income with profitability on an individual basis.

In the first half of 2002, the margins between the rates of return on interest-bearing assets and liabilities (and between credit and deposits) narrowed. With regard to figures for June 2001, the differential between rates implied in interest-bearing assets and liabilities narrowed by 0.15 percentage points. In turn, the differential between rates implied in credit and deposits narrowed by 0.51 percentage points. These developments were due to a narrowing of differentials in time deposit operations, calculated by means of a comparison with the money market interest rates with a similar maturity (Charts 4.5 and 4.6). In terms of the average of the first eight months against the corresponding period in the previous year, there was a narrowing of 0.4 percentage points in the differential between money market interest rates and interest rates on new time deposit operations (Chart 4.7). This smaller margin in the deposits market appears to be associated with a greater effort to take funds from customers, seeking a recomposition of the financing structure of the banking system, favouring more stable resources, with lower associated costs.

In the credit market, there was a narrowing of the average level (from January to August) of the



differential between interest rates on credit to households and money market interest rates, i.e. 2.02 per cent in the first eight months of 2002, compared with 2.33 per cent in the corresponding period in 2001<sup>(18)</sup> (Chart 4.8). In turn, the differential between interest rates on credit to non-financial corporations and money market interest rates re-



mained relatively stable, i.e. 1.67 per cent between January and August 2002 (0.04 percentage points less than in the corresponding period in 2001).

Despite a declining trend observed during the first eight months of 2002, the differentials of interest rates on credit operations are still above the minimum reached in 2000, following a clear narrowing since the mid-1990s.

In June 2002, other current income recorded a year-on-year rate of change of 10.8 per cent (compared with -5.6 e 0.0 per cent, in June and December 2001 respectively). The main factors behind this were an improvement in income from financial operations and a rise in net commissions.

In the first half of 2002, income from financial operations (on a consolidated basis) increased by 80.4 per cent against the corresponding period in 2001. These developments appear mainly to be due to increases in profits and exchange rate valuation differences, as well as to increases in income from off-balance-sheet operations, which can thus be associated with the valuation of the euro in the second half of 2002.

<sup>(18)</sup> This decrease appears, to a large extent, to be reflecting a composition effect, which translates into the fact that in the most recent period, housing credit was clearly more important in terms of flow, being associated with interest rates clearly below those of credit for other purposes. It should be noted that data on interest rates (and differentials) refer to new operations.

#### Table 4.3

### IMPLICIT AVERAGE RATES OF RETURN OF THE MAIN BALANCE SHEET ITEMS<sup>(a)</sup>

Per cent

	1997	1998	1999	2000	2001	2002
_	1 <sup>st</sup> half					
Interbank assets <sup>(b)</sup>	5.25	4.30	3.45	3.60	4.46	3.00
Non-interbank assets	8.31	7.00	5.74	5.42	6.25	5.08
Credit (gross)	9.17	7.76	6.23	5.71	6.64	5.36
Securities (gross)	7.08	5.70	4.68	4.96	5.43	4.31
Other assets	2.71	2.13	1.15	0.84	1.02	1.35
Interest-bearing assets	7.13	5.99	4.96	4.85	5.78	4.56
Interbank liabilities.	5.47	4.65	3.70	3.91	4.77	3.19
Non-interbank liabilities	4.70	3.58	2.49	2.59	3.36	2.58
Deposits	4.40	3.40	2.34	2.28	3.03	2.27
Demand deposits	1.96	1.51	0.90	1.00	1.27	0.92
Time deposits	5.43	4.31	3.10	3.02	4.01	3.05
Other	3.04	2.24	1.87	1.40	1.57	1.26
Securities	8.07	5.33	3.30	4.18	4.51	3.41
Equity and subordinated liabilities	6.87	5.73	4.56	5.23	5.75	4.70
Other liabilities	5.83	3.09	1.74	1.79	1.99	2.04
Interest-bearing liabilities	4.98	3.98	2.95	3.08	3.86	2.79
Differentials (percentage points):						
Interest-bearing assets - liabilities	2.15	2.01	2.01	1.77	1.92	1.77
Non-interbank assets - non-interbank liabilities	3.62	3.41	3.24	2.84	2.89	2.50
Credit - deposits	4.77	4.36	3.89	3.44	3.61	3.09
Interbank assets - interbank liabilities	-0.22	-0.35	-0.24	-0.31	-0.31	-0.19

Notes:

(a) Implicit average rates of return calculated as the ratio of annual interest flows to the average annual stock of the corresponding item in the balance sheet.

(b) Includes: cash, demand deposits with the Banco de Portugal, liquid assets held in credit institutions and other claims on credit institutions.







The improvement in current income was also associated with the rise in (net) commissions, which increased by 6.8 per cent in the first half of 2002, in consolidated terms (after having decreased by 8.6 per cent in the corresponding period in 2001). Individual accounts (which are available with greater detail) changed by 8.4 per cent, compared with a decrease of 1.1 per cent in the first half of 2001. In the first half of 2002, commissions related to the securities market, the provision of services and guarantees and commitments increased by 5.4, 7.2 and 6.1 per cent respectively. In turn, commissions related to the collection and transfer of assets decreased by 7.5 per cent.



As a result of developments in the financial margin and in the other current income, banking product increased by 3.4 per cent on a consolidated basis in the first half of 2002 (compared with 4.9 per cent in the corresponding period in 2001) (Chart 4.9). The weight of the banking product, in terms of total average assets, thus decreased to 3.35 per cent (from 3.47 per cent in the corresponding period in 2001).

In the first half of 2002, the rate of change in administrative costs was 4.4 per cent (1.7 per cent in the corresponding period in 2001). This rate of change was due to the 8.5 per cent increase in other administrative costs (contribution of 3.3 percentage points) and to the 1.8 per cent increase in personnel costs (contribution of 1.1 percentage points). In the period from January to June 2002, the ratio of these costs to the banking product stood at 49.6 per cent, compared with 49.1 per cent in the first six months of 2001 (Chart 4.10). If, in addition to administrative costs, depreciation is also considered (thus obtaining a more comprehensive measure of operating costs), the ratio to baking product reached 56.0 per cent in the first half of 2002 (55.7 per cent in the corresponding period in 2001).

Compared with the first half of 2001, net provisioning by the banking system increased during the first half of 2002 (the annualised flow of provisions in the first 6 months of 2002 was 0.54 per cent of average assets, which compares with 0.38 per cent in the first half of 2001). This increase



was mainly associated with the growth of provisions for non-performing loans and credit overdue (in terms of average assets, they increased from 0.24 per cent in the first half of 2001, to 0.38 per cent, in the comparable period of 2002). In turn, the weight of provision for the depreciation of securities increased from 0.03 per cent (first half of 2001) to 0.09 (similar period of 2002). It should be noted that, given the entry into force on 30 June 2002 of a new provisioning regime of capital losses inherent in financial participations, a rise (albeit gradual) is to be expected in provisions associated with the devaluation of financial participations included in banks' balance sheet (as long as there is no marked reversal of developments in stock markets).(19)

# **5. SOLVENCY**

In June 2002, solvency ratios of the banking system increased slightly compared with the end of 2001 (albeit standing at levels close to those of June 2001). The overall adequacy ratio of own funds, on a consolidated basis, stood at 9.8 per cent (9.5 per cent in December 2001 — Table 5.1). The same ratio calculated taking only into account base own funds stood at 7.3 per cent (similarly to the figure recorded at the end of 2001).

In line with the slowdown in credit granted, own funds requirements decelerated significantly, with its year-on-year rate of change moving from 6.2 per cent in December 2001, to 4.0 per cent in June 2002. The rate of change in own funds was 4.4 per cent in June (compared with 9.5 per cent in December 2001). During the previous 12 months, developments in own funds mainly reflected the issuance of debt securities (namely subordinated loans, included in supplementary own funds). However, in the first half of 2002, in contrast to what happened in the second half of 2001, there was an increase in base own funds.

# 6. CONCLUSION

The banking system's activity in the first half of 2002 evolved in a relatively unfavourable environment, which had some impact on its financial situation.

In the first half of the year, credit overdue increased significantly. Taking into account the cyclical conditions of the economy, these developments were expected and will probably continue in the near future. Although the magnitude of the rise is uncertain, some factors may mitigate the current increase in the ratio of credit overdue, comparatively to the same stage of the previous economic cycle. On the one hand, the level of interest rates and their volatility are now much lower. On the other hand, the credit boom seen in the past few years was, to a large extent, associated with a strong growth in housing credit, which is a credit item that historically presents a delinquency rate much lower than the average. How-

<sup>(19)</sup> Aviso no. 4/2002 of Banco de Portugal establishes a new provisioning regime of latent capital losses inherent in financial participations. In the previous regime, participations that were considered strategic by banks were only subject to provisioning if invested companies presented an unfavourable financial situation (or evidence of persistent deterioration). The new regime aims at the adoption of more efficient provisioning requirements and deductions from own funds of part of these capital losses, when they exceed certain levels. The impact of this change in regime on the banking system's income should not be very marked during 2002 and 2003, given that an interim period was established, during which provisions can be built up on reserves, having no influence over the profit and loss account. Moreover, the interim regime establishes that, for latent capital losses calculated as of the day the new regime enters into force, there is a gradual and growing weighting, for a period of up to 5 years, for financial participations in companies that are not supervised by the Banco de Portugal or the Portuguese Insurance Institute (Instituto de Seguros de Portugal), or of up to 10 years, in the case of financial participations in institutions supervised by the Banco de Portugal or the Portuguese Insurance Institute.

ever, it should be noted that in the event that banks have applied less tight conditions in the granting of credit for house purchase — in the period in which this type of credit became massified —, the favourable factors referred to above may abate.

Following the increase in credit overdue, there was also an increase in specific provisions. Nevertheless, in the first half of 2002, profitability indicators stood at levels close to those of 2001 as a whole, albeit being lower than the abnormally high figures recorded in the first half of 2001. However, it should be noted that favourable developments in "other current income", which largely offset the decrease in the financial margin, were associated with a strong rise in profit from financial operations, which will tend to be temporary.

The rather negative developments in stock markets translated into a rise in latent capital losses inherent in Portuguese banks' financial participations. Considering the new provisioning regime of the mentioned capital losses, and if there is no significant reversal of recent developments in stock markets, a rise in the aforementioned provisions may be expected in the long run.

In the period under review, the growth differential between credit and deposits from customers continued to narrow. This situation gave rise to lower financing needs of the Portuguese banking system (in terms of annual flow), which facilitated a decrease in absolute terms in interbank financing from abroad. These developments, which translated into an improvement of the liquidity situation of the system, are a direct reflection of the adjustment process of the private sector started in 2000. In fact, similarly to what was previously seen, the financing needs of this sector should decrease further in 2002, leading to the reduction in the foreign financing needs of the economy. Considering that the banking system has largely acted as the intermediary of the Portuguese economy foreign financing, lower foreign financing needs of the economy translate directly into lower market financing by banks, thus reducing their vulnerability to shocks that affect their conditions regarding international financing.

# Table 5.1

# **CAPITAL ADEQUACY**

# On a consolidated basis

	Euro million					Year-on	-year rate o	of change (	per cent)					
	1998	19	99	200	00	20	01	2002	1999	20	000	20	001	2002
	Dec.	June	Dec.	June	Dec.	June	Dec.	June	Dec.	June	Dec.	June	Dec	June
1. Own funds														
1.1. Base own funds	9 714.8	10 436.7	11 025.9	11 663.1	12 991.0	13 502.9	13 202.0	13 454.6	13.5	11.8	17.8	15.8	1.6	-0.4
1.2. Complementary own funds	3 834.1	3 917.4	4 268.9	4 866.2	5 026.3	6 557.0	7 040.2	7 278.9	11.3	24.2	17.7	34.7	40.1	11.0
1.3. Deductions	821.1	422.1	512.7	1 678.6	2 272.6	2 769.0	2 998.2	2 685.8	-37.6	297.7	343.3	65.0	31.9	-3.0
1.4. Supplementary own funds	12.7	10.6	27.3	17.3	0.4	1.5	1.2	0.7	115.8	63.4	-98.6	-91.4	225.0	-56.2
Total own funds	12 740.4	13 942.6	14 809.5	14 867.9	15 745.1	17 292.4	17 245.3	18 048.4	16.2	6.6	6.3	16.3	9.5	4.4
2. Own fund requirements														
2.1. Credit risks	8 747.5	9 582.7	10 651.8	12 061.3	13 184.5	13 724.7	14 078.4	14 372.0	21.8	25.9	23.8	13.8	6.8	4.7
2.2. Position risks	234.3	222.6	180.6	276.7	284.2	312.6	288.6	252.4	-22.9	24.3	57.3	13.0	1.6	-19.3
2.3. Settlement and counterparty risks	37.5	49.3	47.8	27.4	30.7	41.2	40.8	30.0	27.3	-44.4	-35.7	50.3	32.9	-27.1
2.4. Foreign exchange risks	134.5	58.0	79.2	119.7	134.9	75.3	87.3	67.0	-41.1	106.5	70.4	-37.1	-35.3	-11.1
2.5. Other requirements	0.1	1.3	0.0	0.1	20.7	0.0	1.5	0.1	-	-91.4	-	-90.6	-92.8	856.1
Total own funds requirements	9 153.9	9 914.0	10 959.4	12 485.3	13 655.1	14 153.8	14 496.7	14 721.5	19.7	25.9	24.6	13.4	6.2	4.0
3. Ratios	Year-on-year change (percentage points)													
3.1. Own funds/Total requirements	139.2	140.6	135.1	119.1	115.3	122.2	119.0	122.6	-4.0	-21.6	-19.8	3.1	3.7	0.4
3.2. Own funds/(Total requirements x 12.5)	11.1	11.3	10.8	9.5	9.2	9.8	9.5	9.8	-0.3	-1.7	-1.6	0.2	0.3	0.0
3.3. Base own funds /(Total requirements x 12.5)	8.5	8.4	8.0	7.5	7.6	7.6	7.3	7.3	-0.4	-0.9	-0.4	0.2	-0.3	-0.3

# MAIN DEVELOPMENTS IN THE PORTUGUESE FOREIGN EXCHANGE AND DERIVATIVES MARKETS IN 2001 AND 2002

# **1. INTRODUCTION**

In 2001 the Banco of Portugal changed the frequency of the foreign exchange and derivatives markets survey, from half-yearly to yearly. With the introduction of this change, the survey now takes place in March/April of each year, however, its model remains basically the same.

Thus, in 2002 the survey continued to collect data on amounts outstanding<sup>(1)</sup> held by banks on the last working day of March, as well as data on transactions carried out in foreign exchange and interest rate derivatives markets in April.

However, it should be noted that in 2001, in view of the need to characterise the activity in the euro market, the survey started also to include a breakdown by counterparty which enable the identification of the operations carried out with euro area resident counterparties.

This text includes the analysis of the 2001 and 2002 survey results. Whenever deemed relevant, a comparison is made with the final results of the Triennial Central Bank Survey conducted in April 2001, compiled by the Bank for International Settlements (BIS).

Turning to the intertemporal analysis of the results of the two surveys, it should be noted that the impact of foreign exchange fluctuations on both transactions and amounts outstanding was negligible, when expressed in US dollars. This resulted from the fact that the exchange rates vis-à-vis the US dollar recorded reduced changes between the reference dates of the two surveys.

On the basis of the overall analysis of the data collected, it is possible to summarise the main developments in the Portuguese market between 2001 and 2002:

- Relative stabilisation of turnover in the over-the-counter (OTC) market;
- Increase in activity in the interest rate derivatives market, in contrast with the continued decline in turnover in the traditional foreign exchange market;
- Increase of both foreign exchange and interest rate derivatives amounts outstanding, probably reflecting the extension of transactions maturities;
- Maintenance of the predominance of the euro, in terms of both turnover and amounts outstanding, particularly in the interest rate derivatives segment; the emergence of the Brazilian real with relevant weight in the activity of some institutions;
- Continuation of non-resident financial institutions as the main counterparties;
- Maintenance of the residual weight of equity, commodity and credit derivatives, despite a slight rise in the number of participants in the equity derivatives segment;
- Growth of activity in exchange-traded instruments chiefly due to the buoyant performance of interest rate derivatives;
- Maintenance of a high degree of concentration both in OTC and organized markets, albeit with a decline in the foreign exchange derivatives segment.

<sup>(1)</sup> In April 2000 the survey became more comprehensive, covering in addition to amounts outstanding of foreign exchange and interest rate derivatives, the amounts outstanding of equity, commodity and credit derivatives; it also started to collect data about how operations are conducted.

# 2. OTC MARKET

# 2.1. Turnover<sup>(2)</sup>

The results of the April 2002 survey of the Banco of Portugal point to a relative stabilisation of turnover in the OTC market. After the strong falls recorded following the introduction of the euro, the average daily turnover in the foreign exchange and interest rate derivatives markets declined only slightly between April 2001 and April 2002 (Chart 1).

The decline in turnover in the traditional market,<sup>(3)</sup> whose weight is higher than 75 per cent of total transactions, more than offset the somewhat significant growth recorded by the other nontraditional foreign exchange derivatives<sup>(4)</sup> and by interest rate derivatives (Table 1).

Transactions of other foreign exchange derivatives, albeit recording an increase, continued to have a very reduced importance in total turnover in the OTC market, continuing to be restricted to a rather reduced number of institutions. It should however be noted that more than 90 per cent of



the activity carried on by this segment continued to be concentrated in foreign exchange options, which were chiefly bought from resident nonfinancial customers and sold to non-resident financial institutions outside the euro area.

# Table 1

# **OTC MARKET**

# Average daily turnover

USD million and as a percentage of the total Total Tradition

	Total	Traditional foreign exchange market	%	Other foreign exchange derivatives	%	Interest rate derivatives	%
1997							
April	5006	3484	70	21	0	1501	30
October	5657	4495	80	13	0	1149	20
1998							
April	5434	4398	81	38	1	998	18
October	7330	6054	83	16	0	1260	17
1999							
April	2635	2099	80	3	0	533	20
October	2812	2180	78	5	0	627	22
2000							
April	2418	1978	82	59	2	381	16
October	1728	1446	84	110	6	172	10
2001							
April	2049	1709	83	12	1	328	16
2002							
April	2007	1518	76	78	4	411	20
Change (%):							
April00/April01	-15.3	-13.6		-79.7		-13.9	
April01/April02	-2.0	-11.2		550.0		25.3	

In contrast to the downward trend that occurred following the creation of the euro, the turnover in interest rate instruments increased (25%),<sup>(5)</sup> reflecting exclusively the expansion of activity in the interest rate swaps (IRS) segment.

# Traditional foreign exchange market

Between 2001 and 2002, the average daily turnover in the traditional foreign exchange market declined by 11 per cent, to USD 1,518 million, following a decline of approximately 14 per cent in the previous year. However, the further decline in activity reflected only the fall in forwards turnover (outright forwards and foreign exchange swaps). Indeed, the turnover of spot transactions increased, interrupting the downward movement, which had been recorded since the creation of the euro (Table 2). This movement confirmed the trend prevailing in the Portuguese market, of an increased importance of the spot turnover and reduction in the market share of forwards (Chart 2), which, by memo, counters the overall trend recorded since 1992 in international markets, according to the results of the triennial surveys co-ordinated by BIS.

However, in the Portuguese case, the consolidation of the direct recourse to the euro money market continued to constantly reduce the need to resort to forex swaps as a "funding" instrument.

As a result, the weight of spot transactions increased to 67 per cent, while that of forex swaps declined to 29 per cent and that of outright forwards to 4 per cent.

The results of the 2002 survey also suggest changes in the structure of turnover by *type of counterparty*. The turnover of transactions carried out by Portuguese banks with both resident and non-resident financial institutions shrank significantly, while the turnover with non-financial customers recorded a broadly based increase. These

### Table 2

### TRADITIONAL FOREIGN EXCHANGE MARKET

#### Average daily turnover

USD million

	Spot	Outrights	Fx. swaps
_		forwards	
1997			
April	1957	223	1304
October	1699	246	2550
1998			
April	1834	337	2227
October	2271	446	3337
1999			
April	1151	255	693
October	1054	246	880
2000			
April	925	185	868
October	850	135	461
2001			
April	917	104	688
2002			
April	1014	66	438
Change (%):			
April 00/April 01	-0.9	-43.8	-20.7
April 01/April 02	10.6	-36.5	-36.3

movements gave rise to a significant loss in the share of financial counterparties in favour of non-financial counterparties, whose weight in the total increased to 30 per cent (Table 3), conversely to the trend detected at the international level by the BIS survey. The loss in market share of financial counterparties occurred with institutions out-



<sup>(2)</sup> Data on transactions are always referred to in terms of average daily turnover, adjusted for the double counting resulting from transactions carried out in the domestic interbank market.

<sup>(3)</sup> The traditional foreign exchange market comprises spot transactions, outright forwards and foreign exchange swaps.

<sup>(4)</sup> Other foreign exchange derivatives comprise currency swaps (including cross currency interest rate swaps) and options.

<sup>(5)</sup> Unless otherwise mentioned, percentages refer to April 2002 and intertemporal comparisons to the period between April 2001 and April 2002.

# TRADITIONAL FOREIGN EXCHANGE MARKET Breakdown by counterparty

As a percentage of the total

	1997	1998	1999	2000	2001	2002
	Apr.	Apr.	Apr.	Apr.	Apr.	Apr.
Financial institutions	85	80	82	80	77	70
Resident	14	11	10	8	5	5
Non-resident	71	69	72	72	72	65
of which: euro area					21	21
Non-financial customers	15	20	18	20	23	30
Resident	13	17	14	19	16	21
Non-resident	2	3	4	1	7	9
of which: euro area					3	4
	100	100	100	100	100	100
Total - Resident	27	28	24	27	21	26
Total - Non-resident	73	72	76	73	79	74
of which: euro area					24	25

side the euro area, since the weight of euro area institutions remained stable at around 26 per cent. This movement was counterbalanced by an increase in the importance of non-financial customers, in particular residents, thus strengthening the structural preference of Portuguese banks for transactions with resident entities belonging to the non-financial segment.

It should also be noted that data suggest that the impact of the creation of the euro on the domestic interbank market has been fully unwound. The share of transactions between domestic credit institutions seems to have stabilised around 5 per cent, following the losses occurred immediately after the access to a much larger money market than the escudo market. This maintenance was also due to the halt recorded in the past two years in bank mergers in the Portuguese market.

The **breakdown by currency** in the traditional foreign exchange market continued, in the meantime, to show relative stability (Table 4). The euro and the US dollar continued to be the two major currencies, accounting respectively for 84 per cent and 75 per cent of total transactions. The yen, which was the third most important currency, strengthened to 14 per cent, overtaking the pound sterling, which now ranks fourth with 10 per cent.

Among the remaining currencies, mention should be made of the increased importance of transactions with the Nordic currencies, whose

#### Table 4

# TRADITIONAL FOREIGN EXCHANGE MARKET Breakdown by currency

As a percentage of the total<sup>(a)</sup>

-	1999	2000	2001	2002
	Apr.	Apr.	Apr.	Apr.
EUR	79	86	86	84
USD	83	79	74	75
JPY	9	11	13	14
GBP	20	13	13	10
CHF	3	3	7	7
DKK		2	4	2
SEK		1	1	2
NOK		1	1	3
Other European currencies		2	0	1
Other currencies	6	2	1	2

Note:

(a) In the foreign exchange market, the breakdown by currency totals 200 per cent of total transactions since the two legs of each transaction are recorded separately.

weight rose to 7 per cent in 2002, as a result of an increase in absolute and relative terms in turnover involving the Swedish and the Norwegian kronas.

The US dollar/euro continued to be the most actively traded currency pair, accounting approximately for 60 per cent of total turnover, far above the euro/yen and the euro/pound sterling the second and third most important currency pairs, with 9 per cent and 8 per cent, respectively. Thus, in 2002 the euro continued to be the most used currency in transactions involving the yen and the pound. This pattern was also observed in transactions with Nordic currencies (which involved almost exclusively spot transactions). With a different pattern, trading in Swiss francs continued to have mainly the US dollar as a counterpart.

The analysis of developments in the structure of the *type of business by instrument*, between 2001 and 2002, reveals stability in spot transactions and changes in outright forwards and in foreign exchange swaps (Table 5).

**Spot** transactions continued to be mainly carried out between the euro and the US dollar and in other currency pairs involving the euro, with non-resident financial institutions outside the euro area. Trading is conducted through electronic broking or automatic dealing systems (including the Reuters dealing system).

# TRADITIONAL FOREIGN EXCHANGE MARKET Characterisation of the type of business by instrument

#### As a percentage of total turnover by instrument

	SI	oot	Outright forwards		Fx. s	swaps	
	2001	2002	2001	2002	2001	2002	
Counterparties	100	100	100	100	100	100	
Financial institutions	71	70	60	65	87	71	
Resident	6	6	7	2	2	1	
Non-resident	65	64	53	63	85	70	
of which: euro area	11	15	4	11	38	37	
Non-financial customers	29	30	40	35	13	29	
Resident	26	28	39	33		2	
Non-resident	3	2	1	2	13	27	
of which: euro area		1			6	12	
Currency pairs	100	100	100	100	100	100	
EUR/USD	46	53	57	63	80	76	
EUR/JPY	13	13	10	5	1	2	
EUR/GBP	12	6	5	6	7	11	
EUR/CHF	2	3	5	1	1		
EUR/DKK	7	2					
EUR/SEK	1	2	5				
EUR/NOK	1	3	4				
EUR/other	1	1					
USD/JPY	2	4	5	2	7	6	
USD/GBP	4	3	5	3	1	3	
USD/CHF	9	7	2		1		
USD/other	1	2	2	20	2	2	
Other currency pairs	1	1					
Maturities	100	100	100	100	100	100	
[ Up to 7 days]	100	100	61	50	86	67	
]7 days - 1 month]			14	26	8	13	
]1 month- 1 ]year			25	24	6	20	
]1 year- 5 years]							
> 5 years							
Conduction of transactions	100	100	100	100	100	100	
Automatic dealing	12	31	10	15	72	45	
Broker.	11	14	35	5	10	13	
Electronic broker	38	36			1		
Other (including telephone							
system)	39	19	55	80	17	42	

Contrasting with the stability observed by the spot transactions, trading in **outright forwards** showed some significant changes: increase in the weight of transactions involving the US dollar (in particular, with the euro and the Brazilian real), countering the former preference for currency pairs involving the European currency; loss of importance of resident non-financial customers in favour of non-resident financial institutions, chiefly of the euro area; smaller concentration of operations with maturity up to 7 days; and strengthening of the traditional telephone system.

**Forex swaps** also recorded changes, viz.: decrease in trading between the euro and the US dollar, in parallel with an increase in the share of transactions involving the pound sterling, in particular, with the euro; loss of importance of non-resident financial institutions, which are a traditional counterpart of virtually all these transactions, offsetting an increase in the weight of non-resident non-financial customers; reduction in the concentration of trading in very short maturities; and more equitable distribution of transactions carried out through automatic dealing systems, which have been so far the most widely used in transactions between banks, and through the telephone system.

#### **OTC interest rate derivatives**

The average daily turnover of transactions in the OTC interest rate derivatives market stood at USD 411 million in April 2002, accounting for a 25 per cent increase, from the figure recorded in April 2001 (Table 1). This increase followed a virtual duplication of turnover between October 2000 and April 2001, suggesting a clear reversal in the downward trend recorded after the creation of the euro.

However, the driving force behind the growth of activity in interest rate instruments has been solely the expansion of the interest rate swaps (IRS) segment, since forward rate agreements (FRA) continued to record a sharp fall and options turnover remained negligible (Table 6). IRS thus strengthened their predominance, accounting for 94 per cent of total transactions (Chart 3). This expansion reflects the development of the use of IRS as an instrument for hedging and investment, possibly amplified in a context of high uncertainty about the pace of economic growth in the United States and in the euro area and of high volatility of expectations as to the orientation of the respective monetary policies. It should be noted that this trend has also been revealed by the surveys conducted by the BIS at the international level. However, a difference has emerged in the Portuguese market, related to the interest rates in which contracts are denominated. Thus, while at international level, the increase in swaps was recorded in

### OTC INTEREST RATE DERIVATIVES

# Average daily turnover

#### USD million

	FRA	IRS	Options
1997			1
April	1331	170	0
October	902	244	3
1998			
April	801	157	40
October	1054	206	0
1999			
April	345	186	2
October	346	277	4
2000			
April	225	156	0
October	32	140	0
2001			
April	38	288	2
2002			
April	22	384	5
Change (%):			
April 00/ April 01	-83.1	84.6	0.0
April 01/April.02	-42.1	33.3	0.0

the segment of contracts denominated in US dollars and euro, in Portugal the expansion was only recorded in the euro swaps segment.

Given the small share held by the remaining instruments (FRA with 5 per cent and options with 1 per cent), the structure of the interest rate derivatives market is quite similar to the structure of IRS, as confirmed by the comparison between the tables on total transactions (Tables 7 and 8) and indi-



### Table 7

# OTC INTEREST RATE DERIVATIVES Breakdown by counterparty

As a percentage of the total

	1997	1998	1999	2000	2001	2002
	Apr.	Apr.	Apr.	Apr.	Apr.	Apr.
Financial institutions	100	99	99	98	97	91
Resident	39	33	16	7	8	3
Non-resident	61	66	83	91	89	88
of which: euro area					30	50
Non-financial customers	0	1	1	2	3	9
Resident	0	1	1	1	3	3
Non-resident	0	0	0	1	0	6
of which: euro area					0	6
	100	100	100	100	100	100
Total – Resident	39	34	17	8	11	6
Total – Non-resident	61	66	83	92	89	94
of which: euro area					30	56

vidual IRS tables (Table 9). It was thus decided to confine the analysis of the market structure to the analysis of interest rate swaps.

The structure of **IRS** transactions remained relatively stable (Table 9), with only slight changes derived from the occasional exploitation of market niches. Swaps continued to be mainly on euro interest rates and to be contracted with maturity of up to 1 year with non-resident financial institutions. Although the characteristic pattern of these transactions remained unchanged, some specific features were detected in the comparison of the results of the 2001 and 2002 surveys. There was a larger diversification by currency in this type of

### Table 8

# OTC INTEREST RATE DERIVATIVES

# Breakdown by currency

As a percentage of the total

	1999	2000	2001	2002
_	Apr.	Apr.	Apr.	Apr.
EUR	65	93	88	89
USD	7	4	9	5
JPY	1	0	0	0
GBP	12	0	3	1
Other currencies	15	3	0	5
# OTC INTEREST RATE DERIVATIVES

# Characterisation of the type of business by instrument

As a percentage of total turnover by instrument

	FRA		IRS	
	2001	2002	2001	2002
Counterparties	100	100	100	100
Financial institutions	100	100	96	91
Resident	0	5	9	3
Non- resident	100	95	87	88
of which: euro area	13	64	32	50
Non-financial customers	0	0	4	9
Resident	0	0	4	3
Non- resident	0	0	0	6
of which: euro area	0	0	0	6
Currencies	100	100	100	100
EUR	39	100	98	90
USD	61	0	2	4
JPY	0	0	0	0
GBP	0	0	0	1
CHF	0	0	0	0
Outras	0	0	0	5
Maturities	100	100	100	100
[ Up to 7 days]	11	36	45	23
]7 days - 1 month]	0	0	15	5
]1 month - 1 year]	89	64	15	27
]1 year - 5 year]	0	0	6	17
> 5 year	0	0	19	28
Conduction of transactions	100	100	100	100
Automatic dealing	0	5	36	39
Broker	100	36	28	19
Electronic broker	0	0	0	0
Other (including telephone system)	0	59	36	42

contracts, with the Brazilian real gaining increased importance. In fact, this gave rise to an increase in the weight of non-euro area resident non-financial customers as counterparties of IRS transactions, since swaps on the Brazilian real were predominantly contracted with this type of counterparty. This fact was also behind the increased use of the direct telephone system as a way of conducting IRS transactions.

IRS transactions were chiefly centred on three and six-month EURIBOR-linked contracts. Con-

versely to the situation at international level, Portuguese banks reported in general very little activity in the so-called EONIA swaps, which is a type of instrument used in the coverage of money market operations. However, data of the 2002 survey suggest some development in this segment, with some institutions having already reported a significant increase in activity in this type of product.

Turning to **FRAs**, and taking into account that they are traded by a rather limited number of banks, it should be noted that this type of contracts are now more concentrated in the euro market. The weight of euro area financial institutions as counterparties to these contracts increased, while transactions in US dollars totally ceased, FRAs being now exclusively denominated in euro.

#### 2.2. Amounts outstanding

According to the results of the surveys conducted in 2001 and 2002, notional amounts outstanding of OTC derivatives increased between the two years, reflecting an expansion in all segments.

The growth pace of interest rate derivatives (26 per cent) was slightly higher than that of foreign exchange derivatives (16 per cent), thus maintaining a clear predominance of interest rate derivatives (Chart 4). This distribution in terms of relative weights, contrasts with that in transactions, but reflects the prevailing structures at international level.

Amounts outstanding of equity, commodity and credit derivatives continue to show a residual weight (approximately 2 per cent of total OTC positions) (Chart 4). With respect to equity derivatives, although there is a higher participation than in previous surveys, the number of institutions reporting amounts outstanding in this segment continues to be reduced, being limited to about one third of participating banks. In April 2002, nearly 60 per cent of these positions corresponded to options and the remaining to swaps, the main counterparty being non-resident financial institutions. Turning to commodity and credit derivatives, activity continues to be virtually nil. It should be noted that, at international level, the credit derivatives segment has shown a very significant development, albeit also remaining with a residual weight.



## Foreign exchange derivatives

Amounts outstanding of foreign exchange derivatives, after declining somewhat in 2001, increased in 2002 (recording the highest value since the introduction of the euro, in 1999). These developments largely reflect the change in agreed maturities, with a significant contraction of the weight of maturities of up to 7 days (Table 5). The growth of the foreign exchange derivatives segment was due to the rise in amounts outstanding of all types of exchange rate instruments (Table 10).

The broadly based rise in amounts outstanding in the several types of foreign exchange derivatives translated into the maintenance of the relative weight of the different instruments. Forwards continued to be the instrument with the greatest weight in this segment, followed by currency swaps. Options continued to have a reduced weight in terms of total positions (Chart 5).

Turning to the **breakdown by currency**<sup>(6)</sup> and with regard to the relative weight of the several currencies, stress should be laid on the decline in the weight of the euro and, to a lesser extent, of the pound sterling, which offset the significant rise in the Brazilian real (Table 11). However, the loss of

#### Table 10

## AMOUNTS OUTSTANDING OF OTC FOREIGN EXCHANGE DERIVATIVES

## USD million

	Total	Forwards	Forwards Currency swaps	
_				
1995				
March	26955	20009	3595	3351
September	22865	16987	3854	2024
1996				
March	25238	19656	3507	2075
September	26977	19445	5247	2285
1997				
March	21910	16645	3430	1835
September	24742	18256	5405	1081
1998				
March	25336	18558	5049	1729
September	29180	23611	4315	1254
1999				
March	19549	14903	3012	1634
September	20029	14073	5073	883
2000				
March	20954	13357	5684	1913
September	19709	12866	5787	1056
2001				
March	19561	13629	5496	436
2002				
March	22710	15961	6136	613
Change (%):				
March 00 / March 01	-6.6	2.0	-3.3	-77.2
March 01 / March 02	16.1	17.1	11.6	40.6



<sup>(6)</sup> The breakdown by currency in foreign exchange derivatives totals 200 per cent of the total amounts outstanding, since the two legs of each transaction are recorded separately. The breakdown by currency pairs totals 100 per cent.

# AMOUNTS OUTSTANDING OF OTC FOREIGN EXCHANGE DERIVATIVES

## Breakdown by currency

As a percentage of the total

	1999	2000	2001	2002
	Apr.	Apr.	Apr.	Apr.
-				
EUR	92	94	93	85
USD	69	76	70	73
JPY	18	15	17	17
GBP	14	9	17	13
CHF	2	1	1	1
BRL		0	0	8
Other European currencies	2	3	0	1
Other currencies	3	2	2	2

importance of the euro only occurred in terms of its share, since in absolute terms there was a rise in amounts outstanding in this currency. It should however be noted that the rise in the relative weight of the Brazilian real chiefly reflects business strategies of some institutions and does not reflect a broadly based pattern of the majority of the survey participants. With respect to the breakdown by currency pairs there continues to be a high concentration, with approximately **80** per cent of the amounts outstanding being concentrated in only three currency pairs: EUR/USD, EUR/JPY and EUR/GBP.

The analysis of the **breakdown by counterparty** makes it possible to identify the maintenance of some trends, which are opposite to those observed in foreign exchange derivatives transactions. On the one hand, the weight of non-resident counterparties continues to rise, standing at 82 per cent in March 2002. This strengthening of the relative position of non-residents chiefly reflects a rise in the positions held by non-resident financial institutions. In parallel, there was a rise in the share of financial counterparties, to the detriment of non-financial customers (Table 12).

The *analysis by instrument* shows that the breakdown by counterparty and the breakdown by currency were quite similar, and that the main counterparties were resident financial institutions, with the majority of foreign exchange positions being denominated in EUR/USD (Table 13). Mention should be made in currency swaps of the signifi-

## Table 12

## AMOUNTS OUTSTANDING OF OTC FOREIGN EXCHANGE DERIVATIVES

Breakdown by counterparty

As a percentage of the total

	1997	1998	1999	2000	2001	2002
	Mar.	Mar.	Mar.	Mar.	Mar.	Mar.
Financial institutions	79	70	55	60	68	74
Resident	5	9	8	7	4	3
Non-resident	74	61	47	53	64	71
of which: euro area					17	18
Non-financial customers	21	30	45	40	32	26
Resident	20	28	34	31	22	15
Non-resident	1	2	11	9	10	11
of which: euro area	100	100	100	100	3 100	3 100
Total – Resident	25	37	42	38	26	18
Total - Non-resident	75	63	<b>58</b>	62	74	82
of which: euro area					20	21

cant weight reached in March 2002 by the EUR/JPY as well as by the USD/BRL (as referred to above, the latter results from specific strategic options of a rather reduced number of institutions). With regards to options, the USD/CAD represents 33 per cent, although this also results from specific options of a reduced number of institutions.

However, the breakdown by maturity shows wider divergences. The amounts outstanding of forwards and options are concentrated in maturities of up to 1 year (in particular, between 1 month and 1 year), while amounts outstanding of currency swaps are in their majority at maturities between 1 and 5 years. The longer maturity of currency swaps was due to the fact that this instrument is associated with hedging of issues in foreign currency by some institutions.

## **OTC interest rate derivatives**

OTC interest rate derivatives, after having fallen in 2001, completely reversed this trend in 2002 (Table 14).

The strong increase in amounts outstanding of both IRS and options, more than offset the contraction recorded in FRA. Thus, the relative weight of the different instruments, continued to show the

## AMOUNTS OUTSTANDING OF OTC FOREIGN EXCHANGE DERIVATIVES

## Breakdown by instrument

As a percentage of amounts outstanding by instrument

	Forwards		Currency swaps		OTC options	
	2001	2002	2001	2002	2001	2002
	Mar.	Mar.	Ma r.	Mar.	Mar.	Mar.
Counterparties	100	100	100	100	100	100
Financial institutions	65	72	75	80	76	74
Resident	4	3	3	2	30	21
Non-resident	61	69	72	78	46	53
of which: euro area	20	20	9	12	0	27
Non-financial customers.	35	28	25	20	24	26
Resident	23	13	19	20	16	18
Non-resident	12	15	6	0	8	8
of which: euro area	4	4	0	0	0	0
Currency pairs	100	100	100	100	100	100
EUR/USD	59	59	76	56	54	43
EUR/JPY	13	9	15	25	36	9
EUR/GBP	17	13	8	8	2	5
EUR/CHF	1	1	1	0	0	4
EUR/ other	1	2	0	0	0	3
GBP/USD	4	2	0	0	0	0
USD/JPY	3	4	0	0	8	4
USD/CHF	1	1	0	0	0	0
USD/other	1	9	0	11	0	32
Other	0	0	0	0	0	0
Maturities	100	100	100	100	100	100
[ Up to 7 days]	13	9	0	0	10	5
]7 days - 1 month]	15	18	0	1	13	38
]1 month- 1 year]	59	60	13	13	64	46
]1 year - 5 year]	7	3	72	73	0	11
> 5 year	6	10	15	13	13	0

trend recorded since 1997, i.e. strong gains in the market share of IRS to the detriment of FRA.

IRS continued to strengthen their position as the predominant instrument in the institutions' portfolios, having reached a share of 92 per cent in March 2002 (Chart 6). Likewise, this trend is also recorded at international level, reflecting the increasing liquidity of the market of these instruments, against a background of integration of the swap market in the euro area and of increasing sophistication in risk management. On the other hand, options (due to both the rise in amounts outstanding in this instrument in absolute terms, and the reduction in the amounts of FRAs) rank sec-

#### Table 14

## AMOUNTS OUTSTANDING OF OTC INTEREST RATE DERIVATIVES

#### USD million

	Total	FRA	IRS	OTC options	Other OTC
1995					
March	7552	2707	4845	0	0
September	15968	7591	7947	430	0
1996					
March	28488	17709	10293	486	0
September	38805	24046	14282	477	0
1997					
March	83853	63373	19472	1008	0
September	117103	81229	33809	1664	401
1998					
March	133178	84711	44773	3440	254
September	130838	68420	57405	4821	192
1999					
March	130574	66449	62424	1701	0
September	129402	46470	78945	3511	476
2000					
March	113297	29788	80558	2656	295
September	91268	14904	73330	1787	1247
2001					
March	82283	7254	72173	1367	1489
2002					
March	104027	933	95230	7864	0
Change $(0/)$					
Marge (%):	07.4	75.0	10.4	40 5	101 7
March 00 / March 01 .	-21.4	-/3.6	-10.4	-48.5	404.7
March $01 \neq March 02$ .	26.4	-87.1	31.9	475.3	-100.0



# AMOUNTS OUTSTANDING OF OTC INTEREST RATE DERIVATIVES Breakdown by currency

As a percentage of the total

	1999	2000	2001	2002
	Apr.	Apr.	Apr.	Apr.
EUR	75	69	80	83
USD	7	13	12	11
JPY	0	1	0	0
GBP	10	9	5	3
Other European currencies		6	2	2
Other currencies	8	2	1	1

ond in interest rate derivatives instruments, while FRAs now show a residual weight.

Turning to the breakdown by currency and analysing the relative weight of the different interest rates, a remarkable stability can be seen between 2001 and 2002, with the euro interest rates accounting approximately for 80 per cent of amounts outstanding (Table 15). Also worthy of mention is the strengthening of the euro interest rate from 2000, as a result of the loss of importance of the pound sterling and the Swedish krona.

Between 2001 and 2002 the *structure by counterparty* remained stable both in terms of the breakdown by residents and non-residents and by financial and non-financial counterparty. Nonresident financial institutions continued to be the main counterparty (accounting nearly for 85 per cent of the amounts outstanding), stress being laid among them, on the increase in the weight of euro area resident counterparties (Table 16).

The **breakdown by instrument** reveals a relative homogeneity in terms of currencies and counterparties and a higher diversity in the structure by maturity (Table 17). It should however be noted that the amounts outstanding structure is far more stable in temporal terms in IRS, than in the remaining instruments, reflecting the higher liquidity and deepness of the market of this instrument (therefore not being affected by changes in the business strategy of some institutions, which is namely the case of the options market).

With respect to currencies, the predominance of the euro interest rates is clear in the three types of instruments. Non-resident financial institutions

# AMOUNTS OUTSTANDING OF OTC INTEREST RATE DERIVATIVES

Breakdown by counterparty

As a percentage of the total

	1997	1998	1999	2000	2001	2002
	Mar.	Mar.	Mar.	Mar.	Mar.	Mar.
Financial institutions	98	97	91	91	93	92
Resident	36	25	17	10	9	8
Non-resident	62	72	74	81	84	84
of which: euro area					22	32
Non-financial customers.	2	3	9	9	7	8
Resident	2	2	2	3	4	6
Non-resident	0	1	7	6	3	2
of which: euro area	100	100	100	100	0 100	$\begin{smallmatrix}&1\\100\end{smallmatrix}$
Total - Resident	38	27	19	13	13	14
Total - Non-resident	62	73	81	87	87	86
of which: euro area					22	33

#### Table 17

# AMOUNTS OUTSTANDING OF OTC INTEREST RATE DERIVATIVES

#### Breakdown by instrument

As a percentage of amounts outstanding by instrument

	Fl	RA	IRS		OTC options	
	2001	2002	2001	2002	2001	2002
	Mar.	Mar.	Mar.	Mar.	Mar.	Mar.
Counterparties	100	100	100	100	100	100
Financial institutions	89	75	95	93	37	83
Resident	2	9	10	8	0	5
Non-resident	87	66	85	85	37	78
of which: euro area	34	30	21	29	16	60
Non-financial customers.	11	25	5	7	63	17
Resident	1	24	3	5	59	12
Non-resident	10	1	2	2	4	5
of which: euro area	0	1	0	0	0	5
Currencies	100	100	100	100	100	100
EUR	79	85	78	83	90	74
USD	10	0	13	11	10	21
GBP	11	0	5	3	0	5
JPY	0	0	0	0	0	0
SEK	0	0	2	1	0	0
Other	0	15	2	2	0	0
Maturities	100	100	100	100	100	100
[ Up to 7 days]	0	0	1	0	0	0
]7 days - 1 month]	0	0	1	3	0	0
]1 month - 1 year]	98	96	21	26	35	49
]1 year- 5 years]	0	4	48	48	40	47
> 5 years	2	0	29	23	25	4

are the main counterparty. It should however be noted that while the weight of non-euro area resident financial institutions is only 30 per cent in IRS and FRA, in the case of options these counterparties represented 60 per cent in March 2002. With respect to the maturity of amounts outstanding, positions in maturities of up to 1 month were virtually non-existent. In IRS there is a higher concentration in maturities between 1 and 5 years, while in options, the positions are equally divided between maturities between 1-month and 1-year and 1 to 5-years. Finally, amounts outstanding in FRA were almost exclusively concentrated in maturities between 1-month and 1-year.

#### **3. ORGANISED MARKET**

The results of the April 2002 survey point to a recovery of activity in the exchange-traded derivatives segment. The average daily turnover in foreign exchange and interest rate derivatives, in organized markets stood at USD 3,335 million, increasing more than sevenfold from with April 2001. The strong increase of activity in exchange traded instruments was thus stronger than that recorded by OTC non-traditional derivatives (currency swaps, FRA, IRS and options) (Chart 7). Similarly to the OTC market, growth was basically due to interest rate instruments, since options and exchange rate futures continued to have a negligible share in total turnover (Table 18).

However, the analysis of turnover data on exchange-traded derivatives from the April 2002 survey, should take into consideration that the rise in turnover mainly reflects the expansion of activity reported by a rather reduced number of institutions, which account approximately for 85 per cent of the total exchange-traded derivatives transactions.

As a result of this distortion, transactions in the interest rate segment are no longer restricted to futures as it happened up to 2001; this segment has currently an intense activity in options, in particular in US dollar contracts in US exchanges. The share of futures declined to 14 per cent, while that of options increased to 86 per cent.

With respect to futures transactions, it should be noted that there was also an increase (11 per cent), albeit far less marked than that of options;



these transactions were reported by a larger number of institutions than in April 2001.

In parallel with an increase in the turnover of euro interest rate contracts (118 per cent) there was a reduction in US dollar interest rate transactions

#### Table 18

## EXCHANGE -TRADED DERIVATIVES Average daily turnover

USD million

	Total	Foreign exchange deriva- tives	%	Interest rate deriva- tives	%
1997					
April	473	0	0.0	473	100.0
October	570	0	0.0	570	100.0
1998					
April	1055	2	0.2	1053	99.8
October	685	1	0.1	684	99.9
1999					
April	598	1	0.2	597	99.8
October	728	1	0.1	727	99.9
2000					
April	1158	1	0.1	1157	99.9
October	574	0	0.0	574	100.0
2001					
April	435	2	0.5	433	99.5
2002					
April	3338	3	0.1	3335	99.9
Variação (%):					
April 00/April 01	62.4	100.0		-62.6	
April 01/April 026	667.4	50.0		670.2	



(-60 per cent). Increased activity in euro contracts was recorded in the short-term interest rate futures segment, which thus strengthened its predominance in total futures transactions from 54 per cent to 60 per cent (Chart 8).

In the analysis of the type of business associated with short and long-term interest rate futures (up to 1 year and over 1 year), the following should also be noted: rise in the weight of foreign exchanges as counterparties in short-term futures contracts, contrasting with a slight reduction in the share of long-term futures contracts (Table 19); and strengthening of the euro in short-term futures contracts in parallel with the maintenance of its almost exclusive predominance in the long-term rate contracts segment.

# 4. DEGREE OF CONCENTRATION OF TURNOVER IN FOREIGN EXCHANGE AND DERIVATIVES MARKETS

Data collected in the 2001 and 2002 surveys show the heterogeneity of the development pattern of the degree of concentration between the different market segments.<sup>(7)</sup> The increase in concentration observed in previous years, chiefly following the restructuring process of the banking sector, was interrupted in 2002, this being more

#### Table 19

## INTEREST RATE FUTURES TRANSACTIONS

Characterisation by type of business by instrument

As a percentage of total turnover by instrument

	Interest rate futures - less than 1 year		Interes futures ye	st rate - over 1 ar
	2001	2002	2001	2002
Counterparties				
Foreign stock exchanges.	100	100	100	100
Euro area	14	55	94	92
Non-euro area	86	45	6	8
Currencies	100	100	100	100
EUR	35	57	92	91
USD	60	30	7	8
JPY	0	0	0	0
GBP	5	7	1	1
CHF	0	0	0	0
Other	0	6	0	0
Maturities	100	100	100	100
[ Up to 7 days]	22	33	60	57
]7 days - 1 month]	0	0	0	0
]1 month - 1 year]	65	60	40	9
]1 year - 5 years]	13	7	0	34
> 5 years	0	0	0	0
Conduction of				
transactions	100	100	100	100
Automatic dealing	0	0	0	0
Broker	100	100	100	100
Electronic broker	0	0	0	0
Other (including telephone				
system)	0	0	0	0

apparent in the foreign exchange derivatives segment.

However, the degree of concentration of the Portuguese market continues to be very high. In terms of both turnover and amounts outstanding, the three and six most active financial institutions<sup>(8)</sup> hold shares higher than 50 per cent and 80 per cent, respectively (Tables 20 and 21).

Turning to the foreign exchange derivatives segment, a significant reduction can be seen in the

<sup>(7)</sup> The calculation of market shares was based on all reported operations, either relating to the OTC market or to the organized market.

<sup>(8)</sup> In terms of the financial institutions operating in the Portuguese market two different situations should be considered: i) that of banks belonging to Portuguese financial groups; and ii) that of banks that operate individually in the Portuguese market. Given the combined strategy generally adopted by each financial group, in the analysis of market shares account was taken of the combined weight of the several institutions belonging to the same group and not their individual weight.

# TURNOVER

## **Concentration indicators**

	n	S 3	S 6
Spot			
1997	29	62.8	85.2
1998	28	56.3	82.4
1999	28	67.1	85.2
2000	27	70.0	87.1
2001	25	70.5	88.8
2002	26	64.4	92.4
Foreign exchange derivatives			
1997	23	69.0	87.3
1998	26	61.6	87.6
1999	26	75.3	86.3
2000	21	82.7	94.6
2001	22	75.9	88.8
2002	20	54.3	84.8
Interest rate derivatives			
1997	14	69.7	93.2
1998	15	71.6	96.1
1999	13	68.6	92.4
2000	10	85.0	99.2
2001	11	75.6	97.0
2002	13	94.2	99.4

degree of concentration, of both transactions, and amounts outstanding. Given that foreign exchange swaps are the instrument with the strongest weight, the structure of foreign exchange derivatives is strongly conditioned by the structure of this segment, in which there is currently a far more homogenous distribution of shares between the most active institutions.

Interest rate derivatives recorded a rise in the turnover degree of concentration when measured by the share of the 3 and 6 more active institutions. However, this movement does not reflect a broadly based increase in concentration in the several interest rate instruments, but a rise in concentration in the exchange-traded options segment

#### Table 21

## AMOUNTS OUTSTANDING

#### **Concentration indicators**

	n	S 3	S 6
Foreign exchange derivatives			
1997	23	54.0	75.2
1998	26	53.3	64.6
1999	26	38.6	50.0
2000	21	69.8	88.8
2001	22	70.8	88.5
2002	20	55.9	82.2
Interest rate derivatives			
1997	14	74.9	89.6
1998	15	81.2	94.5
1999	13	68.9	89.6
2000	10	84.9	98.6
2001	11	87.7	97.9
2002	13	84.8	96.8
Equity derivatives			
1997	-	-	-
1998	-	-	-
1999	-	-	-
2000	6	94.0	100.0
2001	8	85.7	99.8
2002	13	82.6	99.2

(resulting from a very significant rise in activity reported by a rather reduced number of institutions). In fact, this sector is traditionally affected by the somewhat erratic nature of strategic options of participating institutions. Amounts outstanding did not show similar developments and the figures for the S3 and S6 recorded a slight reduction.

Finally, equity derivatives recorded a reduction in the degree of concentration in terms of amounts outstanding. This is likely to translate the still recent development of this market in which the number of participating institutions has been gradually increasing.

## **COMPOSITE INDICATORS FOR THE EURO AREA ECONOMIC ACTIVITY\***

#### António Rua\*\*

#### **1. INTRODUCTION**

Within the framework of a common monetary policy, the monitoring of economic developments in the euro area, on a regular basis, is of particular importance. Despite of the ongoing improvement, the data available for the euro area as a whole are still relatively limited and released with some lag. The assessment of the economic situation requires synthetic measures representative of activity in the economy as a whole. Gross Domestic Product (GDP) is the best measure acknowledged for this purpose. However, GDP is only made available on a quarterly basis and released with a significant lag, which makes it difficult to assess economic activity on a regular and timely basis. In fact, the first estimate for the euro area GDP in a given quarter is released 70 days after the end of that quarter.<sup>(1)</sup> Thus, one needs to resort to other synthetic measures which provide information on economic developments in the euro area on a more timely and frequent basis. The purpose of this article is to evaluate the performance of several economic composite indicators, which are currently released on a regular basis by several institutions, including the European Commission, the Organisation for Economic Co-operation and Development (OECD) and the Centre for Economic Policy

Research (CEPR). The aim of this article is to assess to what extent these composite indicators allow the monitoring of GDP growth. For this purpose, we resort both to time and frequency domain analysis.

This article is organised as follows. Section 2 makes a brief description of the methodology used to evaluate the composite indicators. Section 3 presents the main features of the indicators released by the different institutions and makes an overall assessment of their performance. Section 4 addresses other issues regarding the practical use of the indicators and section 5 concludes.

## 2. METHODOLOGY

In order to assess the properties of a given composite indicator, it is necessary to compare it with a reference series considered to be representative of the economic developments in the euro area. We have chosen GDP, since it is the most comprehensive variable among the official statistics released for the euro area, and also because it is regularly used in the analysis of the economic situation. Since GDP is quarterly, the assessment of the indicators was made on a quarterly basis (notwithstanding the fact that these are monthly indicators). Thus, each composite indicator was compared with the quarter-on-quarter growth rate and/or the year-on-year growth rate of GDP, as appropriate. The sample period adopted was the longest common period available for the indicators assessed — 1988 I to 2001 IV — so as to ease the comparison of the results. Since the official series of the euro area GDP provided by Eurostat

<sup>\*</sup> The views expressed in this article are those of the author and not necessarily those of the Banco de Portugal.

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Moreover, this estimate can be revised (the second and the final estimates are made available with a lag of 100 and 120 days respectively).

starts in 1991, it was necessary to retropolate this series, using the series built by Fagan *et al.* (2001).<sup>(2)</sup>

The evaluation of the composite indicator behaviour vis-à-vis developments in the reference series was made using both time and frequency domain techniques. First, the relationship between the indicator and GDP was analysed resorting to the cross-correlogram. The cross-correlogram is based on the linear correlation coefficient between the variables for several lags, which is a measure of the degree of linear association between the variables. The maximum correlation lag was used to classify the composite indicator as lagging, coincident or leading.

Second, we resorted to spectral analysis. The main idea underlying the frequency domain analysis is that any stationary process can be seen as the sum of an infinite number of uncorrelated periodic components (spectral representation theorem). The frequency domain analysis allows us to study the relationship between the periodic components of the variables of a given frequency  $\omega$ , i.e. with periodicity  $\frac{2\pi}{\omega}$  time units. Three measures were computed in the frequency domain: coherency, phase and dynamic correlation.<sup>(3)</sup> Coherency can be seen as the absolute cross-correlation coefficient between the two variables at a given frequency, without considering the possible time displacement between the two variables. The phase measures the time displacement between the variables at a given frequency. The dynamic correlation is the contemporaneous cross-correlation coefficient between the variables at a given frequency.

Third, the Granger causality was tested between the composite indicator and the reference variable, in order to assess whether past figures of the composite indicator contribute to improve the forecasts of the current value of the reference variable. In practice, this test resumes to estimate a bivariate vector autoregressive model (VAR) of irrestrict *p* order<sup>(4)</sup> and assess whether the composite indicator can be eliminated from the VAR part

(2) It should be noted that the results presented in the following section do not differ substantially from those which would have been obtained using only the period for which the official Eurostat series is available. which describes the dynamics of the reference variable. The null hypothesis of the test is that the composite indicator does not Granger cause the reference variable.

Finally, the composite indicators were evaluated according to the timing of their release and to the fact that they are released on a monthly basis.

In order to assess the increased usefulness stemming from the use of each composite indicator in the monitoring of developments in GDP, the performance of the indicator was compared to that of a benchmark. This benchmark is intended to establish a minimum performance criteria for the indicators analysed. Thus, a possible benchmark would be to fit an autoregressive process to the reference series. This allows us to assess to what extent current developments in the reference series can be tracked using only past data. Thus, an autoregressive process of order *p* was fitted to the GDP quarter-on-quarter growth rate and, using a general-to-specific approach, the following AR(1) process was obtained for the GDP quarter-on-quarter growth rate (qoq) (with the corresponding *t*-ratios):

$$\hat{q} \circ q_t = 0.33 + 0.37 q_{t-1} (3.57) (2.96)$$

 $R^2 = 0.14$  Standard deviation= 0.44 DW = 2.05 T = 56.

Chart 1 compares the developments of the benchmark with those of the reference series. The contemporaneous correlation between the GDP quarter-on-quarter growth rate and that obtained with the AR(1) model is 0.37. Once obtained the estimate for the GDP quarter-on-quarter growth rate for a given quarter, the computation of the corresponding year-on-year growth rate is immediate, since the data regarding the three previous quarters are available (Chart 2). The correlation between the year-on-year growth rate of GDP and that obtained with the mentioned estimate is 0.95.

<sup>(3)</sup> See Annex for more details.

<sup>(4)</sup> The VAR order was found by minimizing the Schwarz criteria.



#### **3. COMPOSITE INDICATORS**

Composite indicators are intended to synthesize the information contained in a range of economic variables into a single indicator. This range can include, for example, qualitative data from opinion surveys carried out in several economic sectors, indicators of real domestic and external activity, as well as monetary and financial variables. The selection of the variables to be included in the indicator is made on the basis of statistical and economic criteria, and, as far as possible, the composite indicator should represent the economy as a whole. In general, after this selection, the variables are normalised (so as to avoid series with higher cyclical amplitude overriding the indicator) and subsequently aggregated. Thus, a synthetic measure for the developments in economic activity is obtained.

The indicators analysed in this article are the €COIN released by the CEPR, the Composite Leading Indicator developed by the OECD, the Economic Sentiment Indicator and the Business Climate Indicator, both proposed by the European Commission, and the Handelsblatt Indicator used by the German newspaper Handelsblatt.

#### **3.1 €COIN**

The CEPR releases a coincident indicator for the euro area business cycle, the €COIN, which is intended to ease the assessment of the current economic situation.<sup>(5)</sup> The construction of this indicator is based on the assumption that GDP, despite of being a good synthetic measure of economic activity, is affected by measurement errors and noise, which difficult the analysis of the state of the economy. Thus, the aim of the indicator is to provide the policy maker with a noise-free measure of activity. The indicator is published on a monthly basis and is based on a wide set of information (which includes data referring to both the six largest euro area economies and the euro area as a whole and covering the different economic activity sectors). The model underlying the €COIN can be summarised as follows. Each variable is considered as the sum of two independent components, the common component and the idiosyncratic component. The common component is determined by a reduced number of factors common to all variables,<sup>(6)</sup> while the idiosyncratic component is exclusively affected by factors specific to the variable itself. In turn, the common component is considered as the sum of two independent components, the cyclical component and the short-term component, the latter being characterised by high

<sup>(5)</sup> See Altissimo *et. al* (2001).

<sup>(6)</sup> Empirically, four common factors were considered.

<sup>(7)</sup> In particular, all fluctuations with a periodicity lower than 14 months were included in this component.



volatility.<sup>(7)</sup> The identification of these unobservable components is made by resorting to the wide set of information mentioned above, in which all the variables are seasonally adjusted, stationarized and normalised.<sup>(8)</sup> The  $\in$ COIN is defined as the cyclical component of the common component of GDP.<sup>(9)</sup>

The  $\in$ COIN is used by the CEPR to track the developments in the euro area GDP quarter-onquarter growth rate.<sup>(10)</sup> Based on the graphical analysis (Chart 3) the effect that results from the elimination of short-term fluctuations when the indicator is computed is clear. In fact, the  $\in$ COIN provides a smoothed version of developments in the GDP quarter-on-quarter growth rate, thus permitting to avoid the problems when interpreting developments in economic activity caused by the irregular pattern of the above rate.

The maximum correlation between this indicator and the GDP quarter-on-quarter growth rate is given by the contemporaneous correlation, 0.78 (i.e. higher than that obtained with the AR(1) benchmark model) (Chart 4). The properties of the coincident indicator are confirmed in the frequency domain. The lag is negligible and the dynamic correlation is quite high. Moreover, it presents a particularly high coherency at low frequencies (i.e. at long cycles), when compared with the one at high frequencies (i.e. at short cycles), given that the indicator disregards the component associated with the latter. Moreover, the €COIN Granger causes the GDP quarter-on-quarter growth rate. Given that the indicator shows a higher correlation with the GDP quarter-onquarter growth rate than that obtained with the AR(1) model, it is evident that the resulting estimate for the year-on-year growth rate will also be better. In fact, the correlation between the GDP year-on-year growth rate and that obtained with the estimate provided by the indicator for the quarter-on-quarter growth rate is 0.98.<sup>(11)</sup>

## 3.2 Composite Leading Indicator

The OECD developed a range of composite indicators to enable a better analysis of the current economic situation and to anticipate future developments in member countries. The main purpose of the Composite Leading Indicator (CLI)<sup>(12)</sup> is to predict economic turning points. It results from the aggregation of several variables which show a leading relationship with the business cycle (in particular with the industrial production cycle, chosen by the OECD as a proxy for the economic activity). However, given the similarity between the industrial production cycle and the GDP cycle, the OECD states that the CLI can be used to lead the latter. The definition of cycle used by the OECD refers to deviations from the long-term trend.<sup>(13)</sup> The pre-selection of the series to be included in the composite indicator, which is published on a monthly basis, was made according to the following criteria: economic significance, cyclical behaviour and data quality (i.e. the statistical coverage of the series should be broad; series should be compiled on a monthly basis; timeliness; there should be no breaks in the series and should not be revised frequently). The final set of the CLI components was selected in order to maxi-

<sup>(8)</sup> The method used is based on the methodology proposed by Forni *et al.* (2000).

<sup>(9)</sup> The monthly series for GDP was obtained through the linear interpolation of the quarterly series.

<sup>(10)</sup> It should be noted that the CEPR points out that the latest figures for the indicator should be interpreted with caution since they are based on partial and preliminary data.

<sup>(11)</sup> The indicator was normalised so as to have the same mean and standard deviation of the GDP quarter-on-quarter growth rate in the sample period considered.

<sup>(12)</sup> See OECD (1987).

<sup>(13)</sup> This trend is estimated using the Phase Average Trend (PAT) method developed by the NBER.



Notes:

- (a) A positive lag should be interpreted as the delay, in terms of periods, of the composite indicator vis-à-vis the reference variable. Figures outside the interval bounded by the dotted lines are considered to be significantly different from zero. The confidence interval (with a significance level of 5%) is given approximately by ±1.96/√T, where T is the total number of observations.
  (b) The figures above the dotted line are considered to be significantly different from zero (with a cignificance level of 5%) (see the figures above the dotted line are considered to be significantly different from zero.
- (b) The figures above the dotted line are considered to be significantly different from zero (with a significance level of 5%) (see Koopmans (1974)).

(c) The phase is measured in time periods. In this case, a positive figure for the phase should be interpreted as the delay, in terms of periods, of the composite indicator vis-à-vis the reference variable.

mise its performance in terms of detection of turning points, correlation with the reference series and coverage, as far as possible, of the different sectors of the economy. The series chosen to be included in the CLI undergo several transformations: the quarterly series are converted into monthly series through linear interpolation, smoothed (in order to reduce the irregularity of the final indicator), normalised, weighted and finally aggregated (in the form of deviations from the long-term trend).<sup>(14)</sup> In general, the CLI for each country is a simple average of the components.<sup>(15)</sup> The CLI for the euro area results from the aggregation of its member countries, using weights derived from industrial production.

The OECD releases the CLI both as ratio to trend, i.e. as deviation from the long-term trend,

<sup>(14)</sup> Moreover, the cyclical amplitude of the CLI is adjusted so as to match that of the reference series.



and as trend restored<sup>(16)</sup>, i.e. in a form directly comparable with the original reference series. Thus, the behaviour of the CLI trend restored was analysed, and its quarterly growth rate was compared with the corresponding rate of change in GDP. Based on a graphical analysis (Chart 5), the quarterly growth rate of CLI appears to be a leading indicator.

This is confirmed by the fact that the maximum correlation, 0.55, is reached at lag -1 (i.e. not only is the maximum correlation higher than that obtained with the AR(1) model, but it also shows a lead) (Chart 6). It should be noted, however, that the cross-correlation at lag -2 is almost the same as at lag -1. Resorting to spectral analysis, the lead is confirmed in particular at relatively low frequencies, i.e. at relatively long cycles. It also Granger causes the GDP quarter-on-quarter growth rate. Moreover, using past data available and the estimates provided by the indicator for the GDP quarter-on-quarter growth rate is 0.82 at lag -1.

#### 3.3 Economic Sentiment Indicator

The opinion surveys conducted within the various economic sectors provide one of the main sources of information on economic activity, given that the developments of the latter are determined by economic agents' behaviour, which in turn is conditioned by the surrounding environment. The economic agents are surveyed both on aspects directly related to their activity and on variables over which they have no control. Based on the opinion surveys conducted on a monthly basis in the euro area countries, the European Commission constructed a composite indicator, known as the Economic Sentiment Indicator (ESIN), in order to reflect developments in the overall economic activity.<sup>(18)</sup> The ESIN is the weighted average of the confidence indicators for different sectors of the economy, namely industrial (with a weight of 40 per cent), consumer (20 per cent), construction (20 per cent) and retail trade (20 per cent).<sup>(19)</sup> It should be noted that each confidence indicator is calculated as a simple average of the balance of respondents (seasonally adjusted (s.a.)) to some questions in the corresponding survey. In order to calculate ESIN, the first differences of the series comprising it are normalised, weighted (using the above mentioned weights) and subsequently accumulated in order to obtain an index.

Following the European Commission, the evaluation of this indicator was done against the GDP year-on-year growth rate. From the graphical analysis of its development over time (Chart 7), it can be concluded that ESIN has reasonably moved in line with the reference series, despite a less satisfactory behaviour at the end of the sample period.

<sup>(15)</sup> It should be noted that, in particular, the latest figures for the CLI may be subject to significant revisions. This is due to the fact that the timely release of the CLI requires its computation on the basis of data regarding only part of its components. Moreover, the trend estimates, in particular for the most recent period, may be substantially revised with additional data.

<sup>(16)</sup> Obtained by multiplying the CLI ratio to trend by the trend of the reference series. The trend for a geographical zone is obtained by aggregating the trends of the countries belonging to that zone using the corresponding weights.

<sup>(17)</sup> After normalisation, as indicated in footnote 11.

<sup>(18)</sup> See European Commission (1997).

<sup>(19)</sup> It should be noted that the current composition of ESIN was introduced in 2001 (see European Commission (2001)), in order to confine ESIN to the results of business and consumer opinion surveys and to improve its statistical properties as a composite indicator. According to information provided by the European Commission, the remaining calculation procedures of the indicator (see European Commission (1997)) remained unchanged.





Given the cross-correlations obtained (Chart 8), ESIN reaches the maximum correlation with the GDP year-on-year growth rate, 0.86, at lag 1, which seems to suggest that the indicator is slightly lagging. Thus, in terms of both maximum correlation and lag, this indicator performs worse than the benchmark considered. Resorting to spectral analysis it can be seen that, at relatively low frequencies, ESIN presents a high coherency and a slight lag. Moreover, ESIN Granger causes the GDP year-on-year growth rate.

## **3.4 Business Climate Indicator**

To improve the understanding of the business cycle in the euro area, the European Commission has developed the Business Climate Indicator

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(BCI),<sup>(20)</sup> an indicator based on the monthly survey of the manufacturing industry designed to allow a timely assessment of the cyclical situation within the euro area. Although industry accounts for less than 25 per cent of the production in the euro area, this choice was due to the lack of data, in particular, regarding services, and by the fact that more than half of the variations in GDP is accounted for by fluctuations in industrial activity. The European Commission decided to consider for this indicator the following questions of the manufacturing survey: production trends in recent months, order books, export order books, stocks and production expectations.<sup>(21)</sup> The seasonally adjusted balance of respondents to each of these questions

is used when calculating the BCI. The indicator aims at identifying the component that is common to the series, assuming that each variable can be described as the sum of a factor that is common to all series and an idiosyncratic component.<sup>(22)</sup> According to the European Commission, the BCI may be read as a survey result, i.e. its level can be interpreted against a historical average and both short-term movements and trend can be analysed.

<sup>(20)</sup> See European Commission (2000).

<sup>(21)</sup> Only the question regarding selling-price expectations for the next months was excluded, given that the graphical analysis suggests that it would be less directly related to expectations regarding the business climate in the euro area.

<sup>(22)</sup> The model is estimated by maximum likelihood and does not take into account the temporal and autocorrelated nature of the variables, i.e. in a static framework, in contrast with, for example, the dynamic model of Stock and Watson (1992).

Thus, a high (low) level points to a favourable (adverse) cyclical situation and a rise (fall) points to an improvement (deterioration) of economic activity.

The European Commission compares the developments of this indicator with the year-on-year growth rate of the euro area industrial production. Similarly, in this article, for the evaluation of BCI, the GDP year-on-year growth rate was used to measure developments in economic activity. The graphical analysis (Chart 9) shows that the BCI has been recording a behaviour similar to the one of the GDP year-on-year rate of change.

The maximum cross-correlation with the reference series corresponds to the contemporaneous correlation, i.e. 0.88 (Chart 10). That is, the BCI is a coincident indicator with a high degree of linear association (although lower than that obtained





with the suggested benchmark). The conclusion drawn from the frequency domain is similar. At relatively low frequencies, the BCI presents a high coherency and, on average, a zero phase, which naturally translates into a high dynamic correlation. Moreover, this indicator also Granger causes the GDP year-on-year growth rate.

## 3.5 Handelsblatt Indicator

In contrast with the two previous composite indicators, which are only based on opinion surveys, the indicator released by the German newspaper Handelsblatt (HI) also uses quantitative data.<sup>(23)</sup> This monthly indicator, aimed at monitoring the economic situation in the euro area, is calculated as a weighted average of six series (after normalisation). The series are: European Commission industrial and consumer confidence indicators s.a. (with weights of 40 and 10 per cent, respectively), monthly growth of the industrial production (excluding construction) s.a. (20 per cent), year-onyear growth of the monetary aggregate M2 (10 per cent), year-on-year growth of the harmonised index of consumer prices (10 per cent, with symmetric sign) and the difference between the ten-year government bond yield and the three-month interest rate (10 per cent).

Handelsblatt uses as reference series the annual rate of change in GDP ended in each quarter. Therefore, it was decided to assess the performance of HI against the GDP year-on-year rate of change. Their evolution seems to be quite similar<sup>(24)</sup> (Chart 11).

The HI seems to be highly correlated with the GDP year-on-year growth rate, with the highest value being recorded by the contemporaneous correlation, 0.92 (Chart 12). However, this correlation is lower than that obtained with the benchmark. It should also be noted that the cross-correlation at lag 1 is almost identical to the contemporaneous correlation, suggesting that the indicator is coincident or slightly lagging. In the frequency domain,



the dynamic correlation is high, in particular at relatively low frequencies, and it presents a slight lag, confirming the conclusions drawn with the cross-correlations. This indicator Granger causes the GDP year-on-year growth rate.

## 4. REMARKS ON THE USE OF THE INDICATORS

The previous section presented a detailed analysis of the behaviour of the various composite indicators tracking GDP evolution. It was possible to draw some conclusions regarding their performance. The €COIN proved to be a coincident indicator able to track in a rather satisfactory manner the development path of the GDP quarter-on-quarter growth rate. In fact, €COIN presents a high correlation with the reference series, which is much higher than that obtained with the AR(1) model. In turn, CLI is the sole indicator with lead characteristics for the GDP quarter-on-quarter growth rate. Regarding the GDP year-on-year growth rate, both ESIN and BCI lose some of their usefulness because they present a lower correlation than that obtained with the benchmark, more so in the case of ESIN, given that this indicator presents a slight lag. Regarding HI, the classification as coincident or lagging is probably not robust to the sample period considered and, therefore, the uncertainty as to the relevant lag might make its use more difficult. Moreover, it also presents a worse performance than that obtained with the benchmark.

<sup>(23)</sup> See Handelsblatt (1999). It should be noted that methodological information about this indicator is rather limited.

<sup>(24)</sup> Due to the lack of data, it was not possible to analyse the HI for the same sample period of the other indicators; only the sub-period starting in the third quarter of 1992 was considered. Given the small size of the sample, the results should be interpreted with caution.



A relevant issue yet to be analysed is related with the timeliness of each indicator. In fact, the indicators' usefulness might be reinforced due to the fact that they are more readily available than the reference series for a given quarter (Table 1). For example, indicators classified, in terms of cross-correlations, as coincident (€COIN, BCI and HI) end up being more interesting due to the fact that their release is prior to that of GDP. Clearly, the indicator previously classified as leading (CLI) becomes more useful. Regarding lagging indicators, the additional gain in terms of timeliness may not be sufficient to offset the lag in terms of crosscorrelations (like, for example, in the case of ESIN). It should be noted that, in terms of release, the AR(1) benchmark is not so demanding, given

that to calculate it, it is only necessary to know the GDP of the previous quarter.

After taking into account this additional element of comparison, i.e. the release schedule, it can be concluded that any indicator whose reference series is the GDP year-on-year growth rate continues to present a worse performance than that obtained with the benchmark. Regarding the remaining indicators, although available after the benchmark,  $\in$ COIN's usefulness still lies in the fact that it presents a far higher correlation with the GDP quarter-on-quarter growth rate.<sup>(25)</sup> The CLI remains the indicator that provides more timely information about activity.

Another factor to be taken into account when assessing the usefulness of the indicators is their monthly nature. In fact, even before the end of the

## PERFORMANCE OF THE INDICATORS (IN QUARTERLY TERMS)

	Reference series GDP	Maximum cross- correlation	Maximum cross- correlation lag (in months) <sup>(a)</sup>	Lag in terms of publication (in months) <sup>(b)</sup>
€COIN	q-o-q	0.78	0	-1.5
	у-о-у	0.98		
CLI	q-o-q	0.55	-3	-1
	у-о-у	0.82		
ESIN	у-о-у	0.86	3	-2
BCI	у-о-у	0.88	0	-2
HI	у-о-у	0.92	0	-3
Benchmark				
(AR(1))	q-o-q	0.37	0	-3
	у-о-у	0.95		

Notes:

quarter, the indicators provide partial information on that quarter which can be used to anticipate developments in the reference series. If, on the one hand, this allows a gain in terms of release, on the other hand, an indicator based on an incomplete data set can present a significant deterioration of its performance. Table 2 summarises the performance of the indicators, in terms of crosscorrelations, when partial data are used for each quarter. It should be noted that the use of data up to the second month of the quarter has negligible costs in terms of performance and allows an additional gain of one month comparing with the situation when the whole quarter of the indicator is used. However, when data only up to the first

#### Table 2

## PERFORMANCE OF THE INDICATORS WITH INCOMPLETE DATA FOR EACH QUARTER

				Using only da	ata available <sup>(a)</sup>			
		Up to t	Up to the 1st month of the quarter			Up to the 2nd month of the quarter		
_	Reference series GDP	Maximum cross- correlation	Maximum cross- correlation lag (in months) <sup>(b)</sup>	Lag in terms of publication (in months)	Maximum cross- correlation	Maximum cross- correlation lag (in months) <sup>(b)</sup>	Lag in terms of publication (in months)	
€COIN	q-o-q y-o-y	0.73 0.96	3	-3.5	0.76 0.98	0	-2.5	
CLI	q-o-q y-o-y	0.54 0.82	-3	-3	0.55 0.82	-3	-2	
ESIN	y-o-y	0.86	3	-4	0.86	3	-3	
HI <sup>(c)</sup>	у-о-у у-о-у	0.78	0	-4 -5	0.88	0	-4	

#### Notes:

(a) It was empirically found that, for all indicators excluding CLI, it is better to use only the months already available for the quarter. In the case of CLI, it is better to use data on the last three months (ending in each month of the quarter).

(b) Although the evaluation was made in quarterly terms, quarters were converted into months in order to make it easier to read the table.

(c) Due to the lack of data, the sample period considered was from Jan-97 to Dec-01.

<sup>(</sup>a) Although the evaluation was made in quarterly terms, quarters were converted into months in order to make it easier to read the table.

<sup>(</sup>b) Difference, in terms of months, between the time when the indicator is made available for a given quarter and the time when the first GDP estimate is released for that quarter.

<sup>(25)</sup> Moreover, the performance of €COIN was also compared with that of the industrial production index, which is acknowledged as a monthly indicator contemporaneously well correlated with developments in economic activity and that may be used directly, given that it is not subject to the statistical treatment underlying the construction of a composite indicator. However, €COIN's performance was better than that of industrial production when tracking GDP quarter-on-quarter growth rate. Taking into account the fact that the industrial production is released after €COIN, the quarterly growth rate of the industrial production index presents a contemporaneous correlation of 0.65 with the GDP quarter-on-quarter growth rate.

month of the quarter is used, some indicators show some deterioration in terms of their overall performance (namely BCI and  $\in$ COIN). In spite of the additional usefulness arising from the monthly nature of the composite indicators considered, comparatively,  $\in$ COIN and CLI still seem to be the most interesting. In fact, when used to obtain an estimate for the GDP year-on-year growth rate, these indicators show a better performance than the remaining ones.

## **5. CONCLUSION**

This article was intended to assess to what extent the composite indicators proposed by different institutions provide useful and timely information on the developments of economic activity in the euro area, measured by GDP. The performance of the composite indicators was evaluated resorting to techniques both in time and frequency domain. However, the practical use of these indicators should take into account not only the analysis in terms of statistical properties, but also the fact that these indicators are released more quickly and frequently than the reference series. Using as reference series the GDP quarter-on-quarter growth rate, €COIN proved to be a highly correlated coincident indicator, with the additional advantage of providing timely and relatively smoothed information, thus facilitating conjunctural analysis. In turn, the Composite Leading Indicator proved to be a leading indicator and it presents a gain in terms of publication. It should also be noted that any of these indicators allows us to obtain an estimate for the GDP year-on-year growth rate. Regarding the indicators whose reference series is the GDP year-on-year growth rate, namely Economic Sentiment Indicator, Business Climate Indicator and Handelsblatt Indicator, none of them presents a better performance than that which is possible to obtain either with the previous indicators or, for example, by fitting an auto-regressive process to

the GDP quarter-on-quarter growth rate and obtaining the resulting year-on-year growth rate given past data available.

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## ANNEX<sup>(26)</sup>

In the frequency domain, the analogous to the autocovariance matrix,  $\Gamma(\tau)$ , is given by the multivariate spectrum,

$$F(\omega) = \frac{1}{2\pi} \sum_{\tau=-\infty}^{\infty} \Gamma(\tau) e^{-i\omega\tau}, \quad -\pi \le \omega \le \pi$$

where  $\omega$  is the frequency measured in radians. For the bivariate process  $\{x_t, y_t\}$ , the diagonal elements of the multivariate spectrum refer to the individual spectrum of  $x_t$  and  $y_t$  and the off-diagonal elements refer to the cross-spectrum. In general, the cross-spectrum is complex valued, so it can be broken down into a real and an imaginary part,

$$f_{xv}(\omega) = c_{xv}(\omega) - iq_{xv}(\omega)$$

Coherency is defined as

$$C_{xy}(\omega) = \frac{|f_{xy}(\omega)|}{\sqrt{f_x(\omega)f_y(\omega)}}, \quad 0 \le C_{xy}(\omega) \le 1$$

Phase is given by

$$\phi_{xy}(\omega) = \tan^{-1}\left(-\frac{q_{xy}(\omega)}{c_{xy}(\omega)}\right)$$

and should be divided by  $\omega$  in order to be expressed in time units.

Dynamic correlation was proposed by Croux *et al.* (2001) and is defined as

$$\rho_{xy}(\omega) = \frac{c_{xy}(\omega)}{\sqrt{f_x(\omega) f_y(\omega)}}.$$

The estimation of the multivariate spectrum is necessary to obtain these measures. In this article, the multivariate spectrum was estimated using the pre-whitening technique, resorting to a VAR(4), and using a Parzen window with a truncation parameter equal to  $\sqrt[3]{T}$ .

<sup>(26)</sup> See Wei (1990) for an introduction to spectral analysis.

## ANALYSIS ON THE IMPACT OF THE CONVERSION OF ESCUDOS INTO EUROS\*

Daniel Santos\*\*, Rui Evagelista\*\*, Teresa Nascimento\*\*\* and Carlos Coimbra\*\*\*

#### **1. INTRODUCTION**

The conversion of national currencies into euros, which occurred at the beginning of 2002, gave origin to some fears of its effect on inflation in the public opinion of the participating countries. With information already available for that period, it is now possible to assess the extent to which these fears were justified.

Following a preliminary work of simulation conducted in the second half of 2001.<sup>(1)</sup> the aim of this study is to analyse the effects of the introduction of the euro on the behaviour of consumer prices in Portugal. The information available in the meanwhile confirmed the idea that the changeover will have had a relatively reduced effect on the Consumer Price Index (CPI), merely causing a slight increase of the global index. However, looking in greater detail at the different components of this index, some meaningful effects of the changeover were detected. Indeed, in the present study a quantitative indication of the impact of the changeover on the evolution of the Consumer Price Index, both national and harmonised, was obtained, pointing to values around 0.2 percentage

points (p.p.) in the first three months of 2002 taken as a whole. Similar studies have been conducted by several Central Banks of the Eurosystem, similarly concluding that the impact of the changeover from the respective national currencies into euros will have been relatively small. Eurostat attributed to the introduction of the euro 0.0-0.16 p.p. of the overall increase of the 0.8 per cent increase in the Harmonised Consumer Price Index, registered between the fourth quarter of 2001 and the first quarter of 2002.<sup>(2)</sup>

In November 2001, the Instituto National de Estatística (INE) began the collection of prices in euros with the purpose of preparing the system of the CPI calculation in the new monetary unit, maintaining, however, the collection of prices in escudos until February 2002. This information made it also possible to evaluate the practice of dual display, the respect for the conversion rules and also to detect significant growth prices during the changeover period. Confirming qualitative information, obtained namely through consumer organizations, the Directorate General of Trade and Competition and the media, the monitoring of prices during the changeover period showed that, in general, no significant irregularities were observed. Only quite a small number of occasional cases were detected, mainly concentrated in the sector of "restaurants and cafés". The new and higher prices for some products of this sector, such as "expresso" coffee, seem to have corresponded

<sup>\*</sup> The opinions expressed in this paper are those of the authors and not necessarily those of the respective institutions. The authors are grateful for the collaboration of Eng. José Figueiredo from the National Statistical Office in the development and implementation of computer applications for the treatment of base data.

<sup>\*\*</sup> Instituto Nacional de Estatística.

<sup>\*\*\*</sup> Banco de Portugal.

See Santos, Evangelista, Nascimento and Coimbra, "Conversion of prices from escudos into euros: quantitative estimate of its effect on the CPI", *Economic Bulletin*, Volume 7, Number 3, September 2001.

<sup>(2)</sup> Eurostat, "April 2002 Euro-indicators News Release no. 58/2002 – 16 May 2002".

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to prices set to ease the payments in the new currency. In other particular cases, namely those of the prices of entertainment, tolls and games of chance, the adjustment of the prices from escudos into euros also seems to have occurred upwards.

In spite of not being representative of the overall behaviour of consumer prices, these occasional cases, as they correspond to often bought products, might have caused a feeling of suspicion among the consumers that abnormal high price increases were registered due to the conversion. In any case, the existence of some effects associated with the process of conversion from escudos into euros should not be excluded, namely those related with rounding and with additional costs implied in the preparation of trade in the new currency. The change of catalogue prices into euros may have provided a "natural" opportunity to increase some prices. However, as mentioned before, the analysis of the evolution of the elementary indices of the CPI until March 2002, which will be presented in this article, did not allow for the inference of a significant effect of the changeover on the overall behaviour of prices.

In the next section of this article the results of the double collection are displayed. It should be stressed that the compliance of the compulsory dual display and the respect for the conversion rules have been, in general, observed, allowing the transition to have occurred without any noteworthy incidents. In the third section, taking into account the preliminary work done in the previous year centred on the possible behaviour of the so-called "attractive" prices, some indications regarding the behaviour during the changeover can be pointed out, resorting to a set of charts, that illustrate characteristics such as the persistence and volatility of these prices. In this section charts concerning the evolution of prices of several products are also displayed, where clear signs of the impact of the introduction of the euro notes and coins can be observed. The fourth section presents the general model used to obtain the quantitative reference of the impact of the changeover on the general growth of the consumer prices in the first three months of 2002 and the results obtained. In the last section, the conclusions are presented.

## 2. DOUBLE PRICING

From November 2001 to February 2002, the *INE* collected prices in escudos and euros with two purposes: on the one hand, to prepare the system for the CPI computation in the new currency and, on the other hand, to obtain data to allow for the evaluation of practices adopted by economic agents regarding the dual display and the respect for the conversion rules.

This exercise of double collection was based on the price collection structure used in the monthly compilation of the CPI, enabling us to obtain data discriminated by statistical region, product type and outlet type regarding the practices of dual display and the existence of conversion errors and respective intensity, associated with incidence according to the form of trade and product category. The conclusions on these practices were based on a sample of 79122 prices, covering about <sup>3</sup>/<sub>4</sub> of the total observations used in the compilation of the monthly index.<sup>(3)</sup>

In this sample one can observe the progressive implementation of dual display. Indeed, in November 2001 the prices expressed simultaneously in escudos and in euros corresponded to 72 per cent of the sample. In spite of this already being a high percentage, this value increased to 82.3, 95.4 e 97.3 per cent in the three following months.

In Chart 1, where each axis represents a statistical region considered for the CPI computation, one can observe the evolution of the use of dual display (in percentage of the sample) over the four periods, represented by changes in the border. Although initially there was some geographical differentiation in the practice of dual display, this differentiation disappeared. Values higher than 95 per cent were reached in all regions in the last month during which the two currencies circulated simultaneously.

The evolution of the dual display of price was also analyzed by product category. Table 1 shows the evolution of the dual display rate discriminated by the twelve classes of products that constitute the CPI. Values lower than 90 per cent at the

<sup>(3)</sup> The characteristics of some prices (central collection, complex prices, consumer prices directly observed as is the case of housing rents) justify this difference when compared with the total CPI sample (104 thousand prices).



end of the period are only observed in some service classes. The case of education stands out among them, which can be to a large extent linked to particularities in the way prices are set for these items, namely in their non public exhibition.

The evolution of the practice of dual display was also studied taking into account the type of outlet. In Chart 2 it can be observed that, for the four considered months, supermarkets, hypermarkets and "discount" shops are the kind of outlets where the practice of dual display was more generalized, although all kinds of outlets had evolved



to high rates in February 2002. The fact that outlets like markets, specialized shops and others<sup>(4)</sup> registered lower values suggests that these outlets, mainly in traditional trade, felt a greater difficulty in adapting to the euro (e.g., dual labelling, intro-

### Table 1

## **RATES OF DUAL DISPLAY**

#### Per cent

Expenditure classes		2001		2002	
	Nov.	Dec.	Jan.	Feb.	
Food and non-alcoholic beverages	83.5	85.9	97.0	98.7	
Alcoholic beverages and tobacco	83.7	88.4	98.3	99.6	
Clothing and footwear	63.8	82.3	96.3	98.7	
Housing, water, electricity, gas and other fuels	48.3	68.2	92.8	96.4	
Accessories, housing equipment and current dwelling expenses	67.9	83.2	96.4	98.6	
Health	60.3	79.2	97.2	96.5	
Transports	57.6	71.1	84.5	87.9	
Communications	77.2	76.7	86.6	86.6	
Recreation and culture	62.4	80.6	93.8	97.3	
Education	17.8	22.2	41.4	49.8	
Hotels, cafés and restaurants	76.6	85.8	98.0	98.8	
Miscellaneous goods and services	63.9	76.3	91.8	95.5	
Total	71.7	82.3	95.4	97.5	

<sup>(4)</sup> The category 'others' includes the rendering of public and private services (hairdressers, public and private services rendered in clinics and hospitals, education establishments and so on), which obviously cannot be categorized in a specific kind of establishment.

## PERCENTAGE OF PRICES WITH THE CORRECT CONVERSION RATE (1€ = 200.482 PTE)

	20	001	2002		
Regions	Nov.	Dec.	Jan	Feb.	
North	94.0	93.2	95.5	94.0	
Centre	95.8	96.3	95.3	95.8	
Lisboa and River Tejo Valley	95.0	95.6	97.1	97.1	
Alentejo	93.6	96.6	93.5	90.5	
Algarve	96.9	97.3	95.7	95.7	
Autonomous Regions	97.1	97.8	95.9	96.5	
Total	95.0	95.4	95.8	95.2	

duction of software adapted to the transition period and so on).

Besides dual display, another question that deserved analysis was that of the evaluation of the respect for the conversion rules from prices in PTE into euros.

Table 2 displays the evolution of the percentage of products, the conversion of which was calculated in the correct manner. This table shows that the proportion of well converted prices remains above 95 per cent in any of the observed months.

It is worth noting that, for around  $\frac{1}{3}$  of the prices of the sample, the conversion of PTE into euros according to the official rate 1 euro = 200,482 or according to the "simplified" rate 1 euro = 200 PTE, determines exactly the same prices expressed in cents of the euro.

Concerning the incorrect conversions that reach almost 5 per cent, it should be pointed out that, to a large extent, they are associated with cases in which the use of the "simplified" rate has determined prices in euro cents, which are different and slightly higher<sup>(5)</sup> than those that would be obtained if the official conversion rate was used.

In an analysis by kinds of outlets, Chart 3 shows that supermarkets, hypermarkets and "discount" shops present a distinct behaviour in relation to the other outlets, presenting higher percentage values, never lower than 98 per cent. On the other hand, the outlets linked to traditional trade show a different evolution. In one or in both



months of simultaneous circulation, a decrease of the percentage of correctly converted products can be observed, most likely due to the adoption of the "simplified" rate.

In terms of international comparison, the values settled for Portugal are in line with the results that have been disclosed on practices of dual display of prices and on the existence of conversion mistakes in the Euro Area (Eurostat, 2002)<sup>(6)</sup>. In a sample of 2605 firms surveyed in January 2002, the Central Bank of Belgium found that 56 per cent of all firms practiced dual display of prices. This value rises to 95 per cent for firms of retail trade. In France, the Ministry of the Economy, Finances and Industry has followed, in a monthly basis, the prices of about 20,000 products of great consumption in more than 2,900 sale locations. Between 7 and 10 January 2002 this organism found that 98,7 per cent of the prices were correctly converted. In April of this year, this percentage rose to 99,6 per cent. These values are slightly higher than those observed in the Portuguese case. On the other hand, the Statistical National Institute of the Netherlands reported that 84 per cent of the prices were correctly converted in December 2001

Summing up, the analysis of data shows that the compliance for the compulsory dual price display and the respect for the conversion rules were, in general, observed, which obviously limited po-

<sup>(5)</sup> The use of the "simplified" rate can determine a maximum price increase of 0.24 per cent (=200.482/200\*100).

<sup>(6)</sup> Although the number of countries that displayed information on this subject has been relatively small.

tential impacts on prices that the introduction of the euro could have implied. However, although corresponding to minority practices, some incorrect conversions from PTE into euros were detected, to a large extent associated with the use of the conversion rate 1 euro = 200 PTE. These practices were more frequently observed in outlets of traditional trade and rendering of services. This phenomenon helps us to understand the results that are presented in the following sections, where it is shown that the impact of the cash changeover, although globally very small, was felt in a set of products that, because they are very frequently transacted, may have created the feeling of a more meaningful global impact in the public eye.

## 3. THE BEHAVIOUR OF ATTRACTIVE PRICES

In retail trade, to facilitate payments, taking into account the relative abundance and the nominal value of the various banknotes and coins in circulation, it is relatively common to set "convenient" prices. For this reason, many of the "convenient" prices correspond to prices in which the last digits are zero. Besides this practice, we can also distinguish another, also relatively usual, which aims at inducing the consumer to undervalue the cost of the products, setting the price just below a rounded value. This practice of setting prices corresponds to the so-called "psychological" prices, as is the case for prices with 9 or 90 as last digits. Examples of these prices are PTE 499 or PTE 4,990 instead of PTE 500 and PTE 5,000 respectively.

After the conversion of "psychological" and "convenient" prices, usually called "attractive", using the official euro conversion rate, the prices obtained are often "not attractive" in euros. This fact gave origin to some fears of price increases to reach "attractive" levels also in euros, with an upward effect on inflation.

Therefore, to follow the evolution of "attractive" prices and supply information on how these prices were adopted during the conversion period, a monthly analysis of the micro information underlying the CPI of *INE* was done.

By comparison with the corresponding period of the previous year, Chart 4 allows the evaluation of the persistence of "convenient" prices after the end of the changeover period. Thus, for instance, on the left side of the chart, for a basket of prod-



ucts that had prices with the "convenient" value of PTE 500 in December 2000, it may be seen the relative proportion of the prices that maintain this value three months later, i.e., in March 2001. Similarly, on the right side it is possible to observe that among the prices that had the value PTE 500 in December 2001, the proportion of those that maintain this value in March 2001 is below 25 per cent. Chart 4 suggests that the persistence of "convenient" prices has somewhat decreased with the introduction of the new coinage, particularly in prices higher than PTE 400.<sup>(7)</sup> Chart 5 shows data for the same periods, concerning the persistence of "psychological" prices. In this case a change of the persistence is not so clear, probably because the adjustment to a "psychological" price in euros takes longer than the adjustment to a "convenient" price in euros. In any case, it should be mentioned that "psychological" prices have in the CPI basket a smaller weight than that of "convenient" prices.

The lower persistence of the "convenient" prices in escudos, in the period from December 2001 to March 2002, may have expressed the tran-

<sup>(7)</sup> It should be noted that, for values lower than PTE 400, the application either of the "simplified" rate (200 PTE a euro) or of the official rate, determines in almost all cases similar prices in euros.



sition towards "convenient" prices in euros. To illustrate this idea, a set of charts is presented, where this behaviour is evident. For example, Chart 6B shows, month to month in this period, the frequency of the prices of a basket of products, which had the value of PTE 700 in December 2001. Simultaneously, Chart 6A shows the same kind of evolution for the corresponding period of the previous year, that acts as the reference period, showing what would occur without the introduction of the euro. By comparison with the evolution in this reference period, it becomes possible to detect effects on prices associated with the introduction of the euro in the first months of 2002. Thus, it should be noticed that the frequency of the price of PTE 700 fell from 56 per cent in January 2001 to 38 per cent in March of 2001, while between the same months of 2002 the decrease was from 56 per cent to 26 per cent. This higher reduction of the frequency of the price of PTE 700 in 2002, may have been influenced by the fact that after conversion the price of PTE 700, corresponds to 3.49 euros, a value which is not a "convenient" price in euros. Therefore, in March 2002 the second more representative price becomes 3.50 euros (Chart 6B), while in March 2001 (Chart 6 A) the corresponding price in escudos (PTE 702) did no appear in the



distribution. Thus we may conclude that there was a convergence to a new "convenient" price in euros. Other examples are the prices of PTE 1000 (Chart 7) and PTE 1600 (Chart 8), which when converted produce no "convenient" prices in euros (respectively 4.99 and 7.98 euros). Consequently, these prices were rounded upwards to reach a



new "convenient" price in euros, respectively to 5.00 and e 8.00 in euros. Note that each of these values became the most representative value in March 2002.

Charts 6 to 8 suggest that, in the period from December 2001 to March 2002, the price strategy was progressively changed towards "convenient"



prices in euros, while in the corresponding period of the previous year the price strategy clearly was much more stable. Indeed, as mentioned before, in many cases former "convenient" prices in escudos did not turn out "convenient" in euros and a convergence to new "convenient" prices in euros took place.



However, it should be pointed out that the adjustment to new "convenient" prices in euros may have not resulted in higher values in all cases. Look, for example, at Chart 9 referring to the price PTE 250, which after conversion is 1.25 euros. In this case there appears 1 euro as the second more representative value in March 2002. At last, it



should be mentioned that when a "convenient" price in escudos converts into a price that is also convenient in euros, this value as a rule remained as the most frequent value in March 2002. The price of PTE 100 can be presented as an example (Chart 10).



As to "psychological" prices, what happens is that, in some cases, "psychological" prices in escudos have turned into "convenient" prices in euros, probably because in a first step the search for a "psychological" price in euros is more difficult than the search for a "convenient" price in euros. Take, as an example, the "psychological" price of



PTE 149, which after conversion corresponds to 0.74 euros. The price 0.75 euros appears as the second most frequent value in March 2002 (Chart 11), which is a "convenient" price in euros and not a "psychological" price in euros, and which corresponds to a value in escudos that appeared neither in the preceding months of 2002, nor in the first months of 2001.

The convergence to "convenient" prices in euros, detected observing the dynamic of a basket of prices with a given "attractive" price in December 2001, is confirmed by the study of the price distribution of a set of specific products where the im-



pact of the introduction of the euro notes and coins was clear, taking into account the fact they had registered average growths clearly higher to that observed for the CPI as a whole. Thus, Charts from 12 to 15 present for four products — (i) coffee at the counter; (ii) draught beer at the counter; (iii) a complete meal in restaurants of 2<sup>nd</sup> or 3<sup>rd</sup> category and (iv) cinema tickets — the distribution of their respective prices in escudos in January 2001 and in the months of January and February 2002 and still the distribution of their prices in euros in March 2002.

From the observation of these Charts we can conclude, firstly, that, for any of these four products, "convenient" prices in escudos were prevalent in the distribution in January 2001. Indeed, the modes of the distribution of the prices of these products corresponded then to the prices PTE 80, PTE 120, PTE 1800 and PTE 700, respectively for the coffee at the counter, draught beer at the counter, a complete meal in restaurants of 2<sup>nd</sup> or 3<sup>rd</sup> category and cinema tickets. Secondly, it is visible that the frequency of "convenient" prices in escudos decreased during the study period, while that of "convenient" prices in euros increased. Look, for example, at the case of coffee at the counter: the price of PTE 90 became frequent since January 2002, inclusively being the mode in March 2002 (Chart 12). In this last month, also the PTE 100 price starts showing a meaningful representativity. The price of PTE 100 corresponds to 0.50 euros, that is an eventually more "convenient" price than 0.45 euros. A similar behaviour to the one of the coffee at the counter can be observed in the case of draught beer at the counter (Chart 13).

As regards the prices of a complete meal in restaurants of 2<sup>nd</sup> or 3<sup>rd</sup> category (Chart 14) and of cinema tickets (Chart 15), the convergence to "convenient" (higher) prices in euros is very clear. Indeed, for each of these products, the trend towards the convergence to "convenient" prices in euros increased in March, as it can be observed in the presented Charts by the shift of price distribution towards the right.



# 4. QUANTITATIVE INDICATIONS FOR THE IMPACT OF THE CONVERSION OF ESCUDOS INTO EUROS ON THE EVOLUTION OF THE CONSUMER PRICE INDEX IN THE FIRST QUARTER OF 2002

The precise identification of the quantitative impact of the conversion is not possible to ascertain, as it is not possible to reconstitute what would have been the evolution of the CPI in case it had not occurred. In other words, it is not possible to establish a contrafactual, which would allow us to clearly evaluate the impact of the conversion. The acknowledgement of this impossibility does not however prevent us from trying to obtain some quantitative indications about this impact, that obviously should be regarded with some caution taking into account the methodological limitations that necessary affect them.

The central idea behind the elaboration of the estimate here presented was to detect in the first three months of the year any sign of abnormal behaviour in the price series, although these same signs might eventually reflect other phenomena besides the conversion from escudos into euros. Thus, for each of the 189 elementary indices into which the consumer price index can be disaggregated (series base: 1997), a linear regression was made using as reference the following generic model:

$$y_{nt} = c_n + \sum_{i=1}^{6} \alpha_{n,i} y_{n,t-i} + \sum_{j=1}^{11} \beta_{n,j} z_j + \gamma_n t + \partial_{1,n} J + \partial_{2,n} F + \partial_{3,n} M + \varepsilon_{n,t}$$

With n = 1, 2, ..., 189 and t = 1, 2, ..., 65. In this expression,  $y_{nt}$  corresponds to the monthly rate of change (expressed in percentage) of the price index n in month t,  $c_n$  corresponds to a constant,  $z_j$  corresponds to a seasonal dummy variable for month *j*, *J* corresponds to a dummy variable which assumes the value 1 in January 2002, being null in all the other months of the monthly series starting in February 1997 until June 2002, *F* and *M* correspond to dummies similar to the former, which, in the series, assume the value 1 respectively in February and in March of 2002,  $\varepsilon_{nt}$  represents a random residual variable.

As it was found out when we include, besides the constant and the seasonal dummies, an autoregressive component considering lags of 1 and 6 months<sup>(8)</sup> and a linear trend, the model has a relatively general specification. This procedure is ap-

	Peso	2002	2002	2002	2002
	(%)	Jan /Dec	Feb/Jan	Mar/Feb	Accumulated
Consumer Price Index – Total	100.0	0.07	0.06	-0.05	0.08
Goods	68.9	-0.07	0.07	-0.14	-0.14
Food	25.8	0.39	0.18	-0.32	0.25
Unprocessed	13.0	0.61	0.19	-0.54	0.26
Processed	12.8	0.14	0.18	-0.08	0.24
Industrial	43.1	-0.36	0.00	-0.02	-0.38
Energy	8.8	-2.11	0.00	0.00	-2.11
Non-energy	34.3	0.10	-0.01	-0.03	0.06
Services	31.1	0.37	0.03	0.14	0.54

#### GLOBAL RESULTS OBTAINED WITH THE ECONOMETRIC MODEL

propriate to test, through the dummies referring to January, February and March 2002, if there might be signs of abnormal variations in these months.<sup>(9)</sup>

The estimated value for each of the coefficients, associated with these variables, when statistically meaningful, can be interpreted as an increase (or decrease) in percentage points, in the monthly change rate. It is worth noting that significant values of the coefficients might be associated with other phenomena, besides the effect of the conversion of escudos into euros, that might also have occurred in the considered months, as well as reflect insufficiencies of the very specification of the model. However, as a first quantitative reference, the aggregation of the statistically significant impacts was calculated taking into account the specific weight of each elementary index in the consumer price index, both in the monthly change of the CPI and in the change of some of its main components.<sup>(10)</sup>

In Table 3, results of the aggregation of the estimated impacts are shown. Taking the three months as a whole, the estimated impact is relatively small, near one decimal of a percentage point. In January, the impact reached a higher value, reflecting namely the estimated positive impacts on the unprocessed foodstuffs and on services. In March, the negative value is mainly due to a negative impact detected in foodstuffs.

Taking into account that, as previously mentioned, the estimated impacts can reflect several factors, a new aggregation was obtained excluding indices whose abnormal changes in the considered months could be clearly due to specific factors that could not be in any way related with the change of coinage. In this manner, we excluded the effects detected in January 2002 in the price indices concerning electricity, housing rents and fuel. In the first case, the apparently abnormal positive variation, recorded in January, was due to an increase of

<sup>(8)</sup> The number of lags considered was based on a previous study done on 20 elementary indices, randomly chosen using the Breusch-Godfrey test.

<sup>(9)</sup> Additional dummies referring to November and December 2001 could be considered, accepting that in the period of dual display there might have occurred strategies of relatively significant price increases, aiming at anticipating convenient prices in euros. In fact, a version of the broad model was tested considering also these dummies, but no significant effects were found in these two months. In terms of the detailed results, only one case should be emphasized when this version was tested, that of the monthly change of newspapers and magazines prices that may have been abnormally high not only in January 2002 but also in December 2001. In another version of the model, besides the ones considered for the first three months, dummies were also included for the months of April, May and June. In aggregate terms, the results obtained for the first three months did not change and those for April and May were not significant. In June, a slightly upward effect was probably related with the change of the standard VAT rate that occurred in the meanwhile.

<sup>(10)</sup> For the seek of simplicity, the main components and not the 12 classes of the CPI were presented in this section, since the analysis by classes does not add anything qualitatively different to the analysis by main components. In any case, the results are also available by classes and, therefore, can be obtained if requested.

	Peso	2002	2002	2002	2002
_	(%)	Jan /Dec	Feb/Jan	Mar/Feb	Accumulated
Consumer Price Index – Total	100.0	0.24	0.06	-0.05	0.24
Goods	68.9	0.19	0.07	-0.14	0.11
Food	25.8	0.39	0.18	-0.32	0.25
Unprocessed	13.0	0.61	0.19	-0.54	0.26
Processed	12.8	0.14	0.18	-0.08	0.24
Industrial	43.1	0.06	0.00	-0.02	0.03
Energy	8.8	-0.09	0.00	0.00	-0.09
Non-energy	34.3	0.10	-0.01	-0.03	0.06
Services	31.1	0.34	0.03	0.14	0.51

# RESULTS OBTAINED WITH THE ECONOMETRIC MODEL, EXCLUDING EFFECTS NOT RELATED WITH THE CONVERSION OF ESCUDOS INTO EUROS

the consumer prices previously authorized by the Entidade Reguladora do Sistema Eléctrico, reflecting the impact of the deviations occurred in 2000 due to the higher than expected increase of fuel prices. In the second case, the apparently abnormal, and also positive, change at the beginning of 2002 was caused by the application of the legal regime of update of housing rents, which implies that the update of a large proportion of rents depends on the past behaviour of inflation. It should be noted that inflation in 2001 was higher than that registered in the preceding year. In the third case, the Government discretionarily determined a price decrease in January, breaking the former practice of stability in the fuel consumer prices. Taking into account the weight of the respective index in the CPI, the exclusion of the abnormal effect of the fall of consumer fuel prices more than compensates the other two effects mentioned as can be understood by the observation of the results presented in Table 4. In fact, the global effect in the quarter, after these exclusions, rises to 0.24 percentage points, the same value estimated for January, since the effects estimated for February and March are practically symmetrical.

As previously remarked, the price indices of unprocessed foodstuffs give a very significant contribution towards the positive effect observed in January and the negative effect in March. These indices typically show a much higher volatility than the indices of other CPI components. This high volatility supports the fear that the abnormal effects detected can reflect very specific factors, eventually of relatively erratic occurrence (for example, the weather conditions some times affected in a significant manner the behaviour of these indices). For this reason, with the purpose of searching for a quantitative reference that may be nearer to the impact of the changeover in the period of analysis, we present our results in Table 3, still excluding the price indices of unprocessed food-stuffs. Comparing with the previous Table, although there is a reduction of the impact in January and an increase in March, the global impact remains practically unchanged, at around 2 decimals of a percentage point.

These results show that the global impact of the changeover on the evolution of the CPI has been relatively small, although at a more detailed level, it is correct to consider some significant effects, as pointed out in the previous section, particularly on the prices of some services. Comparing these results with the estimates presented in the article published in the *Economic Bulletin* of the Banco de Portugal of September 2001, they stand near the scenario of the highest impact of the changeover then presented.

# 5. CONCLUSIONS

The process of physical replacement of the escudo by the euro, which started on the  $1^{st}$  of Janu-

## RESULTS OBTAINED WITH THE ECONOMETRIC MODEL, EXCLUDING EFFECTS NOT RELATED WITH THE CONVERSION OF ESCUDOS INTO EUROS AND ALSO THE PRICE INDICES OF UNPROCESSED FOODSTUFFS:ESTIMATE OF THE IMPACT OF THE CONVERSION OF ESCUDOS INTO EUROS ON THE CONSUMER PRICE INDEX

	Peso	2002	2002	2002	2002
-	(%)	Jan /Dec	Feb/Jan	Mar/Feb	Accumulated
Consumer Price Index – Total	100.0	0.15	0.03	0.03	0.21
Goods	68.9	0.06	0.03	-0.03	0.06
Food	25.8	0.07	0.08	-0.04	0.11
Unprocessed	13.0	0.00	0.00	0.00	0.00
Processed.	12.8	0.14	0.18	-0.08	0.24
Industrial	43.1	0.06	0.00	-0.02	0.03
Energy	8.8	-0.09	0.00	0.00	-0.09
Non-energy	34.3	0.10	-0.01	-0.03	0.06
Services	31.1	0.34	0.03	0.14	0.51

ary in 2002, took place normally and gradually. The results of the double collection of prices during the period of compulsory display of prices showed that the rules of conversion were highly respected. However, some cases were detected in which the conversion did not obey the official rate, due, to a large extent, to the use of the simplified rate of 200 PTE a euro. The majority of these cases was detected in outlets of traditional trade and services. An analysis of the evolution of "convenient" prices in escudos at a very detailed level, from December 2001 until March 2002, taking as a reference the corresponding previous period, showed the convergence of prices previously expressed in escudos to "convenient" prices in euros. This convergence may have, in general, exerted a small upward effect on prices.

This exercise also confirms signs of price increase caused by the changeover in some specific products, since January 2002. Coincidentally, these occasional cases corresponded many times to often bought goods and services and usually paid in cash, hence leaving the consumers with the feeling that inflation was high due to the introduction of the euro. The prices of a cup of coffee, of a meal in a restaurant and of cinema tickets are examples that were presented by the media or by consumer organizations.

In order to get a quantitative reference on the global impact of the conversion from escudos into

euros on inflation, data on elementary indices of the CPI were explored. The results obtained suggest that the overall impact on the Consumer Price Index, both national and harmonised, may have been relatively small, around 0.2 percentage points in the first three months of 2002.

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## THE BANK LENDING CHANNEL OF MONETARY POLICY IN PORTUGAL\*

Luísa Farinha\*\* Carlos Robalo Marques\*\*

#### **1. INTRODUCTION**

The mechanism by which monetary policy is transmitted to the real economy remains a central topic of debate in macroeconomics. Considerable research has recently examined the role played by banks in the transmission of monetary policy aiming at uncovering a credit channel and assessing the relative importance of the money and credit channels.

The money channel of monetary policy (also known as the interest rate channel) is the primary mechanism at work in conventional macro models: given some degree of price stickiness, an increase in the nominal interest rates (for example) translates into an increase in the real rate of interest, and the user cost of capital. Theses changes lead in turn to a postponement in consumption, or a reduction in investment spending. But as Bernanke and Gertler (1995) point out, the macroeconomic response to policy-induced interest rates changes is considerably larger than implied by conventional estimates of the interest elasticities of consumption and investment. This observation suggests that mechanisms other than the interest rate channel may also be at work in the transmission of monetary policy.

One such alternative path is the so-called bank lending or credit channel. Because banks rely on reservable deposits as an important source of funds, contractionary monetary policy, by reducing the aggregate volume of bank reserves, will reduce the availability of banks loans. And because a significant subset of firms and households rely heavily on bank financing, a reduction in loan supply will depress aggregate spending. It is this additional transmission mechanism that is known in the literature as the bank-lending channel.

Distinguishing the relative importance of the money and credit channels is useful for various reasons. First, understanding which financial aggregates are impacted by monetary policy would improve our understanding of the link between the financial and the real sectors of the economy. Second, a better understanding of the transmission mechanism would help monetary authorities and analysts to interpret movements in financial aggregates. Finally, more information about the transmission mechanism might lead to a better choice of intermediate targets. In particular, if the credit channel is an important part of the transmission mechanism, then the banks' asset items should be the focus of more attention.

The importance of the credit channel depends on the extent to which banks rely on deposit financing and adjust their loan supply schedules following changes in bank reserves (for a given bank-dependency of the borrowers). The aim of

<sup>\*</sup> The views expressed in this article are those of the authors and not necessarily those of the Banco de Portugal

<sup>\*\*</sup> Economic Research Department. The views expressed in this paper are those of the authors and not necessarily those of the Banco de Portugal. This paper is a substantially abridged version of Farinha and Marques (2001). We specially thank, without implicating, Ignazio Angeloni, Anil Kashyap, Michael Ehrmann,Vítor Gaspar, Leo de Haan, Ferreira Machado, Maximiano Pinheiro and Nuno Ribeiro, for helpful discussions and comments. Useful suggestions from Monetary Transmission Network (MTN) members are also acknowledged. The usual disclaimer applies

this paper is just to show that bank loan supply depends on bank deposits and thus, monetary policy by affecting bank deposits is also able to shift loan bank supply schedules.

As the credit or lending channel operates through shifts in loan-supply schedules, uncovering the credit channel implies distinguishing shifts in loan-supply from shifts in loan demand schedules brought about by monetary policy shocks.

At the empirical level, the bulk of the most relevant literature has tried to uncover the lending channel through the estimation of a reduced form equation for the bank credit market, with variables in first differences (i.e., stationarised variables). This paper adds to this area of research, but departs from previous studies on several aspects. In particular it is argued that the reduced form approach requires strong identifying restrictions and that it does not allow estimating the relevant parameters. As an alternative we suggest a "structural approach" which amounts to directly estimate bank loan-supply schedules, with variables in levels. For that purpose we resort to very recent panel data cointegration techniques.<sup>(1)</sup>

The main conclusion of the paper is that there is a banking lending channel in the transmission of monetary policy in the Portuguese economy and that the importance of this channel is larger for the less capitalised banks. Size and liquidity do not appear to be relevant bank characteristics in determining the importance of the lending channel.

The remainder of this paper is organised as follows. Section 2 briefly characterises the main changes underwent by the Portuguese banking sector during the eighties and the nineties. Section 3 describes the new approach aimed at identifying and estimating the importance of the bank-lending channel. Section 4 reports the empirical results for Portugal and section 5 summarises the main conclusions.

# 2. MONETARY POLICY AND BANKING SECTOR DEVELOPMENTS IN PORTUGAL DURING THE NINETIES

Since the early eighties the Portuguese financial system underwent a fundamental liberalisation process beginning with the opening up of the banking sector to private initiative in 1983.<sup>(2)</sup> In this period the first steps towards the elimination of the administrative controls on interest rates and credit growth were also taken. Moreover the explicit restrictions on the composition of banks' assets were removed and the legally imposed segmentation of banking activities was gradually eliminated, culminating in the establishment of universal banking in 1992.

Under a significantly more competitive environment the number of banks increased from 14 in 1984 to 27 1989 and 58 in 1997.<sup>(3)</sup> As in the other European countries, international competition motivated several waves of take-overs, especially after 1994. However, the number of banks continued to increase, entry being largely dominated by foreign institutions.

Another important step in the liberalisation of the Portuguese banking system was the re-privatisation process that started in 1989, gradually transferring to private management most of the banking business. Since 1993, the main reforms were directed to the harmonisation of procedures and regulations within the EU, namely the capital adequacy rules.

In the monetary and exchange rate policy front, after having abandoned the crawling peg regime in October 1990, the escudo joined the European exchange rate mechanism in April 1992. In December of the same year the remaining restrictions on international capital flows were removed.

The continuous decline of inflation since the early nineties and the stability of the exchange rate after 1993 allowed the sustained reduction of interest rates. The process of nominal convergence increased the prospects of EMU participation, which in turn facilitated exchange rate stability and con-

<sup>(2)</sup> The establishment of private investment companies, which were later transformed into investment banks, was authorised in 1979.

<sup>(3)</sup> Excluding the co-operative institutions, whose number is relatively large (160 in 1998), but only account for nearly 3 per cent of the credit institutions' total assets.

<sup>(1)</sup> For technical details the interested reader is referred to Farinha and Marques (2001).



vergence. These developments were reflected in a substantial decrease in the exchange risk premium of the escudo since mid-1995.

The sustained and significant reduction of both short and long run nominal interest rates, perceived as being permanent, reduced the liquidity constraints of the economic agents thus contributing to the strong growth in overall credit demand observed in this period.

Chart 1 shows aggregate quarterly figures on the evolution of bank loans granted to the private non-financial sectors of the economy as well as the evolution of aggregate deposits held with the banks by the private non-financial sectors.<sup>(4)</sup> After the deceleration in the recession period between 1992 and 1994, in 1995-1997 credit resumed the upward trend of the early nineties (average annual growth rate in real terms of 14 per cent in this period compared to 16 per cent in 1991) and strongly accelerated in 1998 and 1999 (annual growth rate in real terms of 24 per cent). Until 1994 deposits behave very much like credit, but from 1995/1996 onwards they clearly exhibit a much smaller growth rate (5.2 per cent in real terms during the period 1995-1997 and 6 per cent in 1998/1999).



These apparently diverging developments in credit and deposits have been the consequence of the elimination of controls to the international capital flows, on the one hand, and a significant reduction of the exchange risk of the escudo on the other, that enhanced the integration between the Portuguese and the international money markets.

Chart 2 presents the evolution of the main non-deposits financing sources. It can be seen that the increase in the growth rate of loans coincided with a decrease of the government bonds in banks' portfolios and an increase in the (net) funds obtained in the international money markets. Banks partly substituted their investment in government securities by credit to private non-financial sectors. This whole process seems basically to have started in 1995 and accelerated in 1998. In fact, the weight of government securities in banks' balance sheets declined significantly from 19.5 per cent of total assets in 1992 to 5.7 per cent in 1998 (13.4 per cent in 1995).

# 3. IDENTIFYING THE BANK LENDING CHANNEL — AN ALTERNATIVE APPROACH

At the empirical level, the bulk of the most relevant literature has tried to uncover the lending channel through the estimation of a reduced form equation for the bank credit market, with variables in differences (see, for instance, Kashyap and Stein (1995), Favero *et al.* (1999)). The estimated equation

<sup>(4)</sup> The figures analysed in this section have been computed from non-consolidated data on the sample of 18 bank conglomerates for which consistent series throughout the period 1990-1998 may be obtained. In December 1998, the credit and deposits in these 18 banks amounted to 96 per cent and 98 per cent of the total credit and total deposits, respectively. This is also the sample of banks used in the econometric estimations presented below.

is generally a dynamic version (in differences) of the static model:

$$\ln(C/P)_{t} = \theta_{0} + \theta_{1} \ln y_{t} + \theta_{2} \ln y_{t} z_{it} + \theta_{3} r_{t} + \theta_{4} r_{t} z_{it} + \theta_{5} \pi_{t} + \theta_{6} \pi_{t} z_{it} + \theta_{7} z_{it}$$
[1]

where  $(C/P)_t$  stands for bank loans (in real terms),  $y_t$  for a scale variable (usually GDP),  $\pi_t$  for the inflation rate,  $r_t$  for the monetary policy interest rate and  $z_{it}$  for a measure of a bank specific characteristic (size, liquidity or capitalisation).

Under this approach, which we shall denote as the "reduced form approach", the fact that the estimated  $\theta_3$  is (significantly) negative and  $\theta_4$  is (significantly) positive is taken as evidence of the existence of the bank-lending channel. The idea is that if the effect of monetary policy on bank lending is larger for the smaller, less liquid or less capitalised banks this can only be due to the existence of the bank-lending channel.

In order to motivate the alternative econometric approach we develop a simple IS/LM model for the money and credit markets, which draws heavily on Bernanke and Blinder (1988). The model, which in our view allows a better understanding of the identifying restrictions underlying the reduced form equation [1], is composed of four equations: money demand (total deposits held with a typical bank), money supply, loan demand and loan supply schedules. For space reasons we skip the details of the model and discuss only the loan-supply schedule, which reads as follows (below each coefficient is the corresponding expected sign according to economic theory):

$$\ln(C/=P)_{it}^{s} = \alpha_{01} + \alpha_{1} \ln(D/P)_{it} + \alpha_{2} \ln(D/P)_{it} z_{it} + \alpha_{3} I_{t}^{(+)} + \alpha_{4} I_{t} + \alpha_{5} \pi_{t}$$
[2]

Equation [2] postulates that banks loan supply in real terms, (*C* /*P*), depends on the level of total deposits in real terms held by the private sector with the banks, (*D* /*P*), on the inflation rate,  $\pi_t$ , as a measure of uncertainty in the economy as well as on the loan,  $l_t$ , and bond,  $i_t$ , interest rates.<sup>(5)</sup> Assets held by banks in the form of bonds are seen as substitutes for loans, held mainly for liquidity reasons.

The null  $\alpha_1 \neq 0$  in [2] captures the idea that banks cannot shield their loan portfolios from changes in monetary policy, i.e., from changes in deposits brought about by monetary policy and plays a central role in our analysis as it constitutes a key necessary condition for the existence of the lending channel. If banks were able to replace lost deposits with other sources of funds, such as certificates of deposits or new equity issues, or by selling securities, we would expect  $\alpha_1$  not to be significantly different from zero.

The term  $\alpha_2 \ln(D/P)_{it} z_{it}$  intends to capture the idea that shifts in the supply curve brought about by monetary policy changes depend on some banks' specific characteristics (size, liquidity, capitalisation, etc.) measured by  $z_{it}$ . In principle we expect that  $\alpha_2 < 0$  so that loan-supply shifts are larger for small, less liquid or less capitalised banks.

To see how the lending channel operates in the model, let us assume, for instance, that the central bank increases the discount rate. This will reduce the equilibrium quantity of money in the economy, i.e., deposits in our model, through the interaction between money supply and money demand. In turn, the drop in deposits held by the private sector with the banks shifts the loan supply schedule inwards if  $\alpha_1 > 0$  in [2]. It is this additional transmission mechanism — the inward shift in supply of loans — which is known in the literature as the bank-lending channel.

Also important is the coefficient  $\alpha_3$  as it determines the slope of the supply curve. Of course for that inward shift to occur the supply curve cannot be horizontal. In other words we need the additional assumption that  $\alpha_3$  in [2] is finite. Thus to test the existence of the credit channel and evaluate its importance we need to estimate  $\alpha_1$  and  $\alpha_3$  in equation [2]. The credit channel is the more important the larger  $\alpha_1$  (the larger the extent to which banks rely on deposit financing) and the smaller  $\alpha_3$ .

Solving the model for the four endogenous variables one obtains a reduced form equation for bank credit that looks very much like equation [1]. From such equation it is possible to discuss the restrictions on the coefficients of both money and loan demand and supply schedules, which are

<sup>(5)</sup> As explained below this supply schedule may be justified in theoretical terms in the context of a profit-maximizing bank, in which the amount of deposits is out of the control of the bank being determined by central bank monetary policy.

necessary in order to guarantee that proper conclusions on the existence of the lending channel can be drawn from a reduced form equation such as [1].<sup>(6)</sup>

In our opinion, some of these restrictions are very stringent. For this reason we will follow a different approach which consists of directly estimating the supply curve [2]. This alternative approach has the advantage of allowing one to get direct point estimates of the relevant coefficients, which is not the case of the "reduced form" approach.

We assume that deposits as well as the bond interest rate are exogenous at the bank level, so that we may stick to a "structural model" consisting only of a loan demand equation and a loan supply equation. The assumption of deposits exogeneity is probably the major limitation of our approach, but, in fact, this seems to be an issue deserving further research also at the theoretical level.

Of course our model also raises an identification as well as an estimating issue. Given that it is composed of only two "structural" equations with I(1) variables the identification problem amounts at guaranteeing that we are able to distinguish the supply from the demand equation. We may discuss the identifying restrictions by resorting to the cointegration approach. Within the cointegration framework we may consider our two-equation model as corresponding to the long-run equilibrium relations of a two equation cointegrating VAR model with exogenous regressors. In this context we need to assume the existence of two single cointegrating vectors (one for the supply schedule and one for the demand equation) and that the exogenous regressors are themselves not cointegrated (see for instance, Johansen (1995) and Pesaran and Shin (1998)). In this case, the identifying condition requires that we impose one restriction in each cointegrating vector (besides the normalization condition). This restriction may of course be a zero coefficient restriction, which amounts at excluding one exogenous regressor from each equation. In other words, the basic idea is that the supply curve is identified provided the loan demand curve includes at least one explanatory variable that does not enter the supply equation. Under the assumption that deposits and the

(6) For a lengthy discussion of these "identifying" restrictions see Farinha and Marques (2001). bond interest rate are exogenous at the bank level, we see that the supply curve [2] is identified provided we assume that the demand curve includes a scale variable (GDP, for instance) as an additional regressor (in turn, the demand curve would be identified because the supply curve includes  $\ln(D/P)$  as an additional exogenous regressor).<sup>(7)</sup>

Let us now address the estimation issue. So far in the literature the empirical models, using panel data, have been estimated with variables in first differences to circumvent the potential nonstationarity problem arising from the time-series dimension of the data. However it is well known that in most cases this approach does not solve the inconsistency problem, especially if the estimated model still includes specific effects and lagged endogenous variables.<sup>(8)</sup>

On the other hand, this approach neglects from the start the possibility of a levels relation among the relevant variables. In other words these approach discards the possibility of a long run effect of monetary policy on deposits and credit. This is at odds with the usual approach in the literature, which postulates levels relationships for the money and credit equations.

We estimate our model in levels using recently developed cointegration techniques for panel data. Some of these techniques allow obtaining (super) consistent estimators for the parameters of our supply equations even when some of the regressors are correlated with the residuals.<sup>(9)</sup> These, being static equations should be seen as cointegrating relations, whose coefficients are the long run effects.

Our estimated loan-supply functions are generalisations of equation [2] in that they include two additional regressors: bank capital and the cost of external financing alternative to deposits and capital,  $s_t$ . The basic equation reads as:

<sup>(7)</sup> We note that these would also be the identifying restrictions should we approach the identification issue within the conventional stationary framework (see Intrilligator *et al.* (1996) and Zha (1997)).

<sup>(8)</sup> See Alvarez and Arellano (1998) for a survey on the asymptotic properties of various estimators, in dynamic panels, with stationary regressors.

<sup>(9)</sup> On this issue, see for instance, Phillips and Moon (1999), Kao and Chiang (2000), Pedroni (1996), Pesaran, Shin and Smith (1999), Binder, Hsiao and Pesaran (2000), Pesaran and Shin (1995). Interesting surveys on the subject are Phillips and Moon (2000), Baltagi and Kao (2000) and Banerjee (1999).

$$\ln(C/P)_{it}^{s} = \alpha_{0i} + \alpha_{1} \ln(D/P)_{it} + \alpha_{2} \ln(K/P)_{it} + \alpha_{3} l_{t} + \alpha_{4} i_{t} + \alpha_{5} s_{t} + \alpha_{6} \alpha_{t}$$

$$(+) \qquad (-) \qquad (-) \qquad (-) \qquad (3)$$

We may justify this generalisation on econometric as well as on economic grounds. From an econometric point of view the introduction of capital in [3] aims at preventing that deposits appear as the single "scale" variable, which could bias the results towards favouring the conclusion of the existence of the credit channel. From an economic point of view we may justify equation [3] in the context of the model developed in Courakis (1988), in which banks maximise profits (by deciding on the amounts of assets and liabilities they control) conditional on the items they cannot control (capital and/or deposits, for instance). Under this framework our loan supply can be seen as resulting from a profit maximising behaviour of a bank in which both deposits and capital are treated as exogenous. The bank is assumed to choose the volume of credit, securities and external finance, in order to maximise the expected profits for a given level of deposits and capital.

The possibility of other forms of external financing alternative to deposits and capital (money market funds, certificates of deposits, etc.) is taken into account by introducing into the credit equation an interest rate representing the cost of such funds,  $s_t$ .<sup>(10)</sup>

# 4. EMPIRICAL EVIDENCE USING PORTUGUESE MICRO BANK DATA

In the estimations we use balance sheet information on a sample of 18 bank conglomerates for which consistent quarterly data throughout 1990/1-1998/4 is available.<sup>(11)</sup>

As expected, given the evolution of credit and deposits described in section 2, some preliminary tests showed that in the last years of the sample the relation between credit granted to private sector and deposits underwent a huge structural break. In order to minimise the corresponding damaging consequences for the estimated models we excluded the data for 1998 from the sample. So, we finally used 8 years of quarterly data for 18 bank conglomerates.

We estimated our equations by POLS, (Pooled OLS) PCOLS, (Panel bias corrected OLS) DPOLS (Dynamic panel OLS) and the PFMOLS (Panel fully modified OLS) estimators (see, Kao and Chiang (2000)).<sup>(12)</sup> The results obtained by the first three estimators are basically similar. In such regressions most coefficients appear non-significantly different from zero or wrong signed. In contrast the results supplied by the PFMOLS estimator are quite reasonable in terms of both sign and magnitude. The fact that we are using a small sample, the correlation in the residuals as well as the endogeneity of some of the regressors probably explains these differences.<sup>(13)</sup> For this reason, below we only present and comment the PFMOLS results.

The estimated equations are displayed in Table 1. Below each coefficient is the computed *t*-statistic, which is asymptotically normal distributed. For each equation several cointegration tests were computed. The null of a unit root in the residuals was always rejected, so that all the equations presented in Table 1 are valid cointegrating relations.

Column 1 displays the results of our basic specification [3]. It can readily be seen that all the coefficients are statistically significant and exhibit the expected sign for a loan-supply function. Even though the estimated coefficients of  $l_t$  and  $s_t$  do not seem to be much different in absolute terms, the null hypothesis of their being equal in magnitude is statistically rejected. In fact the *t*-statistics for this restriction are always larger than two (see, bottom line of Table 1).

Given that the coefficient of  $\ln(D/P)$ ,  $\alpha_1$ , is

<sup>(10)</sup> Actually the reported equations in the next section only include two (and not three interest rates). Due to strong colinearity we are not able to separately estimate the three coefficients. We dropped  $i_t$  from the equation, as in fact it turned out not to be significant in preliminary regressions.

<sup>(11)</sup> During the nineties a process of take-overs has taken place. However many of the institutions involved did not effectively merged, but rather constituted bank conglomerates.

<sup>(12)</sup> We used the NPT 1.2 econometric package recently developed by Chiang and Kao (2001).

<sup>(13)</sup> The properties specific to the FMOLS estimator probably explain the differences in the results. For instance, it is known that the POLS estimator is consistent, but not superconsistent, if the regressors are correlated with the residuals and may exhibit substantial biases in finite samples. Simulation results also show that the PCOLS estimator does not significantly improve over simple POLS (see, for instance, Baltagi and Kao (2000)). In contrast PFMOLS is superconsistent even when the regressors are correlated with the residuals.

#### Table 1

#### **PFMOLS ESTIMATES OF EQUATION [3]**

	(1)	(9)	Size		Liquidity		Capitalisation	
Regressors	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$n(D/P) \ln \dots$	0.615	0.721	0.676	0.49	0.633	0.717	0.409	0.713
( ) it	(24.83)	(28.99)	(14.61)	(10.86)	-18.38	-21.34	(14.97)	(26.26)
$n(D/P)$ . $z_{+}$			0.156	0.049	-0.051	0.027	-3.947	-0.747
( ) <sub>it</sub> "			(8.16)	(2.80)	(-0.75)	(0.54)	(-16.23)	(-6.97)
n(K/P)	0.156		-0.525		0.13		0.47	
	(3.00)		(-10.11)		(2.74)		(7.89)	
$\ln(K/P)_{it}, z_{it} \ldots \ldots$			-0.101		0.022		6.462	
			(-3.03)		(0.13)		(12.14)	
	19.318	16.734	17.953	22.262	14.787	12.839	22.187	16.617
1	(15.00)	(12.96)	(16.14)	(18.91)	(12.1)	(10.34)	(18.01)	(12.4)
7.			0.523		101.926	111.513	24.639	
t <sup>2</sup> it			(0.81)		(8.40)	(9.30)	(1.79)	
	-15.905	-14.442	-11.767	-16.11	-11.835	-10.801	-17.096	-13.595
<i>t</i> · · · · · · · · · · · · · · · · · · ·	(-11.85)	(-10.77)	(-10.22)	(-13.24)	(-9.55)	(-8.59)	(-13.63)	(-10.08)
$S_t Z_{it} \ldots \ldots$			-1.41		-72.969	-79.466	13.953	
			(-2.26)		(-6.38)	(-7.10)	(1.04)	
$\pi_t$	-2.504	-1.114	-7.538	-6.476	-0.47	0.635	-5.114	-3.069
	(-2.24)	(-1.02)	(-7.66)	(-6.45)	(-0.45)	(0.61)	(-4.70)	(-2.76)
<i>Z</i> <sub><i>it</i></sub>			0.411	0.214	-8.213	-9.005	-6.589	-0.444
			(5.04)	(3.55)	(-13.27)	(-14.26)	(-5.15)	(-1.32)
Spread restriction	(4.3)	(2.98)	_	(8.79)	_		_	(3.81)

Legend:

t-statistics in parenthesis.

 $\ln(D/P)$  = natural log of total deposits deflated by the consumer price index.

 $\ln(K / P)$  = natural log of total capital deflated by the consumer price index.

 $l_t$  = interest rate on long term loans in decimals (five year loans).

 $s_t$  = short term interest rate on Portuguese money market in decimals.

 $\pi_t$  = inflation rate in decimals (fourth differences of log CPI).

 $z_{it}$  = measure of bank specific characteristic (size, liquidity or capitalisation).

significantly positive and the coefficient of  $l_t$ ,  $\alpha_3$ , is finite we conclude that there is evidence of the existence of a bank-lending channel in the transmission of monetary policy in Portuguese bank data.

By comparing the results in columns 1 and 2 we also see that the conclusion on the existence of the credit channel does not depend on whether or not the estimated regression includes bank capital as an additional regressor.

The remaining regression results reported in Table 1 interact the explanatory variables in our basic equation with three bank specific characteristics, which are usually seen as potential important sources of bank heterogeneity: size, liquidity and capitalisation. These three variables are denoted by  $z_{it}$  in Table 1. In the case of size and capitalisation the  $z_{it}$  variable is taken in the form of differences from each time period average, i.e.,

$$z_{it} = x_{it} - \frac{1}{N} \sum_{i=1}^{N} x_{it} = x_{it} - \overline{x}_t$$
 [4]

where  $x_{it}$  stands for the log of total assets, as a measure of size and for the capital ratio as a capitalisation indicator. By defining size and capitalisation in this way we ensure that the  $z_{it}$  variable captures pure differential effects. In case of liquidity the  $z_{it}$  variable is taken in the form of differences from a per-bank average, i.e.,

$$z_{it} = x_{it} - \frac{1}{T} \sum_{t=1}^{T} x_{it} = x_{it} - \overline{x}_{i}$$
 [5]

where  $x_{it}$  stands for the liquidity ratio as a measure of bank liquidity.<sup>(14)</sup> This definition allows one to account for periods of general (positive or negative) excess liquidity for the banking sector as

<sup>(14)</sup> The rational for equation [5] is explained in Farinha and Marques (2001).

whole, which is likely to have been the case in the Portuguese banking system, during most of the sample.

Let us now take the model in column 3 of Table 1. The fact that the coefficient on  $\ln(D/P)_{it} z_{it}$  is positive means that the coefficient on deposits is lower for small banks and so in the Portuguese case the supply of loans of small banks is less deposit dependent than that of large banks. In other words, everything else equal, we would conclude that the credit channel is less important for small banks. However, we saw in section 3 that in order to evaluate the relative importance of the bank lending-channel we need to look at the coefficient of deposits as well as at the coefficient of the loans interest rate. Thus, in terms of Table 1, to evaluate the relative magnitude of the lending channel for two different banks one has to look both at the coefficient of  $\ln(D/P)_{it} z_{it}$  and the coefficient of  $l_t z_{it}$ , as the effect of a decrease in the coefficient of deposits could be offset by an increase on the coefficient of the loans-interest rate, and vice-versa.

As it turns out that the coefficients on the interaction terms  $l_t z_{it}$  and  $s_t z_{it}$  are both not statistically different from zero we may definitely conclude that small Portuguese banks are less dependent on deposits than large banks or, in other words, the bank-lending channel appears to be less important for small banks.<sup>(15)</sup> We recognise that the lack of evidence of larger non-deposit external financing costs for smaller banks does not come as a large surprise in the Portuguese case. Portugal is a small country with a not very large number of banks in which even the smaller banks are large enough not to be discriminated in the access to markets for non-deposits external funds.

Columns 5 and 6 display the models with liquidity as the bank specific characteristic. The first important point to note is that the coefficient of  $\ln(D/P)_{it} z_{it}$  and that of  $\ln(K/P)_{it} z_{it}$  are not statistically different from zero. The fact that the coefficient of  $\ln(D/P)_{it} z_{it}$  is zero means that in the

Portuguese case the dependence of banks on deposits does not vary with the bank liquidity ratio.<sup>(16)</sup> On the other hand, it turns out that the coefficient of the loans interest rate is lower for illiquid banks<sup>(17)</sup> (as the coefficient of  $l_t z_{it}$  is positive) and this means that the supply curve is flatter. This reduces the importance of the credit channel for the illiquid banks. This apparently counterintuitive result is not surprising because the Portuguese banks displayed a huge liquidity ratio at the beginning of the sample period due to the existence of credit ceilings and compulsory minimum ratios of public debt. Moreover, there is some evidence suggesting that it might have been the case that the banking system as a whole operated under overall excess liquidity conditions during most of the sample period. So, it may well be the case that the coefficients of  $l_t z_{it}$  and of  $s_t z_{it}$  appear significantly different from zero because they are capturing the effects of a potential structural break occurring in the period, as we shall see below. All in all, a sensible conclusion, in this case, seems to be that liquidity in the Portuguese banks, during the nineties has not played the role of a shield against monetary policy shocks.

Columns 7 and 8 display the two models estimated with the capitalisation ratio as the interaction variable. In this case we have the coefficient of  $\ln(D/P)_{it} z_{it}$  negative and the coefficients of  $l_t z_{it}$  and  $s_t z_{it}$  equal to zero, and thus, we can definitely conclude that the lending-channel appears to be more important for less capitalised banks.

Of course, these conclusions are valid under the implicit assumption that the models estimated in Table 1 are stable. But if we look again at Charts 1 and 2 we immediately realise that during 1996 and 1997 the credit growth rate increased relative to the deposits growth rate, coinciding with the increase in the external non-deposits funds coming from abroad. This fact raises the question of whether the conclusions above still apply once we

<sup>(15)</sup> We note that the coefficient of  $\ln(K/P)$  in column [3] is wrong signed, but the above conclusion still holds for the model in column [4], which was estimated after dropping  $\ln(K/P)_{it}$  and  $\ln(K/P)_{it} z_{it}$  and after checking that the coefficients on  $l_t z_{it}$  and  $s_t z_{it}$  were still statistically not different from zero. However in column [4] the estimated coefficient of  $\ln(D/P)_{it} z_{it}$  is much smaller and the *t*-statistic is not very high in relative terms.

<sup>(16)</sup> We note that this conclusion depends on the fact that the liquidity variable is defined as in [5]. If we rather define liquidity as in [4] the coefficient of  $\ln(D/P)_{it} z_{it}$  appears significantly different from zero and negative. This result shows that the way the  $z_{it}$  is defined really matters for the empirical analysis.

<sup>(17)</sup> Note that an illiquid bank is one for which the current liquidity ratio is below the sample average liquidity ratio.

allow for the possibility of a structural break in the last two years of the sample.

To investigate this issue we "interacted" the variables in our basic specification (3) with a dummy variable, which is zero for the first six years of data (1990/1 to 1995/4) and equals 1 for the two last years of the sample (1996/1 to 1997/4).

The evidence strongly suggests the existence of a structural break occurring in the two last years of the sample, as the coefficients of the variables of the model interacted with the dummy variable are in general significantly different from zero. However the most important point is that all the relevant conclusions drawn above from Table 1 remain valid. In particular we still conclude that the dependence of banks on deposits does not vary with the bank liquidity ratio and that the lending channel is more important for the less capitalised banks.<sup>(18)</sup>

## **5. CONCLUSIONS**

This paper investigates the existence of a bank-lending channel using quarterly data on the Portuguese banks for the period 1990-1997. This transmission channel operates through shifts in the bank-loan supply schedules brought about by the reduction in the availability of bank deposits following a contractionary monetary policy shock.

In contrast to previous approaches which basically resort to (dynamic) reduced form equations for bank credit with variables in differences, this paper proposes an alternative approach by estimating directly a loan supply schedule with variables in levels, thereby exploring recent cointegration results for nonstationary panel data.

We conclude for the existence of a bank-lending channel in Portuguese data and that the importance of this channel is larger for the less capitalised banks. Size as well as liquidity does not appear to be relevant bank characteristics to determine the importance of the bank-lending channel.

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<sup>(18)</sup> For a full discussion of the results see Farinha and Marques (2001).

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# January\*

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7 January (Regulation no. 8/2001 of the Stock Market Commission, Official Gazette no. 299, Supplement, Series II)	Pursuant to the provisions set forth in subparagraph n) of Article 9 and Ar- ticle 26 of the Statute of the Stock Market Commission, approved by De- cree-Law no. 473/99, of 8 November, and in subparagraph b) of paragraph 1 of Article 353 of the Stock Market Code, approved by Decree-Law no. 486/99, of 13 November, sets the rates to the paid to the Stock Market Commission. Revokes Regulation no. 35/2000, of 14 December. This Regu- lation takes effect on 1 January 2002.
7 January (Circular Letter of Banco de Portugal no. 1/2002/DET)	Informs about the process of exchanging banknotes and coins denomi- nated in escudos for banknotes and coins denominated in euro, namely about the provisions set forth in Articles no. 3, 4 and 6 of Decree-Law no. 117/2001, of 17 April. The afore-mentioned exchange cannot be subject to restrictions that are not provided for by law. It also makes known that the charging of fees or any other type of commissions is against the legal ten- der status of the currency.
15 January(Decree-Law no. 8-D/2002, Official Gazette no. 12, 2nd Supplement, Series I - A)	Amends Decree-Law no. 394/99 of 13 October, which approved the legal framework of managing companies of transferable securities markets and related systems, publishing it again.
23 January (Decision no. 1598/2002, Official Gazette no. 19, Series II)	Under the terms laid down in paragraph 1 of article 63 of Law no. 5/98 of 31 January, approves the introduction of adjustments in the Chart of Accounts of Banco de Portugal which shall be applied to the 2001 fiscal year accounts.
23 January (Circular Letter of Banco de Portugal no. 8/02/DSBDR)	Clears doubts on the prudential framework of securities with a higher de- gree of subordination, issued within the scope of securitisation operations, held by entities which, albeit belonging to the group of the institutions which has originally sold the assets, are not subject to the provisions set forth in Notice no. $10/2001$ of 6 November.
26 January (Council Regulation (EC) no. 134/2002, OJEC L 24)	Amends paragraph 2 of article 7 of Council Regulation (EC) No. 2531/98 of 23 November 1998 concerning the application of minimum reserves by the European Central Bank.
	February
4 February (Circular Letter of Banco de Portugal no. 2/DMR)	Following Circular Letter no. 347/DMR of 27 October 1999, fixes the rate of return of Deposit Securities, Series B, at 3.34%, for the quarterly accounting period to start on 4 February 2002.
5 February (Regulation no. 1/2002 of the Stock Market Commission, Official Gazette no. 30, Series II)	Pursuant to the provisions set forth in paragraph 1 of article 36 of Decree-Law no. 453/99, of 5 November, establishes a regime to which the accounts of the credit securitisation funds must adhere.
6 February (Executive Order no. 113-B/2002, Official Gazette no. 31, Supplement, Series I - B)	In accordance with paragraph 3 of article 1 of Decree-Law no. 88/94, of 2 April, establishes that government debt securities issued pursuant to the provisions set forth in Cabinet Resolution no. 9-A/2002, of 12 January, shall be added to the list published in Executive Order no. 377-A/94, of 15 June.
9 February (Regulation no. 4/2002 of the Stock Market Commission, Official Gazette no. 34, Series II)	Pursuant to the provisions set forth in subparagraph b) of paragraph 1 of article 353 of the Stock Market Code, and in accordance with paragraph 2 of article 47-A and article 47-B, which form part of Decree-Law no. 276/94, of 2 November, lays down the terms and conditions on which entities managing securities investment funds may constitute index-linked funds and guaranteed funds.

<sup>\*</sup> The chronology for monetary measures of the Eurosystem can be found in the Monthly Bulletin of the European Central Bank.

11 February (Regulation no. 3/2002 of the Stock Market Commission, Official Gazette no. 35, Series II)	In accordance with Decree-Law no. 276/94, of 2 November, lays down the rules applicable to securities investment funds in respect of the valuation of their assets, the costs which may be imputed to them, and the calculation of the value of the investment units and the action taken by the managing entities whenever errors occur. Revokes Regulations no. 16/99, of 14 October, 4/2000, of 16 February, and 26/2000, of 19 August.
13 February (Circular Letter of Banco de Portugal no. 5/DET)	Provides information to credit institutions on the procedures to be adopted regarding the deposit of euro-denominated banknotes with the Banco de Portugal.
13 February (Circular Letter of Banco de Portugal no. 6/DET)	Following a Decision of the European Central Bank of 3 December 2001, provides information on the conditions under which the Banco de Portugal will exchange legal tender euro-denominated banknotes, which are mutilated or damaged. The above-mentioned Decision became effective on 1 January 2002.
13 February (Directive 2001/108/EC of the European Parliament and of the Council, OJ L41)	Amends Council Directive 85/611/EEC on the coordination of laws, regu- lations and administrative provisions relating to undertakings for collec- tive investment in transferable securities (UCITS), with regard to investments of UCITS. Member States shall adopt, up to 13 August 2003, at the latest, the legal, regulatory and administrative provisions required to enforce the above-mentioned Directive. Member States shall forthwith in- form the Commission thereon. Member States shall implement these mea- sures up to 13 February 2004, at the latest.
14 February (Circular Letter of Banco de Portugal no. 17/02/DSBDR)	Establishes that a report shall be sent to Banco de Portugal, on a half-yearly basis, quantifying the economic provisions required for the coverage of risk implicit in a credit portfolio.
15 February (Decision no. 3497/2002, Official Gazette no. 39, Series II)	Pursuant to the provisions set forth in paragraph 2 of article 74 of Law no. 109-B/2001, of 27 December, authorizes the Public Credit Management Institute to intervene in the secondary public debt market as a party in repurchase operations, based on securities representing the direct public debt quoted in the special public debt market (MEDIP - <i>mercado especial de dívida pública</i> ).
15 February (Instruction of Banco de Portugal no. 3/2002, BNBP no. 2/2002)	Provides for a simulation exercise of a regime known as anti-cycle or dy- namic provisioning.
15 February (Instruction of Banco de Portugal no. 4/2002, BNBP no. 2/2002)	Defines the information elements relating to liabilities on account of retire- ment and survivorship pensions that must be sent to Banco de Portugal. Revokes Instruction no. 13/99, published in BNBP no. 6, of 15 June 1999.
19 February (Circular Letter of Banco de Portugal no. 11/DPGCO)	Warns credit institutions that, following some complaints about the print- ing of a deadline on euro-denominated cheques, they must take into ac- count some aspects related to their obligations to provide information to their customers in the case of contracts associated with cheque movements in deposit accounts.
20 February (Circular Letter of Banco de Portugal no. 18/02/DSBDR)	Makes known that Banco de Portugal has decided to change the valuation criterion mentioned in item b) of number 1 of Chapter V of the Chart of Accounts for the Banking System, following suggestions made by some institutions in order to be able to value their portfolios at the prices prevailing in the special public debt market (MEDIP - <i>mercado especial de dívida pública</i> ). Also informs that this change is valid, in accordance with paragraph 10 of Notice no. 3/95, for the calculation of capital losses on investment portfolio securities and the setting up of the corresponding provisions. The above-mentioned change takes effect on 1 March 2002.

# March

2 March (Decree-Law no. 42/2002, Official Gazette no. 52, Series I - A)	Establishes the legal framework of electronic money institutions. Transposes into the Portuguese legal system Directive 2000/28/EC, of the European Parliament and of the Council of 18 September 2000 amending Directive 2000/12/EC, of 20 March, relating to the taking up and pursuit of the business of credit institutions, and Directive 2000/46/EC of the European Parliament and of the Council of 18 September 2000 on the taking up, pursuit of and prudential supervision of the business of electronic money institutions.		
13 March (Notice of Banco de Portugal no. 1/2002, Official Gazette no. 61, Series I - B)	Redefines the Direct Debiting System. Revokes Notice no. $3/2000$ , of 11 August, published in Official Gazette no. 193, Series I - B, of 22 August 2000.		
14 March (Regulation no. 5/2002 of the Stock Market Commission, Official Gazette no. 62, Series II)	Introduces changes in articles 29, 31, 32 and 34 of Regulation no. 5/2000, of 23 February, which governs the operation of markets, in general, and of stock markets, in particular. This Regulation was amended by Corrigendum no. 686/2002, of 14 March, published in Official Gazette no. 74, Series II, of 28 March 2002.		
14 March (Circular Letter of Banco de Portugal no. 10/DET)	Calls the attention to the fact that the rules set forth in Decree-Law no. 117/2001, of 17 April shall be complied with in the exchange into euro of banknotes and coins denominated in escudos. This Circular Letter also emphasises the recommendations laid down in Circular Letter no. 1/DET, of 7 January 2002.		
20 March (Decree-Law no. 60/2002, Official Gazette no. 67, Series I - A)	Approves the new legal framework of real estate investment funds, which shall enter into force 90 days after publication. With the entry into force of this legal framework, Decree-Law no. 294/905, of 17 November, as amended by Decree-Law no. 323/97, of 26 November, shall be revoked.		
20 March (Decree-Law no. 61/2002, Official Gazette no. 67, Series I - A)	Rewords articles 16 and 17 of the Stock Market Code, approved by Decree-Law no. 486/99, of 13 November.		
20 March (Decree-Law no. 62/2002, Official Gazette no. 67, Series I - A)	Rewords articles 7, 8, 18 and 35 of Decree-Law no. 276/94, of 2 November, as worded by Decree-Law no. 323/99, of 13 August, which lays down the legal framework of real estate investment funds.		
27 March (Executive Order no. 323/2002, Official Gazette no. 73, Series I - B)	Introduces changes in articles 1, 3, 4 and 6 and adds articles 3-A and 7-A to Executive Order no. 1303/2001, of 22 November, so as to widen the incidence base of the supervision rates to be paid to the Stock Market Commission.		
27 March (Notice of Banco de Portugal no. 2/2002, Official Gazette no. 88, Series I - B)	Adds paragraph 2 - A to Notice no. $1/95$ of 17 February, on the provision of information on services and products that may be requested or purchased through the Internet. This Notice takes effect within 30 days as of the date of its publication.		
	April		
5 April (Decree-Law no. 82/2002, Official Gazette no. 80, Series I - A)	Introduces changes in articles 4 to 7, 12, 16, 17, 19, 23, 27, 28, 34, 37 and 38 and in Chapters III and IV of Decree-Law no. 453/99, of 5 November, which defines the system governing the securitisation of credit. Decree-Law no. 453/99, as amended by Decree-Law no. 82/2002, shall be republished in attachment.		
26 April (Circular Letter of Banco de Portugal no. 6/DMR)	Following Circular Letter no. 347/DMR of 27 October 1999, fixes at 3.30%, the rate of return of the Certificates of Deposit, Series B, to prevail in the quarter started on 4 May 2002.		

30 April (Executive Order no. 505/2002, Official Gazette no. 100, Series I - B)	Pursuant to the provisions laid down in article 5 of Decree-Law no. 232/96 of 5 December, and for the purposes of Council Directive 93/22/EEC, approves the list of regulated markets. Revokes Executive Order no. 27/99 of 18 January.	
	May	
4 May (Decree-Law no. 122/2002, Official Gazette no. 103, Series I - A)	Approves the legal framework of the new series of saving certificates. Rewords article 7 of Decree-Law no. 172-B/86 of 30 June, and articles 18 and 19 of Decree-Law no. 43454 of 30 December 1960.	
7 May (Regulation no. 6/2002 of the Stock Market Commission, Official Gazette number 105, Series II)	In accordance with the provisions laid down in sub-paragraph b), of article 247 and in article 11 of the Stock Market Code, and within the scope of the obligation to provide financial information to the market, lays down that the issuers of transferable securities listed in a regulated market must compulsorily prepare and publish information by batches. This regulation shall be applicable as from the disclosure of the annual accounts for the fiscal year started on or after 1 January 2002 and whose disclosure takes place after the entry into force of this regulation. With respect to entities that have not adopted the Official Chart of Accounts, as for instance, credit institutions and financial companies, this regulation shall only be applicable as from the date of publication of a subsequent regulation by the Stock Market Commission.	
8 May (Regulation no. 7/2002 of the Stock Market Commission, Official Gazette no. 120, Series II)	Recognises certificates as a new type of transferable security, defines their concept and identifies their different forms; pursuant to the provisions of this Regulation, these certificates shall be subsidiarily subject to the regime applicable to covered warrants.	
15 May (Instruction of the Banco de Portugal no. 8/2002, BNBP 5/2002)	Revokes Instruction no. 70/96, published in BNBP no. 1, of 17 June 1996. Establishes mechanisms preventing the utilisation of the Portuguese finan- cial system for money laundering purposes.	
21 May (Notice of Banco de Portugal no. 3/2002, Official Gazette no. 129, Series I - B)	Changes part I of the annex to Notice no. 1/93, of 8 June 1993, adding para- graph 10, relating to own funds requirements applicable to the irrevocable payment commitments arising from the compulsory contributions to the Deposit Guarantee Fund.	
31 May (Law no. 16-A/2002, Official Gazette no. 125, Series I - A, Supplement)	Introduces changes in the State Budget for 2002, approved by Law no. 109-B/2001, of 27 December, in the part relating to the annexed tables I to IV, replacing them accordingly with other tables with an equal numbering. Provides for the extinction, restructuring and merger of several bodies and lays down several provisions, many of which are of a tax nature; the several ordinances referred to have been amended accordingly, except for table I, mentioned in paragraph 1 of article 8 of the Regulation relating to the Municipal Vehicles Tax ( <i>Imposto Municipal sobre Veículos</i> ), approved by Decree-Law no. 143/78, of 12 June; paragraph 3 of the above-mentioned article 8, which had been previously revoked, shall be retained, article 10 being amended. Rectified by Corrigendum no. 21-A/2002, of 31 May.	
June		
18 June (Regulation no. 8/2002 of the Stock Market Commission, Official Gazette no. 138, Series II, Supplement )	Under the provisions of article 60 of Decree Law no. 60/2002, of 20 March, lays down a set of rules that constitute the legal framework of real estate investment funds. Revokes Regulations no. 96/03, of 29 March, no. 97/11, of 26 July, and no. 98/05, of 27 May. This Regulation takes effect on 18 June 2002.	

Under the provisions of paragraph 1 of article 95 and paragraph 1 of article 196 of the Legal Framework of Credit Institutions and Financial Companies, approved by Decree Law no. 298/92, of 31 December, as well as of paragraph 3 of article 40 of Decree Law no. 453/99, of 5 November,

19 June (Executive Order no. 676/2002,

Official Gazette no. 139, Series I - B)

changes the minimum capital stock of credit securitisation funds management companies and credit securitisation companies. Revokes Executive Order no. 284/2000, of 23 May.

25 June (Notice of Banco of Portugal no. 4/2002, Official Gazette no. 144, Series I - B)

26 June (Regulation no. 35/2002 of the Instituto de Seguros de Portugal (Rule no. 12/2002-R), Official Gazette no. 145, Series - II)

26 June (Regulation no. 33/2002 of the Instituto de Seguros de Portugal (Rule no. 10/2002-R), Official Gazette no. 145, Series II)

26 June (Regulation no. 32/2002 of the Instituto de Seguros de Portugal (Rule no. 9/2002-R), Official Gazette no. 145, Series II)

26 June (Regulation no. 30/2002 of the Instituto de Seguros de Portugal (Rule no. 7/2002-R), Official Gazette no. 145, Series II)

26 June (Regulation no. 31/2002 of the Instituto de Seguros de Portugal (Rule no. 8/2002-R), Official Gazette no. 145, Series II)

26 June (Regulation no. 34/2002 of the Instituto de Seguros de Portugal (Rule no. 11/2002-R), Official Gazette no. 145, Series II) participations (minimum provisioning levels and deductions from own funds). Introduces changes in Notices no. 3/95, of 30 June, and no. 12/92, of 29 December. This Notice takes effect on 30 June 2002.

Establishes the prudential regime of capital losses inherent in financial

Introduces changes in the chart of accounts of pension funds. Rewords paragraph 3.2. and adds paragraphs 3.4 and 3.5 to regulatory rule no. 12/95-R, of 6 July.

Lays down the rules applicable to securities repurchase and lending operations carried out in pension funds by their management companies that operate in Portugal, as well as to their accounting.

Lays down the rules applicable to securities repurchase and lending operations carried out by insurance corporations that operate in Portugal or abroad, which are subject to the supervision of the Instituto de Seguros de Portugal (Portuguese Insurance Institute), as well as to their accounting.

Lays down the rules applicable to the use and accounting record of derivative instruments by insurance corporations that operate in Portugal or abroad, which are subject to the supervision of the *Instituto de Seguros de Portugal*. Revokes rule no. 15/98-R, of 20 November.

Lays down the rules applicable to the use and accounting record of derivative instruments in pension funds by their management companies that operate in Portugal. Revokes rule no. 16/98-R, of 20 November.

Introduces changes in the chart of accounts of insurance corporations, approved by regulatory rule no. 7/94-R, of 27 April, as amended by regulatory rule no. 14/95-R, of 20 July.

## July

Rewords article 53 of Regulation no. 10/2000, of 23 February (issues of covered warrants) of the Stock Market Commission.

Informs that loans collateralised by mortgage on owner-occupied housing and granted until the entry into force of Notice no. 1/2001 (2001/02/14), may benefit from the previous weighting with regard to the solvency ratio, provided that the respective assessments are made within 3 years as from the date mentioned.

Recommends credit institutions and financial corporations to carefully examine operations carried out with natural or legal persons residents in certain countries or territories, within the framework of preventive measures of money laundering. Revokes Circular Letter no. 36/2001/DSB, of 17 October 2001.

Council Recommendation on the broad guidelines of the economic policies of the Member States and the Community.

Amends to Guideline ECB/2000/7 on monetary policy instruments and procedures of the Eurosystem (ECB/2002/2).

2 July (Regulation no. 9/2002 of the Stock Market Commission, Official Gazette no. 150, Series II)

8 July (Circular Letter of Banco de Portugal no. 68/2002/DSB)

10 July (Circular Letter of Banco de Portugal no. 69/2002/DSB)

11 July (Council Recommendation 2002/549/CE, OJ L 182)

15 July (Guideline of the European Central Bank no. 2002/07/15, OJ L 185)

19 July (Regulation no. 10/2002 of the Defines the value of the rate on services provided by the Stock Market Stock Market Commission, Official Commission related to the registration of real estate assessors. Adds Gazette no. 165, Series II) sub-paragraph h) to Article 5 (1) of Regulation no. 8/2001, of 28 December. 19 July (Notice of the European Central Publishes the competent national authorities designated by the Member Bank No. 2002/C 173/02, OJ C 173) States to prevent and combat money counterfeiting, referred to in Article 2 (b) of Council Regulation (EC) no. 1338/2001 and also in accordance with Council Regulation (EC) no. 1339/2001, which extended the effects of that regulation to those Member States which have not adopted the euro as their single currency. 22 July (Circular Letter of Banco de Waives the preparation and report to the Banco de Portugal of the report Portugal no. 71/02/DSBDR) on economic provisions foreseen in Circular Letter no. 17/02/DSBDR for brokers, foreign-exchange and money-market mediating companies, wealth managing companies, investment-fund managing companies, group-purchase managing companies, exchanges offices and credit securitisation fund management companies. 24 July (Executive Order no. 866/2002, Introduces changes, in accordance with the provisions laid down in Article Official Gazette, no. 169, Series I) 95 (1) and Article 196 (1) of the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law no. 298/92, of 31 December, into no. 1 (h) and (i) of Executive Order no. 95/94, of 9 February (determining the minimum equity capital of credit institutions and financial corporations). Introduces changes into the minimum equity capital of dealers and brokers, which should be fully paid up by 30 September 2002. Revokes Executive Order no. 102/2002, of 1 February. August 9 August (Instruction no. 1/2002 of the Determines, in accordance with the provisions laid down in Article 10 (1) IGCP, Official Gazette no. 183, Series II) (c), of Decree-Law no. 122/2002, of 4 May, the value of rates on the provision of services related to operations on savings certificates. 9 August (Circular Letter of the Instituto Publishes the list, as at 17 July 2002, of insurance companies and pension de Seguros de Portugal (the Portuguese fund managing companies registered in Instituto de Seguros de Portugal and, Insurance Institute) no. 31/02, Official therefore, authorised to carry on their respective activity. Gazette no. 183, Series III, Part A) 14 August (Circular Letter of Banco de Clears some doubts on the obligation to send to Banco de Portugal a report Portugal no. 73/02/DSBDR) prepared by the external auditor of each institution, quantifying the economic provisions required for the coverage of risk implicit in the corresponding credit portfolio, as referred to in Circular Letter no. 17/2002/DSB, of 14 February. 16 August (Instruction of Banco de Amends Instruction no. 23/97, with regard to the list of largely diversified Portugal no.22/02) indices. 20 August (Notice of Banco de Portugal Rewords numbers 4 and 5 of paragraph 5 of Notice no. 4/2002, of 20 June. no. 5/2002, Official Gazette no. 191, Series I - B) 21 August (Decree-Law no. 188/2002, Sets up the Credit Securitisation Guarantee Fund (Fundo de Garantia de Official Gazette no. 192, Series I - A) Titularização de Créditos - FGTC), whose purpose is the granting of collateral within the scope of the purchase of securities representing medium-and long-term claims on small-and medium-sized companies carrying on their activity within the framework of the Operational Programme for Economic Activities. 21 August (Decree-Law no. 186/2002, Creates a new type of credit institution, the credit financial institution, Official Gazette no. 192, Series I - A) whose purpose is the carrying out of all operations allowed to banks, except for the taking of deposits, and which are governed by this decree-law and by the provisions set forth in Decree-Law no. 298/92, of 31 December

(Legal Framework of Credit Institutions and Financial Companies) and

supplementary legislation. Revokes Article 4 of Decree-Law no. 72/95, of 15 April, and paragraph 1 of Article 4 of Decree-Law no. 171/95, of 18 July. 21 August Decree-Law no. 187/2002, Sets up the Fundos de Sindicação de Capital de Risco, whose purpose is the Official Gazette no. 192, Series I - A) carrying out of combined operations in the area of risk capital, by investing in holdings in companies and financing entities specialising in risk capital, for the equity increase of small-and medium-sized companies carrying on their activity within the framework of the Operational Programme for Economic Activities. 24 August (Regulation no. 11/2002 of the Establishes the accounting system to be complied with by real estate in-Stock Market Commission, Official vestment funds. This Regulation takes effect on 1 August 2002. For ac-Gazette no. 195, Series II) counting purposes, in particular, with respect to the monthly reporting of data, funds built up and operating at the date on which this Regulation takes effect may continue to comply with the provisions set forth in Regulation no. 96/16 of the Stock Market Commission, of 13 December, which will remain in force up to 31 December 2002. 24 August (Regulation no. 12/2002 of the Defines the elements that may integrate credit securitisation companies' Stock Market Commission, Official own funds and lays down the accounting rules applicable to this type of Gazette no. 195, Series II) companies. Amends Regulation no. 10/2000 of the Stock Market Commission, of 10 February and revokes Articles 4, 48 and 49 of the same regulation. 26 August (Regulation no. 13/2002 of the Introduces changes to Article 1, adds Article 8-A and revokes subpara-Stock Market Commission. Official graph b) of paragraph 2 of Article 3 of Regulation no. 11/2000 of the Stock Gazette no. 196. Series II) Market Commission, of 23 February 2000 (Reporting obligation). **September** 16 September (Circular Letter Informs that the establishment of value dates related to debit and credit enno. 72/2002/DSB) tries in demand deposit accounts will no longer be subject to regulations issued by Banco de Portugal, and that the Bank will thus revoke Instruction no. 50/96 and introduce changes in Notice no. 1/95. 16 September (Instruction of the Banco de Determines that branches established in Portugal of credit institutions and Portugal no. 24/2002) financial companies having their head office in another EU Member State must prepare a report on the money laundering prevention system. 17 September (Executive Order no. Pursuant to the provisions laid down in paragraph 1 of Article 95 of the Le-1403/2002, Official Gazette no. 215, gal Framework of Credit Institutions and Financial Companies, approved Series II) by Decree-Law no. 298/92 of 31 December, sets forth that the minimum capital stock of credit institutions shall not be lower than 10 million. 26 September (Decree-Law no. 201/2002, Introduces changes in the Legal Framework of Credit Institutions and Fi-Official Gazette no. 223, Series I - A) nancial Companies, approved by Decree-Law no. 298/92 of 31 December. Redefines the types of credit institutions and financial companies (e.g. creates credit financial institutions and no longer includes group-purchase managing companies in financial companies, although it envisages a transitional regime for those currently existing). Revises the prudential framework of credit institutions and financial companies, in particular within the scope of the authorisation regime for their setting-up and the acquisition of qualifying holdings, as well as the registration of the members of the management and auditing boards. Enhances the effectiveness of supervisory methods, in line with the internationally accepted standards. Introduces changes in the financial reorganisation process, namely by enabling greater intervention by the Banco de Portugal, the Deposit Guarantee Fund and other financial system entities. 28 September Notice of the Banco de Lays down a set of reporting requirements aimed at improving transpar-Portugal no. 6/2002, Official Gazette ency and fairness in the promotion and negotiation of structured savings no. 225, Series I - B) collection instruments (instrumentos de captação de aforro estruturado - ICAE). This notice takes effect 60 days after its publication.

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