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The Portuguese Economy in 2004

<div align="center">**THE PORTUGUESE ECONOMY IN 2004**</div>

1. INTRODUCTION

The Portuguese economy resumed positive growth in 2004, albeit at a moderate pace. The estimates of Banco de Portugal point to 1.1 per cent real growth in Gross Domestic Product (GDP), after a fall of similar magnitude in the previous year. In the year as a whole, the rebound in the economy relied on the expansion of private domestic demand. Exports behaved poorly, which translated into market share losses. At the same time, imports grew significantly, leading to an increase in the respective rate of penetration in the domestic market. Activity showed a pronounced intra-annual pattern, characterised by a strong deceleration in the second half of the year, which continued in the first months of 2005. This reflected the deceleration in corporate investment and especially exports, since growth in private consumption remained broadly unchanged from the first half of the year.

The world economy grew by 5.1 per cent in 2004, the highest rate of the past 25 years, alongside a strong expansion of the world trade in goods and services, which grew in volume by around 10 per cent, a broadly based improvement of conditions in international financial markets and the continued depreciating trend of the US dollar, notably against the euro. The expansion of demand at the global level contributed to a very significant increase in oil and other commodity prices.

The additional improvement in the financing conditions of the Portuguese economy — which occurred despite the already high level of indebtedness — in parallel with growth in real wages and the stabilisation of employment, contributed to a recovery in confidence. These factors, together with a virtual lack of fiscal consolidation, fostered the expansion of domestic demand. In this context, both private consumption and corporate investment recovered remarkably in 2004, in particular growth in expenditure both on durable consumer goods, including automobiles, and on investment in machinery, metal products and commercial vehicles. This composition of expenditure led to a significant expansion of imports, which limited the impact of the recovery in domestic demand on GDP growth. Indeed, strong growth in demand for imported goods reflects the increase of income, together with a reduction in relative prices of imports, partly resulting from the appreciation of the euro.

In contrast to the strong recovery in imports, which after a slight fall in 2003, grew by almost 7.5 per cent in 2004, exports grew by around 5 per cent, accelerating only slightly from the previous year. Despite the remarkable recovery in exports of services, exports of goods decelerated markedly, growing below foreign demand, notably in the second half of the year. The loss of market shares of exports of goods also occurred in other euro area countries and is likely to be partly related to the cumulative appreciation of the euro in the past few years. However, the poor performance of Portuguese exports also reflects the deterioration of the competitive position of the economy, which became apparent in the second half of the 1990s, and is largely related to the higher cumulative growth in unit labour costs in Portugal and to the specialisation pattern of Portuguese exports. These factors are particularly negative in a context of strengthening globalisation. The latter is translating into an increasing participation of new players in international markets — notably Asian developing economies, in particular China, and Central and Eastern European countries that joined the European Union in May 2004 — reinforcing the difficulties of the Portuguese export sector.

The acceleration in domestic demand and wages contributed to the interruption of the downward trend of the inflation rate in 2004 and the widening of the differential between growth in prices of goods and services. In the year as a

whole, inflation measured by the annual average change of the Consumer Price Index (CPI) stood at 2.4 per cent, close to the levels observed by the end of 2003. Despite the strong increase in international oil prices, pressures on prices of goods remained contained, against a background of negative changes in import prices of consumer goods and an increase in the real rate of import penetration. Growth in services prices remained high, as services are less likely to be replaced by imports and tipically have a higher share of labour inputs.

The growth pattern observed in 2004 translated into a further increase in household indebtedness and a considerable worsening in foreign accounts. The net external borrowing requirements of the Portuguese economy, measured by the joint deficit of the current plus capital account, increased 2.6 percentage points (p.p.), to 5.9 per cent of GDP in 2004. This contrasts with the reduction in the external deficit observed in the past two years and constitutes an interruption of the adjustment process of the macroeconomic imbalances of the Portuguese economy. The increase in the external financing needs reflected mainly a reduction in household and corporate savings. The financing needs of the public sector remained broadly stable at a high level. In a context of increasing financial integration and favourable financing conditions in international financial markets, the higher deficit of the current plus capital account was financed by the increasing recourse to the issuance of medium and long-term securities in those markets by Portuguese banking groups, and also by an increase in the issuance of securities abroad and the trade credit obtained by non financial corporations.

2. MAIN INTERNATIONAL ECONOMIC DEVELOPMENTS

The world economy grew by 5.1 per cent in 2004, the highest rate of the past 25 years (Table 2.1). The most important economic developments in 2004 were the strong expansion of world trade, the recovery in overall foreign investment flows, the sharp increase in oil prices, the broadly based improvement in financing conditions and the continued depreciating trend of the US dollar.

World trade of goods and services increased by around 10 per cent, which is more than twice the growth recorded in 2003. Overall flows of foreign direct investment rose in 2004, after having fallen for three consecutive years, mainly in emerging market and developing economies, in particular Asian economies. Indeed, foreign investment in developed economies as a whole decreased further in 2004, in particular in the euro area, while it rebounded in the US economy.

The expansion of world demand exerted upward pressures on international commodity prices, which increased significantly in 2004. Non-energy commodity prices grew by around 22 per cent in the year as a whole. The continued increase in iron and steel prices is noteworthy. In the case of oil, the demand pressure was exacerbated by unfavourable developments on the supply side, in particular by political tensions in important producer countries and by the limited responsiveness of the production chain, notably at the level of refinement infrastructures. In this context, oil prices reached a historical high in nominal terms, 50 USD/barrel in the case of Brent crude oil in late October, having been subsequently revised downwards towards the end of the year to values close to 40 USD/barrel. In December 2004, the oil price per barrel stood around 37 per cent above the value recorded at the end of the previous year. However, the increase in euro-denominated oil prices was less sharp - of around 26 per cent – reflecting the appreciation of the euro against the US dollar. In the first months of 2005, against a background of persistent strong dynamics of world demand driven by an unusually cold winter in Europe and North America, oil prices resumed their upward trend and in mid-March the price of Brent crude oil reached a new historical high of 57 USD/barrel.

The behaviour of world trade, foreign investment flows and commodity prices reflect both the continued cyclical recovery of the world economy initiated in 2002, and the strengthening of global economic integration. This phenomenon has been reflected in the active participation of new players in international trade, notably the Asian developing economies, in particular China, and the Central and Eastern European countries that joined the European Union in May 2004 (Chart 2.1). From the perspective of the Portuguese economy, which is still highly specialised in the production of goods for which labour costs are a key determinant, these trends have intensified competition, with consequences for raising foreign investment and for ex-

Table 2.1

THE WORLD ECONOMY

Annual rate of change

	2002	2003	2004
GDP			
World economy	3.0	4.0	5.1
Advanced economies	1.6	2.0	3.4
USA	1.9	3.0	4.4
Euro area[a]	0.9	0.5	1.8
Germany	0.1	-0.1	1.0
France	1.1	0.5	2.4
Italy	0.4	0.4	1.0
Spain	2.2	2.5	2.7
Portugal	0.4	-1.1	1.1
Japan	-0.3	1.4	2.6
United Kingdom	1.8	2.2	3.1
Newly industrialised Asian economies[b]	5.3	3.1	5.5
Emerging market and developing economies	4.7	6.4	7.2
Central and Eastern Europe[c]	-	4.1	5.5
Developing Asia	6.5	8.1	8.2
China	8.3	9.3	9.5
India	4.4	7.5	7.3
ASEAN 4[d]	4.6	5.4	5.8
Latin America	-0.1	2.2	5.7
Memo:			
Emerging Asia[e]	-	7.4	7.8
World trade volume of goods and services			
International commodity prices in USD			
Oil	0.2	13.8	33.3
Non-energy commodities	4.5	14.3	21.7
Consumer prices			
Advanced economies	1.5	1.8	2.0
Emerging market and developing economies	6.0	6.0	5.7

Sources: Banco de Portugal, International Monetary Fund, Eurostat, European Commission, HWWA and Thompson Financial Datastream.
Notes:
(a) Seasonally and working-day adjusted data for the euro area and the four major economies.
(b) Korea, Hong-Kong, Taiwan and Singapore.
(c) Ten countries that joined the EU in May 2004 (The Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia), Bulgaria and Romania.
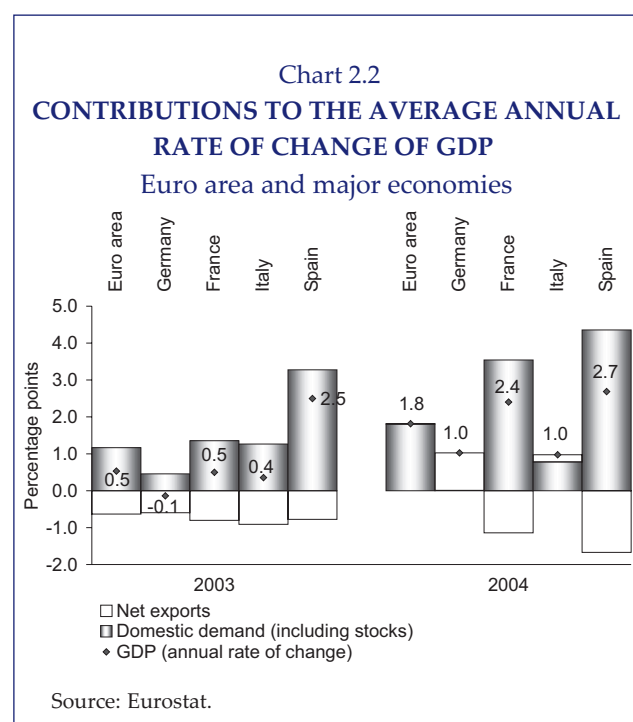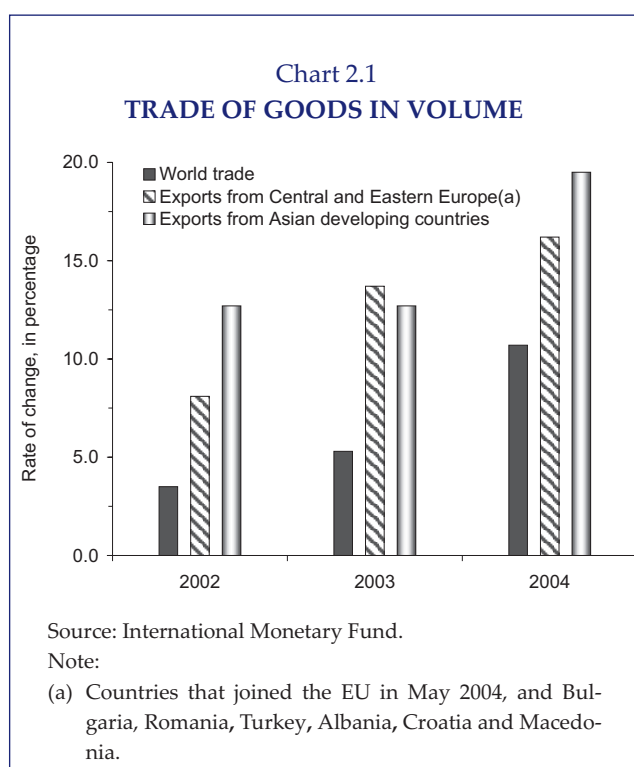(d) Indonesia, Malaysia, Philippines and Thailand.
(e) Includes developing Asia, newly industrialised Asian economies and Mongolia.

port markets, given the strong correlation between these two variables. In parallel, increases in oil prices account for an increase in corporate costs for oil importing economies, with potential unfavourable effects on future developments in prices and economic activity, aggravated in the Portuguese case by the relatively intensive use of oil derivatives in production[1].

The global economic recovery in 2004 was broadly based across all geographical areas, while it continued to be driven by the United States and Asia. In the United States, GDP accelerated and activity grew by 4.4 per cent, supported by both strong growth in private consumption, in a context of continued increase of employment in the course

of the year, and a significant increase in corporate investment. In Japan, output grew by 2.6 per cent in 2004, the highest rate since 1996. However, in the course of the year the Japanese economy decelerated strongly, losing momentum both at the external level and the domestic demand level. In Asian emerging market economies, economic activity grew by 7.8 per cent, boosted by intra-regional trade, notably with China. The Chinese economy continued to grow by around 10 per

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(1) See the article entitled "Oil prices and the economy", by Paulo Soares Esteves and Pedro Duarte Neves, in the December 2004 issue of the *Economic Bulletin*.

Chart 2.1
TRADE OF GOODS IN VOLUME

Source: International Monetary Fund.
Note:
(a) Countries that joined the EU in May 2004, and Bulgaria, Romania, Turkey, Albania, Croatia and Macedonia.

Chart 2.2
CONTRIBUTIONS TO THE AVERAGE ANNUAL RATE OF CHANGE OF GDP
Euro area and major economies

Source: Eurostat.

cent, mostly reflecting the continued buoyancy of exports and investment.

In the euro area, the economic recovery initiated in the second half of 2003 proceeded at a moderate pace, and GDP recorded an annual average growth of 1.8 per cent in 2004 (0.5 per cent in 2003). After the first half of the year, during which activity was quite buoyant, output decelerated, reflecting the slowdown in exports, which was not sufficiently offset by higher domestic demand growth. Nevertheless, domestic demand improved in the year as a whole, as investment recovered somewhat, showing a positive change, after having fallen for three consecutive years. Private consumption continued to grow at a slow pace, in the absence of significant improvements in employment and as consumer confidence stabilised at low levels. With regard to the largest euro area economies, it should be noted that in France and Spain, economies that grew above 2 per cent, activity was supported by domestic demand. Conversely, in Italy and Germany economic growth stood at values close to 1 per cent and recovery from 2003 relied on exports, since domestic demand remained weak (Chart 2.2).

In the remaining Member States of the European Union, economic activity continued to expand at rates considerably above those of the euro area. In the United Kingdom, GDP grew by 3.1 per cent, fostered by domestic demand, in a context of

robust growth in wages and corporate profits. In the ten new Member States, GDP grew above 5 per cent in 2004, driven by investment. Imports and exports increased substantially as a result of accession to the European Union.

Although economic growth in the main countries of destination of Portuguese exports was considerably below that recorded in other geographical areas, imports of goods from these countries were quite buoyant, increasing by around 8 per cent in volume. Therefore, foreign demand for Portuguese goods and services developed favourably (Table 2.2). However, Portuguese exports benefited only partly from the expansion of foreign demand, with a significant loss in the market share (see section 4 "Output and expenditure").

Inflation in the developed economies remained subdued in 2004, at around 2 per cent. The pass-through of the increase in oil prices to other prices was limited, in a context in which existing spare capacity, increased international competition and the higher credibility of monetary authorities contributed to low growth in wages in most economies. In response to the emergence of some pressures on prices and in a context of strong economic expansion, the US and UK monetary authorities decided to raise official interest rates several times in the course of 2004. The Federal Reserve started to increase interest rates in June, and by the end of the year it had raised the target for the federal funds

Table 2.2.

EXTERNAL DEMAND FOR PORTUGUESE GOODS

Rate of change in volume, in percentage

	Weights 2003	1999	2000	2001	2002	2003	2004
External demand[a]	100.0	7.9	11.1	1.0	1.5	3.8	8.2
Intra euro area external demand .... of which:	76.2	8.2	11.5	1.2	1.2	3.5	8.1
Spain	23.9	12.2	10.5	3.3	3.4	5.2	9.8
Germany	20.1	7.7	11.1	-0.2	-1.5	5.8	7.8
France.................................	15.4	7.6	15.0	1.0	3.2	-0.2	8.1
Extra-euro area external demand.............. of which:	23.8	7.1	10.2	0.4	2.2	4.6	8.6
United Kingdom	11.8	6.7	8.9	3.1	1.7	5.5	7.5
USA	6.5	12.4	13.5	-3.2	3.7	4.7	10.8

Sources: European Commission (AMECO database) and United Kingdom's Office for National Statistics.
Note:
(a) Calculated as weighted average of real growth in imports of goods of the 17 major trading partners. Each individual country was weighted according to its share in Portuguese exports of goods in the previous year. The 17 selected countries are the destination of around 90 per cent of total exports.

rate by a total of 1.25 percentage points (p.p.), to 2.25 per cent. The rise in the US official interest rates continued in the first quarter of 2005, with two further increases of 25 basis points (b.p.) in the federal funds rate on 2 February and 22 March. In the United Kingdom, after the first upward movement of 25 b.p. by the end of 2003, official interest rates were raised by 1 p.p. in 2004, to 4.75 per cent. In the euro area official interest rates stayed unchanged as domestic inflationary pressures remained contained and the recovery proceeded at a moderate pace. In Japan official interest rates also remained unchanged, against a background of persisting subdued deflationary pressures and a weakening economy in the course of the year.

Developments in international financial markets in 2004 were particularly favourable to the expansion of economic activity. Stock markets rallied and both government bond yields and yield spreads in private debt markets of the main developed economies stood at very low levels, benefiting Portuguese issuers in such markets, notably banking groups. In line with these developments, sovereign debt spreads of emerging market economies against US government securities narrowed to values close to historical lows (Table 2.3 and Charts 2.3 and 2.4). In parallel, implied volatilities in stock and bond markets, which are traditional indicators of financial market uncertainty, declined to levels close to the lows seen in 1997/1998.

These developments reflected improved corporate financial conditions in developed economies, in the context of economic recovery and consolidation effort carried out in the past few years, as well as investors' greater appetite for risk, reflected in the increased demand for investments with higher potential profitability. This demand for profitability occurred in the context of a protracted period of accommodating monetary policies, notably in the United States and in several Asian economies, which was reflected in a situation of abundant liquidity worldwide. Indeed, the accumulation of significant foreign reserves by Asian central banks, reflecting foreign exchange interventions to prevent or limit the appreciation of their respective currencies vis à vis the US dollar, and the investment of these reserves in US Treasury securities, contributed to maintain US long term interest rates at particularly low levels, both in historical terms and regarding US GDP growth prospects in the long run. The increase in the demand for long-term bonds by European and US pension funds and insurance companies, in a context of regulatory changes calling for a better correspondence between the duration of their assets and liabilities, is also likely to have contributed to maintain US long-term yields at very low levels and to their additional decrease in the euro area.

The depreciating trend of the US dollar continued to be the main development in foreign ex-

Chart 2.3
UNITED STATES AND EURO AREA DIFFERENTIALS BETWEEN TEN-YEAR CORPORATE BOND YIELDS AND TEN YEAR GOVERNMENT BOND YIELDS(a)
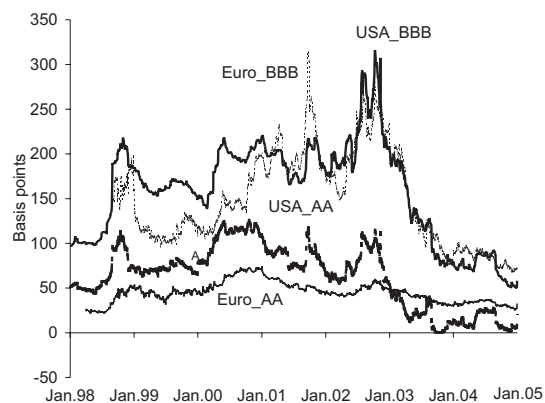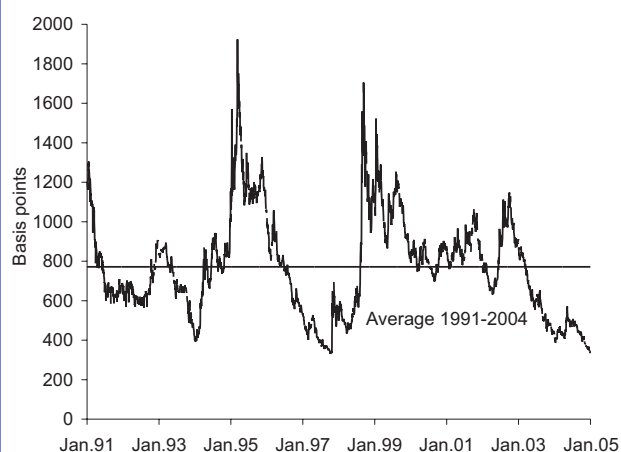
Source: Bloomberg.
Note:
(a) Merrill Lynch indices (maturities of 7 to 10 years).

Chart 2.4
EMERGING MARKET DEBT SPREADS [a]

Source: JP Morgan.
Note:
(a) EMBI / EMBI+

change markets, as the US currency depreciated by around 5 per cent in nominal effective terms. Developments in the US dollar continued to reflect investors' concerns about the sustainability of the US external deficit, against a background in which, despite the cumulative depreciation since 2002 (of around 16 per cent in nominal effective terms), the current account deficit reached an unpreceded level of 5.7 per cent of GDP (see Box "*The imbalance of US external accounts*") .

Table 2.3

INTERNATIONAL FINANCIAL MARKETS

Daily data

	Averages			End of period		
	2002	2003	2004	2002	2003	2004
Stock market indices (change in percentage)						
S&P 500	-17	-3	17	-23	26	9
Nasdaq	-24	7	21	-32	50	9
Nikkei 225	-16	-8	20	-19	24	8
FTSE 100	-17	-12	12	-24	14	8
MSCI Asia(excluding Japan)	4	1	29	-10	43	14
Dow Jones Euro Stoxx	-23	-18	18	-35	18	10
10-year government bond yields (per cent)						
United States	4.6	4.0	4.3	3.8	4.3	4.2
Japan	1.3	1.0	1.5	0.9	1.4	1.4
United Kingdom	4.9	4.5	4.9	4.4	4.8	4.5
Euro area	4.9	4.2	4.1	4.3	4.3	3.7
Nominal effective exchange rates (changes in percentage)						
USD	0.6	-6.0	-4.6	-2.9	-8.9	-4.6
JPY	-5.2	-0.1	1.9	1.8	2.2	-0.8
Sterling	0.5	-4.8	4.1	-2.7	-3.4	1.4
Euro	2.9	12.0	4.0	9.7	12.2	2.1

Sources: European Central Bank, Federal Reserve and Bloomberg.

3. MACROECONOMIC POLICIES

3.1 The monetary policy of the ECB and the monetary and financial conditions of the Portuguese economy

The monetary policy of the ECB

ECB interest rates remained unchanged at the levels established in June 2003 (Table 3.1). The minimum bid rate on the main refinancing operations remained unchanged at 2 per cent, reflecting the assessment by the Governing Council of the ECB that medium-term inflation prospects remained in line with price stability and that, in this context, the maintenance of the low level of interest rates should continue to support the economic recovery in the euro area. Real short-term interest rates thus remained close to zero over the year.

Price developments in 2004 were less favourable than anticipated at the beginning of the year, as inflation measured by the year-on-year change in the Harmonised Index of Consumer Prices (HICP) increased from 1.7 per cent in the first quarter to around 2.3 per cent in the three following quarters. This was due to the impact of rising oil prices, as

well as increasing indirect taxes – notably on tobacco – and administered prices in some countries (Chart 3.1). Developments in oil prices and possible further significant increases in indirect taxes and administered prices, led the Governing Council of the ECB to consider on May that the balance of risks to price stability over the medium term had become tilted to the upside. Nevertheless, overall prospects remained consistent with price stability in the medium term. Indeed, wage increases were contained, while at the same time subdued economic growth, the maintenance of high unemployment rates and the impact of the cumulative appreciation of the euro suggested that this trend should continue. Around mid year, the increase in long-term inflation expectations extracted from financial instruments recommended special attention regarding developments in domestic inflationary pressures[2].

Short-term money market interest rates remained broadly stable in the course of the year, in line with the behaviour of official interest rates. In turn, government bond yields, after some fluctuation in the first half of the year associated with developments in the US market, decreased sharply in the second half of the year. The fact that yields on

Table 3.1

INTEREST RATES OF THE EUROPEAN CENTRAL BANK

Per cent

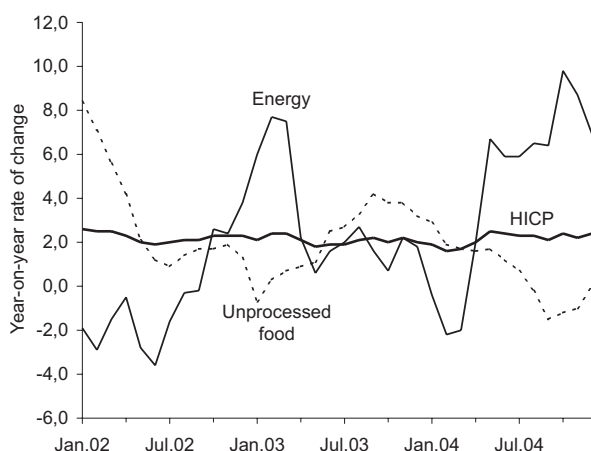| Date of the decision	Deposit facility	Main refinancing operations	Marginal lending facility
5 Dec. 1998	2.00[a]	3.00	4.50[a]
8 Apr. 1999	1.50	2.50	3.50
4 Nov. 1999	2.00	3.00	4.00
3 Feb. 2000	2.25	3.25	4.25
16 Mar. 2000	2.50	3.50	4.50
27 Apr. 2000	2.75	3.75	4.75
8 Jun. 2000	3.25	4.25	5.25
31 Aug. 2000	3.50	4.50[b]	5.50
5 Oct. 2000	3.75	4.75	5.75
10 May 2001	3.50	4.50	5.50
30 Aug. 2001	3.25	4.25	5.25
17 Sep. 2001	2.75	3.75	4.75
8 Nov. 2001	2.25	3.25	4.25
5 Dec. 2002	1.75	2.75	3.75
6 Mar. 2003	1.50	2.50	3.50
5 Jun. 2003	1.00	2.00	3.00

Source: European Central Bank.
Notes:
(a) In the period from 4 to 21 January 1999, the marginal lending facility and the deposit facility rates stood at 3.25 per cent and 2.75 per cent respectively.
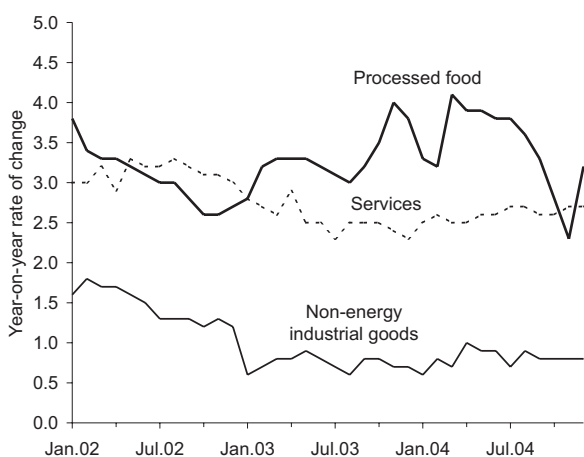(b) As from this date, minimum bid rate in variable rate tenders.

Chart 3.1
EURO AREA
HICP, Unprocessed food and energy industrial goods

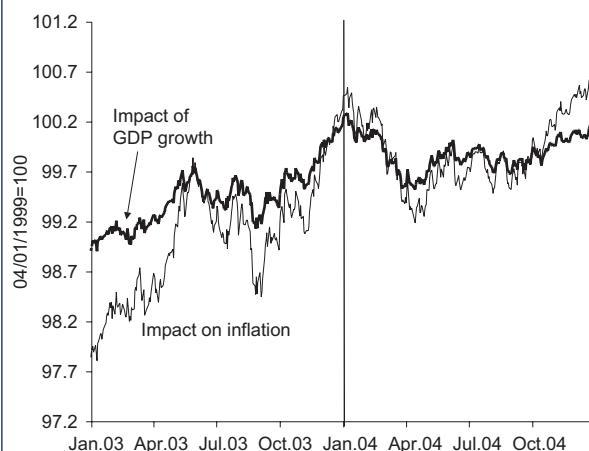Processed food, non-energy industrial goods and services

Source: Eurostat.

Chart 3.2
NOMINAL MONETARY CONDITIONS INDICES FOR THE EURO AREA

Sources: ECB and calculations of Banco de Portugal.

area economic activity over a fairly extended period of time.

Despite the decrease in long-term interest rates, monetary conditions as measured by the monetary conditions index for the euro area remained broadly unchanged in the course of the year, due to the effect of the appreciation of the exchange rate of the euro (Chart 3.2). In nominal effective terms, the appreciation of the euro stood at 4 per cent in the year as a whole and at 2.1 per cent at end of period values. The appreciation of the euro was particularly significant vis à vis the US dollar, the Japanese yen and the Chinese renminbi, currencies of economies having considerable shares in trade with the euro area (Table 3.2).

The low opportunity costs of holding currency contributed to persisting high growth rates of the euro area monetary aggregate M3. After having pursued over the first half of 2004 the moderation trend initiated in the middle of the previous year, monetary growth strengthened further in the second half of the year. This trend continued in the beginning of 2005. Although the robust growth in the most liquid components continued to be the main contributor to M3 growth in the course of 2004, the strengthening of M3 in the second half of the year was fuelled by an increase in the growth rate of the remunerated components of this aggregate, namely "other short term deposits" and "marketable instruments". This was probably associated

index linked bonds (indexed to the euro area HICP) have declined more sharply than yields on ten-year nominal government bonds points to a downward revision of medium-term growth expectations, which may reflect investors' perception that increases in oil prices and the appreciation of the euro could have negative effects on the euro

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(2) This measure of inflation expectations is derived as the difference between yields on nominal fixed income treasury bonds and yields on French bonds linked to the euro area HICP (excluding tobacco). This indicator of inflation expectations should be used with caution, due to several risk *premia* affecting differently conventional bonds and index linked bonds, namely liquidity and uncertainty *premia* relative to inflation developments in the medium and long term.

Table 3.2

EURO AREA

End-of-period data

	2003				2004			
	I	II	III	IV	I	II	III	IV
Exchange rates								
ITCE-EUR[a]	98.2	101.3	101.1	105.8	102.3	102.5	104.1	108.1
(percentage change against the previous quarter)[b]	4.1	3.1	-0.2	4.7	-3.3	0.2	1.5	3.9
EUR/USD	1.09	1.14	1.17	1.26	1.22	1.22	1.24	1.36
EUR/GBP	0.69	0.69	0.70	0.70	0.67	0.67	0.69	0.71
EUR/JPY	129.18	137.32	128.80	135.05	126.97	132.40	137.17	139.65
EUR/CNY[c]	8.96	9.46	9.62	10.40	10.12	10.00	10.20	11.26
EUR/CHF	1.48	1.55	1.54	1.56	1.56	1.52	1.55	1.54
Interest rates								
Overnight (EONIA)	2.7	2.4	2.1	2.3	2.1	2.1	2.1	2.2
1-month Euribor	2.6	2.2	2.1	2.1	2.0	2.1	2.1	2.1
3-month Euribor	2.5	2.2	2.1	2.1	2.0	2.1	2.2	2.2
6-month Euribor	2.4	2.1	2.1	2.2	1.9	2.2	2.2	2.2
12- month Euribor	2.4	2.1	2.1	2.3	2.0	2.4	2.4	2.4
12-3 months (basis points)	-13	-9	0	19	2	31	24	20
10-year interest rate	4.1	3.9	4.1	4.3	4.0	4.4	4.1	3.7
Monetary and credit aggregates[d]								
M1	11.6	11.3	11.1	10.6	11.4	9.5	9.7	8.4
Currency in circulation	39.4	31.9	27.8	24.9	22.7	21.1	19.9	17.0
Overnight deposits	8.1	8.5	8.7	8.5	9.7	7.7	8.1	6.9
M2	8.1	8.4	8.2	7.6	6.7	5.6	6.3	6.5
Other short-term deposits (M2-M1)	4.8	5.7	5.4	4.7	2.1	1.7	2.7	4.5
M3	8.2	8.5	7.6	7.1	6.2	5.3	6.0	6.4
Marketable instruments (M3-M2)	9.0	9.2	4.3	4.0	3.1	3.5	4.7	5.8
Credit								
Credit to General Government[d]	1.7	3.5	5.5	6.3	6.6	7.4	5.2	2.3
Credit to other euro area residents[d]	4.8	5.1	5.4	5.8	5.7	6.1	6.3	7.0
Loans to other euro area residents[d]	4.7	4.6	4.9	5.5	5.3	6.0	6.5	7.0
Memo: sectoral breakdown of loans								
Non-financial corporations	3.7	3.6	3.6	3.5	3.2	4.0	4.5	5.4
Households	5.9	5.5	5.8	6.4	6.6	7.3	7.8	7.8
Consumer credit	3.4	3.4	2.9	2.8	4.3	5.7	6.2	5.8
Lending for house purchase	7.6	7.2	7.4	8.1	8.4	9.0	9.8	10.0

Sources: ECB and Bloomberg.

Notes:

(a) Weights in trade with the euro area (26.19 per cent), united Kingdom (19.18 per cent), Japan (11.45 per cent), China (6.93 per cent) e Switzerland (6.31 per cent).

(b) A positive change corresponds to an appreciation of the euro.

(c) CNY: Chinese Renminbi.

(d) Seasonally adjusted. Year-on-year rates of change in the last month of the quarter.
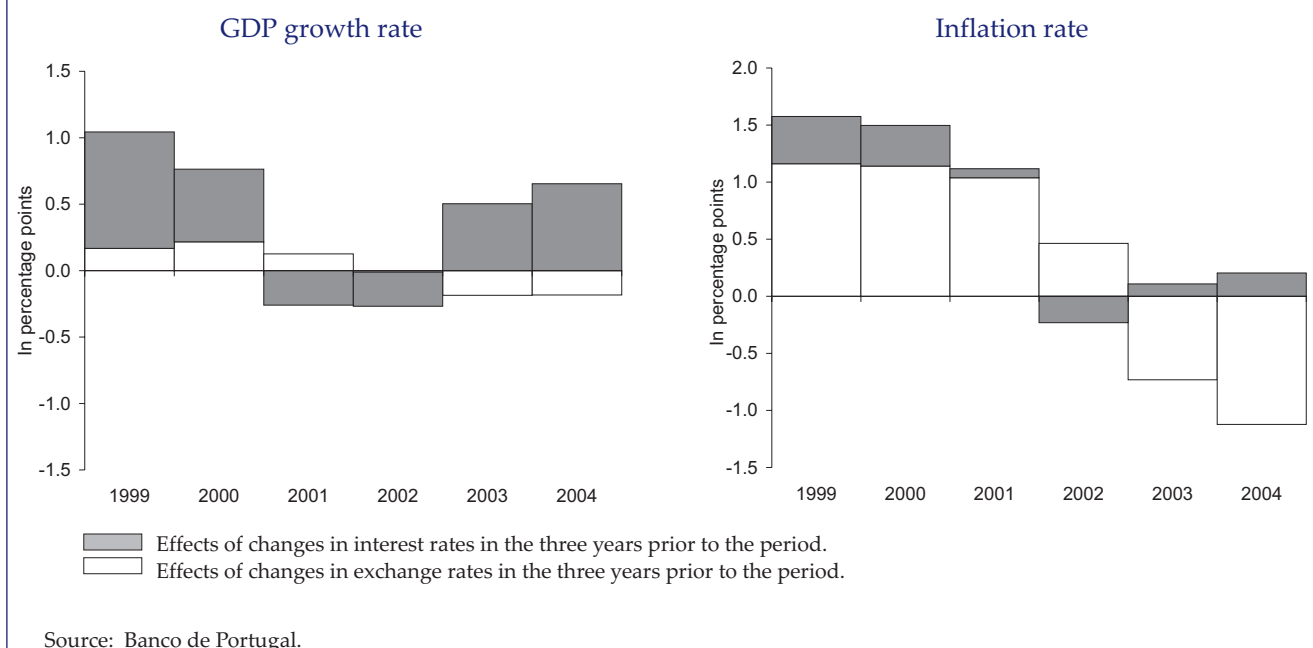
with the flattening of the euro area yield curve observed in the second half of the year, resulting from the sharp decrease in long-term interest rates.

The low level of interest rates also contributed to strengthen growth in loans to the private sector, which benefited from improved credit conditions offered by banks[3]. Loans to households for house purchase remained particularly buoyant, as their respective year on year growth increased from 8.4 per cent at the end of the first quarter to 10 per cent at the end of 2004. Bank loans to non-financial corporations also accelerated remarkably in the course

of the year, going from a year-on-year change of 3.2 per cent at the end of the first quarter to 5.4 per cent in December 2004. However, growth in bank loans, the main debt component of the euro area non-financial corporations, was partly offset by a significant deceleration in debt securities financing, which was revised downwards in the wake of strong issuance activity in the previous year. The

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(3) See "The results of the January 2005 bank lending survey for the euro area", in the February 2005 issue of the ECB *Monthly Bulletin*.

Chart 3.3
PORTUGAL
CONTRIBUTION FROM MONETARY CONDITIONS

GDP growth rate

Inflation rate

In percentage points (y-axis, GDP chart: 1.5, 1.0, 0.5, 0.0, -0.5, -1.0, -1.5; years 1999, 2000, 2001, 2002, 2003, 2004)

In percentage points (y-axis, Inflation chart: 2.0, 1.5, 1.0, 0.5, 0.0, -0.5, -1.0, -1.5; years 1999, 2000, 2001, 2002, 2003, 2004)

Effects of changes in interest rates in the three years prior to the period.
Effects of changes in exchange rates in the three years prior to the period.

Source: Banco de Portugal.

overall recourse to debt financing by non-financial corporations remained subdued in 2004, in line with an improvement in corporate earnings and subdued growth in the euro area corporate investment.

The monetary and financial conditions of the Portuguese economy

The Portuguese economy continued to benefit from favourable financing conditions, in line with developments in international financial markets and particularly in the euro area. Estimates based on a monetary conditions index for Portugal suggest that the low levels of money market interest rates observed in the past few years had a cumulative impact on output growth in 2004, partly offset by trends in the effective exchange rate index for Portugal. The same indicator also points to a significant cumulative contribution from monetary conditions to the reduction in inflation in 2004 through the exchange rate effect (Chart 3.3).

Average interest rates of bank loans to the non-financial private sector declined further in 2004. In particular, the average interest rate of the outstanding amounts of loans to non-financial corporations declined by 30 b.p., to 4.4 per cent, while

the average interest rate of the outstanding amounts of loans for house purchase decreased by 50 b.p., to 3.8 per cent (Table 3.3). In parallel, according to five Portuguese banking groups inquired within the scope of the bank lending survey for the euro area, criteria for the approval of loans to enterprises and to households for house purchase eased somewhat as from the second half of 2004[4].

In the capital market, significant valuations were recorded. Long-term Portuguese Treasury bond yields evolved in line with euro area bond markets, having declined significantly particularly considering end-of-year values. The stock market followed the upward trend initiated in the second half of 2003, and the *PSI Geral index* increased by around 18 per cent from the end of the previous year, compared with a valuation of 10 per cent in the Dow Jones Eurostoxx index for the euro area. As in major international markets, this valuation took place against a background of continuing low levels of volatility.

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(4) The detailed results of the different surveys conducted are available at the Banco de Portugal's website (*www.bportugal.pt*).

Table 3.3

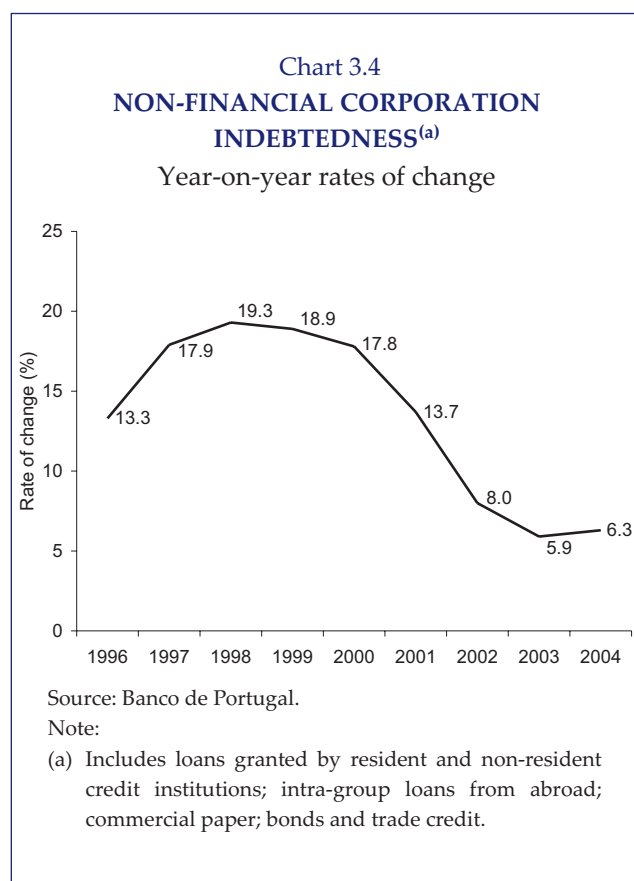## MONETARY AND FINANCIAL CONDITIONS OF THE PORTUGUESE ECONOMY

Average values in the period

	2003	2004	2003				2004			
			I	II	III	IV	I	II	III	IV
INTEREST RATES – In percentage										
3-month Euribor	2.3	2.1	2.7	2.4	2.1	2.1	2.1	2.1	2.1	2.2
Ten-year fixed rate Treasury bond yields	4.2	4.1	4.1	4.0	4.2	4.4	4.1	4.4	4.2	3.8
Interest rates on outstanding amounts of bank loans										
Non-financial corporations	4.6	4.4	5.0	4.7	4.4	4.3	4.4	4.4	4.3	4.3
Households for house purchase	4.3	3.8	4.8	4.4	4.0	3.9	3.8	3.8	3.8	3.8
Households for consumption and other purposes	7.9	7.8	8.1	7.9	7.8	7.8	7.9	7.8	7.7	7.7
STOCK EXCHANGE										
PSI Geral index	1658	2115	1562	1598	1665	1807	2042	2123	2097	2197
Percentage change against the preceding comparable period	-7.0	27.5	0.1	2.3	4.2	8.5	13.0	4.0	-1.2	4.8
EXCHANGE RATES										
Nominal effective exchange rate index(a)	100.3	100.9	99.5	100.5	100.4	100.8	101.2	100.6	100.7	101.3
Percentage change against the preceding comparable period	2.6	0.6	1.1	0.9	0.0	0.3	0.4	-0.5	0.1	0.6
Exchange rate EUR/USD	1.13	1.24	1.07	1.14	1.12	1.19	1.25	1.20	1.22	1.30
Percentage change against the preceding comparable period	19.7	9.9	7.4	6.0	-1.1	5.7	5.1	-3.6	1.4	6.2
Memo:										
CPI, year-on-year rate of change	3.3	2.4	4.0	3.6	2.9	2.6	2.2	2.5	2.4	2.4

Sources: *INE*, Euronext Lisboa and Banco de Portugal.
Note:
(a) A positive change corresponds to an appreciation of the index. Calculations against a group of 22 trading partners. For detailed methodology, see Gouveia, A.C. and C. Coimbra (2004), "New effective exchange rate index for the Portuguese economy", Banco de Portugal, *Economic Bulletin*, December 2004.

Chart 3.4
NON-FINANCIAL CORPORATION INDEBTEDNESS[a]
Year-on-year rates of change

Rate of change (%)

13.3
17.9
19.3
18.9
17.8
13.7
8.0
5.9
6.3

1996 1997 1998 1999 2000 2001 2002 2003 2004

Source: Banco de Portugal.
Note:
(a) Includes loans granted by resident and non-resident credit institutions; intra-group loans from abroad; commercial paper; bonds and trade credit.

Chart 3.5
HOUSEHOLDS INDEBTEDNESS
Year-on-year rate of change

Housing
Total
Other purposes

Dec.96 Dec.97 Dec.98 Dec.99 Dec.00 Dec.01 Dec.02 Dec.03 Dec.04

Source: Banco de Portugal.

Total indebtedness of non-financial corporations increased by 6.3 per cent in 2004 (Chart 3.4). In contrast to developments in the euro area as a whole, loans granted by resident credit institutions decelerated. This was partly offset by an increased recourse to the issuance of commercial paper, a very close substitute of banking credit in the case of larger enterprises. Recourse to other sources of financing, including loans obtained from subsidiaries located abroad and trade credit obtained from foreign suppliers, also increased in 2004. In contrast, the issuance of bords has declined vis-a-vis the previous year. Overall, the debt of non-financial corporations debt as a percentage of GDP increased slightly in 2004, remaining at very high levels. The net issuance of shares by non-financial corporations (quoted and unquoted) remained subdued.

By contrast, loans granted by credit institutions to households maintained a high growth rate, of around 10 per cent, in the course of the year (Chart 3.5). Bank loans to house purchase remained particularly buoyant, driven by both historically low interest rates and the diversification of contracts offered by banks. The behaviour of credit supply in this segment is associated with the fact of being less costly in terms of own funds requirements and provisions and being subject to strong competitive pressures. Such pressures resulted in narrower spreads, longer contractual delays and other mechanisms allowing to postpone the repayment of mortgage debt. In parallel, and in line with the recovery in private consumption, loans for consumption and other purposes other than house purchase accelerated strongly. As a result, the indebtedness of households as a percentage of disposable income, which stands at a very high level in international terms, increased further and is likely to reach around 117 per cent by the end of 2004, 7 p.p. above the value recorded at the end of 2003.
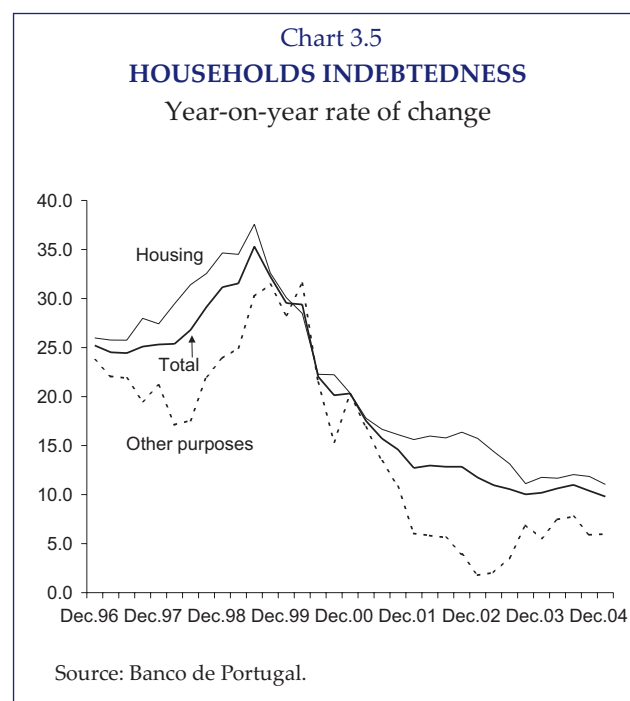
3.2. Fiscal policy

In 2004 the fiscal policy stance was only moderatly tight despite the need to correct the structural imbalances in public accounts. The small improvement in the fiscal position continued to rely on higher revenue, against a background of increasing public pension expenditure. The public debt ratio followed the upward trend initiated in 2001.

The general government deficit, on a National Accounts basis, stood at 2.9 per cent of GDP in 2004, unchanged from the previous year[5] (Table 3.4 and Chart 3.6). In order to keep the deficit be-

GENERAL GOVERNMENT ACCOUNTS

| | As a percentage of GDP(a) | | | | | | Growth rates | |
| | Including one-off measures | | | Excluding one-off measures | | | Excluding one-off measures | |
	2002	2003	2004	2002	2003	2004	2003	2004
Total revenue	**43.3**	**44.6**	**45.4**	**42.3**	**42.1**	**43.1**	**1.1**	**6.0**
Current revenue	41.4	41.8	41.6	40.5	40.3	41.6	1.1	6.8
Taxes on income and wealth	9.8	9.2	9.2	9.3	8.7	9.2	-4.3	9.3
Taxes on production and imports	15.0	15.5	15.0	14.7	14.8	15.0	2.7	4.7
Social contributions	12.3	12.8	12.9	12.1	12.5	12.9	5.0	6.8
Actual	11.4	11.7	11.9	11.2	11.5	11.9	3.6	7.2
Imputed	0.9	1.1	1.1	0.9	1.1	1.1	21.7	2.4
Other current revenue	2.1	1.8	2.0	2.1	1.8	2.0	-9.6	12.5
Sales	2.4	2.4	2.4	2.4	2.4	2.4	2.2	6.3
Sales excluding corporate hospitals in 2002	2.2			2.2			11.2	
Capital revenue	1.8	2.8	3.8	1.8	1.8	1.6	1.0	-11.0
Total expenditure	**46.0**	**47.5**	**48.3**	**46.5**	**47.5**	**48.3**	**4.0**	**5.2**
Current expenditure	41.8	43.0	43.6	41.8	43.0	43.6	4.6	5.1
Current transfers	19.0	21.4	22.0	19.0	21.4	22.0	14.4	6.2
Social payments	15.1	17.1	17.9	15.1	17.1	17.9	15.8	8.0
in cash	13.2	14.3	14.9	13.2	14.3	14.9	10.0	8.2
of which: pensions	9.9	10.7	11.2	9.9	10.7	11.2	9.6	9.2
in kind	1.9	2.9	3.0	1.9	2.9	3.0	56.9	7.0
Including corporate hospitals in 2002	3.0			3.0			-3.6	
Subsidies	1.5	1.6	1.6	1.5	1.6	1.6	10.6	6.3
Other current transfers	2.5	2.7	2.5	2.5	2.7	2.5	8.1	-5.0
Interest	3.0	2.9	2.8	3.0	2.9	2.8	-3.0	1.4
Compensation of employees	15.4	15.0	15.0	15.4	15.0	15.0	-1.1	3.9
Compensation of employees excluding corporate hospitals in 2002	14.6			14.6			4.0	
Intermediate consumption	4.3	3.7	3.8	4.3	3.7	3.8	-12.7	6.1
Intermediate consumption excluding corporate hospitals in 2002	3.7			3.7			1.5	
Capital expenditure	4.2	4.6	4.7	4.7	4.6	4.7	-1.8	6.9
Gross fixed capital formation	3.6	3.3	3.3	3.6	3.3	3.3	-5.9	3.3
Net acquisition of non-produced non-financial assets	-0.5	-0.1	0.0	0.0	-0.1	0.0	-3.0	
Capital transfers	1.1	1.3	1.4	1.1	1.3	1.4	18.5	8.3
Overall balance	**-2.7**	**-2.9**	**-2.9**	**-4.1**	**-5.4**	**-5.2**		
Memo:								
Primary current expenditure	38.7	40.1	40.8	38.7	40.1	40.8	5.2	5.3
Primary balance	0.3	0.0	-0.1	-1.1	-2.5	-2.3		
Cyclically adjusted primary balance	-0.2	0.8	0.8	-1.6	-1.7	-1.4		
Public debt	58.5	60.0	61.8					

Sources: *INE, Ministério das Finanças* and Banco de Portugal.

Note:

(a) Nominal GDP used for ratios in 2004 was estimated by Banco de Portugal.

low the 3 per cent of GDP reference value, it was necessary, as in 2002 and 2003, to resort to a wide range of one-off measures, with an impact of 2.3 per cent of GDP on the general government balance. This amount resulted from transfers from state-owned enterprises to the civil servants pension system — *Caixa Geral de Aposentações* (CGA), in exchange of the payment of future pensions of employees covered by those enterprises pension funds. These transfers have been recorded as capital revenue in general government accounts. The general government deficit adjusted for the impact of one-off measures stood at 5.2 per cent of GDP, declining by around 0.2 percentage points (p.p.) against the value recorded in 2003[6].

In 2004 the primary balance adjusted for the cycle and the impact of one-off measures, an indicator commonly used to measure fiscal consolidation, increased by around 0.3 p.p. of GDP, since interest expenditure remained broadly unchanged as a percentage of GDP and the cyclical component of fiscal balance decreased only slightly. Overall, the slightly restrictive policy implemented as from 2002 corrected only one quarter of the imbalance accumulated in the period that lies between the decision to participate in Stage Three of Economic and Monetary Union and 2001. In addition, improvement in the structural balance in the past three years was mainly concentrated in 2002 and has chiefly relied on increases in revenue and/or one-off expenditure restraint measures, which raises doubts about the sustainability of consolidation. Indeed, the improvement in the fiscal position in 2004 was mainly driven by an exceptionally favourable behaviour of tax revenue, in particular revenue from taxes on corporate income, which contributed to the improvement in the fiscal position by around 0.5 p.p. of GDP, and by growth restraint of compensation of employees, which translated into a decrease of 0.3 p.p. in its ratio as a percentage of GDP. These two effects were counter-

acted by the strong increase in pension expenditure, both in the social security system of the private sector and in the civil servants system (0.5 p.p. of GDP, as a whole).

Tax revenue as a percentage of GDP, adjusted for the impact of one-off measures, increased by 1.1 p.p. in 2004, to which contributed the increase in revenue from taxes on income and wealth and from actual social contributions (0.5 and 0.4 p.p. of GDP, respectively) and, to a lesser extent, growth in revenue on indirect taxes (0.2 p.p. of GDP). With regard to taxes on income and wealth, reference should be made to the strong expansion of the corporate income tax revenue (16.6 per cent in the sub-sector State, on a public account basis and excluding the impact of one-off measures). This expansion mostly relied on: the reduced amount of suspensions in the last prepayments of the year, despite the corporate income tax rate cut from 30 to 25 per cent envisaged in the State Budget for 2004; the favourable outcome of self-payments relating to 2003; the sharp increase in the collection of special prepayments (since part of the last special prepayment of 2003 was paid only in 2004); and, finally, the effect of a larger than usual issuance of collectibles in the second half of the year. With regard to actual social contributions, the change of 0.4 p.p. of GDP was mainly due to the increase in State transfers to CGA, which grew by 22.2 per cent in 2004[7]. Finally, the increase in the revenue from taxes on production and imports was determined by the good performance of revenue from value added tax and car tax, in line with significant growth in the private consumption. The sharp growth in revenue from car tax (14.0 per cent) is due to the increase in the number of cars sold and the improvement in their average quality.

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(5) Value reported in the February 2005 Excessive Deficit Procedure notification. The information provided by the Portuguese authorities was validated by the Eurostat in the press release issued on 18 March 2005, summarising information on previous years resulting from notifications to all Member States. However, the Eurostat outlines that the analysis of the consistency between information provided by Portugal on a cash basis and on an accrual basis is under way, which may lead to subsequent data revision.

(6) In 2002 and 2003 one-off measures had an impact on the fiscal balance of 1.4 and 2.5 per cent of GDP respectively. In 2004 the extraordinary revenue totalled €3,051.5 million and specifically corresponded to transfers from *Caixa Geral de Depósitos* (€2,504.4 million), *Navegação Aérea de Portugal* (€235.7), *Aeroportos de Portugal* (€173.6 million) and *Imprensa Nacional Casa da Moeda* (€137.8 million). It should be noted that the mentioned amounts of one-off measures take only into account the direct effects on the general government accounts of the different operations conducted. Indeed, some of the transactions mentioned are 'self-reversing', i.e. contribute to the narrowing of the deficit in the year that they are conducted, but deteriorate fiscal results in the following years.

Chart 3.6
TOTAL GENERAL GOVERNMENT BALANCE AND FISCAL POLICY STANCE

■ Fiscal policy stance
●— Overall balance
●- Overall balance excluding one-off measures

Sources: *INE, Ministério das Finanças* and Banco de Portugal.

Note: The fiscal policy stance is measured by the change in the cyclically adjusted primary balance excluding effects of one-off measures. For the detailed methodology, see Pedro Duarte Neves and Luis Morais Sarmento, "The use of cyclically adjusted balances at Banco de Portugal", Banco de Portugal *Economic Bulletin*, September 2001.

In 2004 primary current expenditure increased by 0.7 p.p. of GDP, down from 1.4 p.p. of GDP in 2003. As in the previous year, developments in social payments in cash (0.6 p.p. of GDP), resulting mainly from an increase in pension expenditure well above nominal GDP, largely contributed to this outcome. Pension expenditure in the private sector social security system increased by 0.3 p.p. of GDP, continuing to reflect the impact of structural factors related to population ageing and the rise in the average pension, which resulted both from pensions update and the fact that new pensioners receive, on average, higher pensions than those earned by the existing pensioners[8]. In the

public sector social security system, the strong upward trend in pension payments continued. The latter increased by 0.2 p.p. as a ratio of GDP in 2004. In addition, it should be noted that the stabilisation of the ratio of compensation of employees to GDP actually represents an effect of around 0.3 p.p. of GDP towards fiscal consolidation, excluding State transfers to CGA, whose developments were mentioned above. Behind this were expenditure restraint measures, which translated into a tight control on the hiring of civil servants and into a quasi-freeze in government wages in 2004 (increases of 2.0 per cent for monthly wages below €1,021 and the freeze of the remaining wages).

With regard to the capital balance, reference should be made to the sharp decrease in capital revenue, excluding the impact of one-off measures, which was mostly related to the anticipated reduction in transfers from the European Union in the context of the Third Community Support Framework. On the capital expenditure side, investment as a ratio of GDP remained unchanged. In addition, the reclassification of capital increases of RTP (Portuguese public television) as capital transfers should have contributed to the increase of around 0.15 p.p. of GDP in capital expenditure.

The government debt ratio pursued its upward path, standing at 61.8 per cent by the end of 2004, 1.8 p.p. above the value observed a year earlier. This resulted from the effect of the positive differential between the implicit interest rate paid on public debt and the growth rate of nominal GDP and also from deficit-debt adjustments, since the primary balance, including the impact of one-off measures, was almost nil (Chart 3.7). It should be noted that part of the deficit-debt adjustments observed in 2004 were related to the 2004 Supplementary Budget, to the extent that the latter predominantly comprised funds for the payment of expenditure made in previous years.

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(7) State transfers to CGA aim to ensure the financial balance of the civil servants security system, and, when CGA does not receive extraordinary proceeds, they are more or less equal to the difference between expenditure on social payments (mostly pensions) and social contributions (from civil servants and others). In general government accounts they are simultaneously recorded as proceeds from social contributions and compensation of employees. The evolution in 2004 is, to a large extent, explained by growth in pension expenditure and by the fact that the value of transfers in 2003 is deducted of an amount relating to the use of financial assets by CGA.

(8) Old-age and disability pensions of the private sector social security system were raised by at least 2.5 per cent in December 2003. On the same date, pensions from other systems were updated from 5 to 6 per cent from the values set in December 2002. Subsequently, in June 2004, within the scope of the convergence of minimum disability and old-age pensions of the social security sub system to values indexed to the national minimum wage, there were additional increases of around 2 per cent in social pensions and in pensions of both the special and non-contributive systems.

4. OUTPUT AND EXPENDITURE

Chart 3.7

BREAKDOWN OF CHANGE IN GENERAL GOVERNMENT DEBT RATIO

Sources: *INE, Ministério das Finanças* and Banco de Portugal.
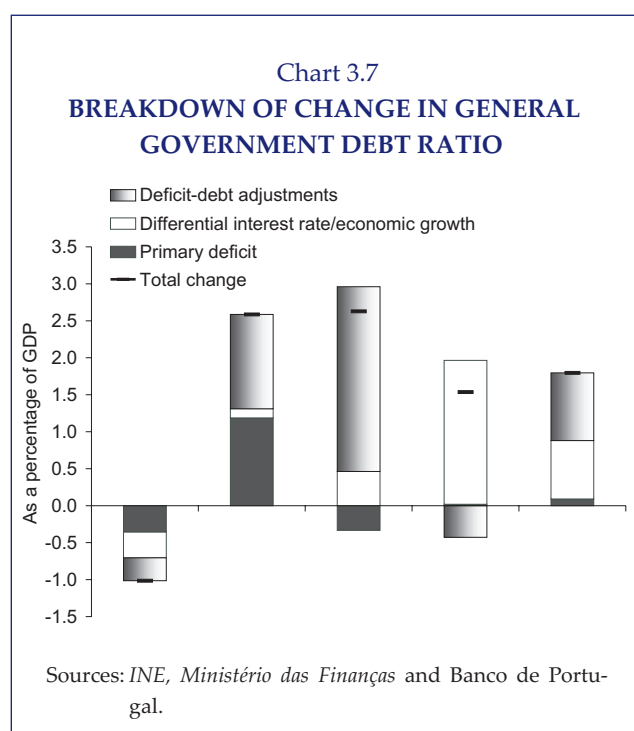
In October 2004, the outlook on the sovereign rating of the Portuguese Republic was changed to negative by Standard and Poors. The significant growth in primary expenditure and the large recourse to one-off measures to contain government deficit growth in the past few years were behind this assessment.

Banco de Portugal estimates point to 1.1 per cent growth of the Portuguese economy in 2004, following a similar contraction in the previous year (Table 4.1). In spite of the rebound in economic activity, GDP growth was below the euro area average for the third consecutive year (Chart 4.1). In fact, Portugal was one of the European Union countries with less favourable developments in economic activity in the past few years, continuing to show one of the lowest growth rates in 2004.

A buoyant behaviour of domestic demand underlied Portuguese economic growth in 2004. Contrary to the past two years, this largely reflected the expansion of private consumption and a negative contribution from net external demand, associated with a rather high increase in imports (Chart 4.2). Exports of goods and services grew slightly more than in 2003, as a result of the strong recovery in services exports, since goods exports decelerated markedly, showing significant market share losses. The strong expansion of private domestic demand caused a reduction in the household and corporate savings rates and an increase in the external deficit, thereby interrupting the adjustment of imbalances in the Portuguese economy.

The rebound in economic activity in 2004 is visible in the pattern of the monthly coincident indica-

Table 4.1

GDP AND MAIN EXPENDITURE COMPONENTS[a]

Real percentage rate of change

|	1999	2000	2001	2002	2003	2004
GDP	3.8	3.4	1.7	0.4	-1.1	1.1
Private consumption	5.1	2.7	1.2	1.0	-0.1	2.5
Public consumption	5.6	3.8	3.9	1.7	0.3	0.8
Investment	5.9	2.4	1.0	-5.3	-10.6	2.2
GFCF	6.4	3.8	0.8	-5.1	-9.9	1.3
Changes in inventories[b]	-0.1	-0.4	0.1	-0.1	-0.2	0.2
Domestic demand	5.4	2.8	1.6	-0.5	-2.5	2.1
Contribution from domestic demand to GDP[b]	5.9	3.1	1.8	-0.5	-2.7	2.2
Exports	5.4	8.4	0.6	2.4	4.5	5.2
Goods	3.8	8.0	0.4	2.3	7.1	3.9
Services	9.8	9.7	1.3	2.7	-1.7	8.3
Imports	9.3	5.6	0.7	-0.5	-0.4	7.4
Contribution from net external demand to GDP[b]	-2.1	0.3	-0.1	0.9	1.6	-1.1

Sources: *INE* and Banco de Portugal.
Notes:
(a) Banco de Portugal estimates obtained from the *INE* national accounts for the years from 1995 to 2003 (ESA95).
(b) Contribution to the GDP rate of change in percentage points.

Chart 4.1
GROSS DOMESTIC PRODUCT
Real rate of change

Sources: *INE* and Banco de Portugal.

Chart 4.2
BREAKDOWN OF THE REAL CHANGE IN GDP
Contributions

Sources: *INE* and Banco de Portugal.
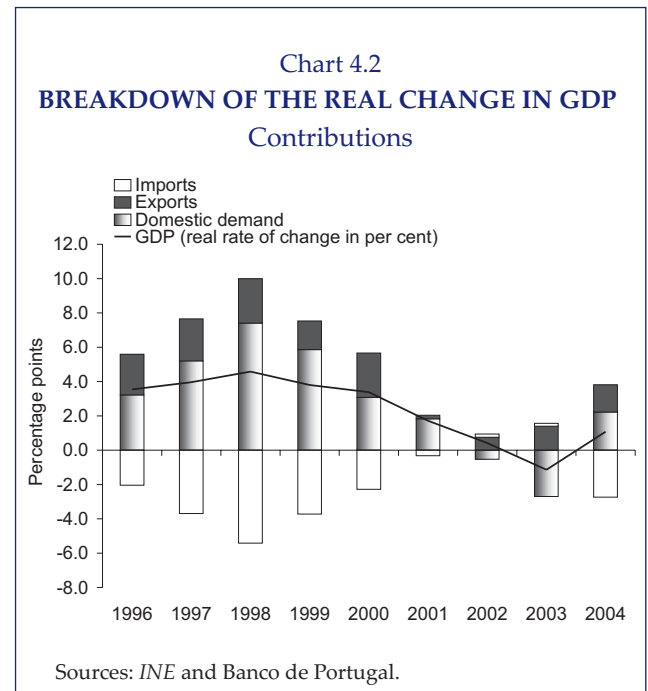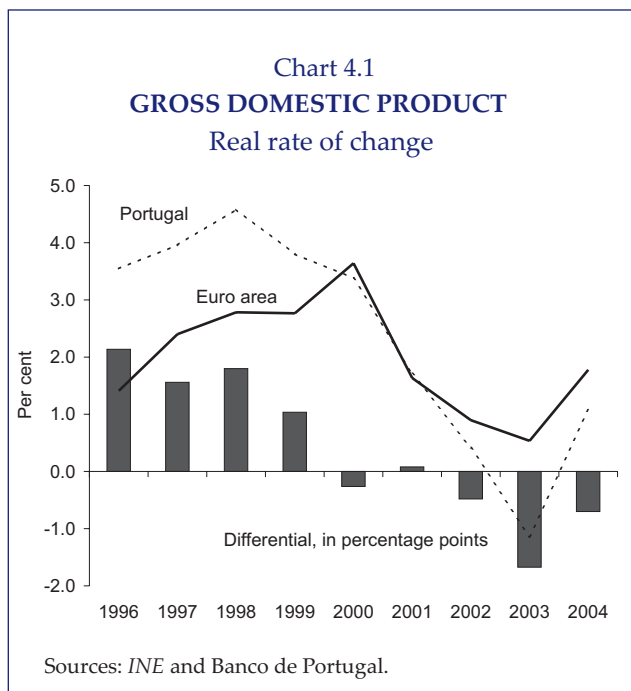
tor of Banco de Portugal (Chart 4.3). In intra-annual terms this indicator suggests a deceleration in activity in the second half of the year, and the information available points to similar developments in early 2005. The slowdown in activity in the second half of the year reflected a deceleration in investment and especially in exports, since private consumption continued to grow as in the first half of the year. In addition, imports showed high growth over the whole year. The intra-annual behaviour of GDP is similar to that of the euro area as a whole in qualitative terms, and it may partly be related to oil price developments

and the euro appreciation. However, the profile of activity was more pronounced in Portugal, as GDP was influenced by temporary factors in the second quarter of 2004[9].

As for sectorial developments, the services sector continued to grow faster than GDP. By contrast, activity in industry stagnated in the year as a whole, and production even declined in the second half year. Activity in the construction sector continued to fall in the year as a whole, albeit less sharply than in 2003, while the agriculture, forestry and fishing sector grew, following a contraction in the previous year (Table 4.2).

Table 4.2

GROSS VALUE ADDED BY BRANCH OF ACTIVITY [a]

Real rate of change, in per cent

	1999	2000	2001	2002	2003	2004
GDP[b]	3.8	3.4	1.7	0.4	-1.1	1.1
Agriculture, forestry and fishing	7.0	-3.9	-0.5	5.7	-3.0	2.0
Industry	0.6	2.2	1.2	-0.6	-1.0	0.0
Electricity, gas and water	4.5	5.9	3.8	-2.9	10.7	5.2
Construction	2.9	4.9	2.6	-3.7	-13.2	-1.2
Services[c]	3.6	3.7	2.3	1.3	0.5	1.6

Sources: *INE* and Banco de Portugal.
Notes:
(a) Banco de Portugal estimates obtained from the *INE* national accounts for the years from 1995 to 2003 (ESA95).
(b) GDP at market prices. The GDP value includes, in addition to sectoral GVAs, taxes and subsidies on products and taxes on imports.
(c) Less financial intermediation services indirectly measured that are considered intermediate consumption.

Chart 4.3
COINCIDENT INDICATOR OF ACTIVITY
Year-on-year rate of change

Source: Banco de Portugal.
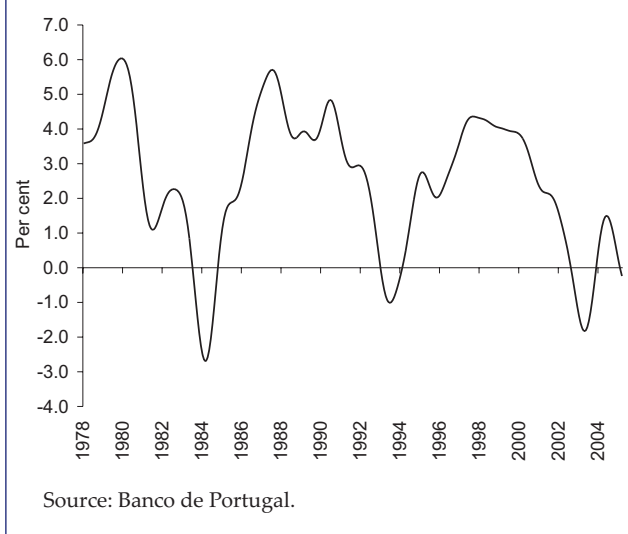
Private consumption grew by 2.5 per cent in real terms in 2004, recovering from the slight fall recorded in 2003. The recovery in private consumption in 2004 extended to most of its classes, although it was more intense in the purchase of durable goods, traditionally more sensitive to the business cycle and financing conditions. In particular, car purchases grew strongly in volume terms. Current consumption recorded a real growth rate of around 2 per cent, i.e. lower than that of total private consumption of residents[10].

The recovery in private consumption was consistent with similar developments in household disposable income. In 2004 household disposable income grew by around 1 per cent in real terms, after the slight decline in 2003. The recovery in disposable income was chiefly based on a high growth of compensation of employees, which reflected a positive change in real compensation per employee, in contrast to the decline seen in 2003, as well as more favourable developments in dependent employment. Transfers to households continued to grow strongly in 2004, reflecting the sig-

nificant increase in social benefits paid by the government, in particular those referring to pensions, similarly to previous years (Table 4.3).

Nevertheless, growth in private consumption surpassed that in disposable income, leading to a decline in the savings rate of around 1.5 p.p. On the one hand, the perception that the deterioration of the labour market situation would be less marked than expected and that the fiscal consolidation effort would be less intense than initially assumed probably contributed to sustain the recovery in private consumption. This assumption seems to be consistent with the recovery of the consumer confidence indicator, after the historical low reached in the first quarter of 2003. On the other hand, the maintenance of interest rates at very low levels and the diversification of bank credit contracts, to include the delayed repayment of mortgage loans, facilitated the expansion of consumer expenditure. Indeed, the possibility of a lengthening of the residual maturity of loans may have contributed to a reduction of the share of savings annually allocated to the repayment of previous debts, thus releasing resources that can be allocated to consumption.

According to Banco de Portugal estimates, public consumption seems to have continued to show a positive change in volume terms in 2004 (0.8 per cent), accelerating slightly from 2003. With regard to staff costs in real terms, similarly to 2003, a stabilisation of the number of civil servants was assumed, in line with the information available on developments in the number of subscribers to CGA. Thus, the acceleration in real public consumption mainly stemmed from the behaviour of expenditure on goods and services, which seems to have essentially resulted from strong growth of transfers in kind to households.

Gross fixed capital formation (GFCF) grew by 1.3 per cent in real terms in 2004, after having declined by 5 and 10 per cent respectively in 2002 and 2003. The improved demand prospects particularly in the first half-year, as well as the very favourable

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(9) Among the temporary factors that fostered economic growth in the second quarter of 2004, stress should be laid on the base effect caused by the strong real negative change in GDP in the same quarter a year earlier, on the European Football Championship being held in Portugal, as well as on the higher number of working days in this quarter.

(10) In 2004 there is some statistical uncertainty associated with the holding of the European Football Championship, which may have led to some overestimation, although of a small magnitude, of current consumption expenditure. For a more detailed explanation, see Section 5. Expenditure and Output, in the September 2004 issue of the *Economic Bulletin* of Banco de Portugal.

Table 4.3

HOUSEHOLD DISPOSABLE INCOME[a]

Nominal percentage rate of change

	1999	2000	2001	2002	2003[b]	2004
Household disposable income	6.1	9.0	6.1	4.0	3.0	3.4
Compensation of employees[c]	7.8	9.5	7.1	5.0	2.1	4.6
Corporate and property income	2.5	7.6	3.5	4.1	0.0	0.2
Current transfers	7.4	11.4	8.2	3.3	8.1	7.0
Domestic transfers	8.2	11.5	9.0	8.1	10.7	7.6
External transfers	3.4	11.2	3.9	-23.5	-12.6	0.5
Direct taxes (-)	7.1	12.1	6.2	1.6	-0.5	4.6
Social contributions (-)	5.6	11.8	7.2	7.2	2.2	7.2
Adjustment for the change in the net equity of households in pension funds reserves	-37.0	61.0	-24.8	-2.9	-63.1	2.3
Memo:						
Private consumption	7.3	6.2	5.1	4.4	3.1	5.0
Savings	-4.7	37.8	13.4	1.3	2.5	-8.4
Savings rate (as a percentage of disposable income)	9.0	11.4	12.2	11.8	11.8	10.4
Consumer price index	2.3	2.9	4.4	3.6	3.3	2.4

Sources: *INE* e Banco de Portugal.
Notes:
(a) Banco de Portugal estimates obtained from the *INE* national accounts for the years from 1995 to 2003 (ESA95).
(b) In 2003, figures adjusted for the direct effects of the sale of tax credits by the general government. For further details, see section II.2. Fiscal Policy in the 2003 Annual Report of Banco de Portugal.
(c) Remuneration received by resident households. Includes social security contributions by employers and government transfers to *CGA*.

financing conditions, positively influenced corporate investment. In turn, the need to correct imbalances in general government accounts continued to contain investment from this sector. In this context, GFCF in machinery and metal products grew significantly, while GFCF in construction recorded a virtually nil change. Although investment in commercial vehicles grew significantly, GFCF in transport equipment continued to fall, as a reflection of an important reduction of investment in other transport equipment.

Real growth of exports of goods and services was around 0.7 p.p. higher than that recorded in the previous year. These developments resulted from a different behaviour of exports of goods and services. Goods exports slowed down substantially, particularly in the second half of the year, while services exports grew more than 8 per cent in real terms. Exports of tourism services, which are rather sensitive to developments in the international economic environment, recovered markedly, reinforced by the impact of the European Football Championship.

The slowdown in goods exports in 2004 contrasts with favourable developments in external demand and translated into a significant market share loss, as opposed to the previous year (Chart 4.4). However, the high market share gains seen in 2003 may have been associated with the contraction of domestic demand, which created strong incentives for companies to re-orientate their sales to external markets, albeit at the expense of a sharp decline in profit margins (Chart 4.5). In 2004 the competitive position of Portuguese exports did not allow their market shares to be maintained, despite a further contraction of profit margins. The relative cost indicators usually computed by Banco de Portugal point to a sharp deterioration in the competitiveness of Portuguese exports in the past few years, largely resulting from higher unit labour costs growth in Portugal. This result is especially adverse given the progressive liberalisation of international markets and the consequent increase in competition from third countries in export markets, particularly in a context of appreciation of the euro.

Market share losses occurred in both intra and extra-euro area trade, and they seem to have been particularly significant in the German and British markets, where competition with respectively cen-

PORTUGUESE EXPORTS, EXTERNAL DEMAND AND MARKET SHARE

Nominal rate of change, in euro, per cent

	Weights 2003	Portuguese exports[a]				External demand[b]				Market share			
		2001	2002	2003	2004	2001	2002	2003	2004	2001	2002	2003	2004
Total	100.0	1.0	1.9	2.3	4.5	0.7	-1.5	0.3	9.2	0.3	3.5	1.9	-4.3
Intra-euro area	66.9	2.8	1.8	2.3	6.2	1.3	-1.3	2.1	9.7	1.5	3.1	0.2	-3.3
of which:													
Spain	23.8	2.2	10.6	16.2	13.8	3.0	1.4	4.8	13.0	-0.8	9.1	10.8	0.7
Germany	14.8	7.4	-5.3	-14.3	-6.1	0.5	-3.7	2.6	7.8	6.8	-1.6	-16.4	-13.0
France	13.2	2.4	8.3	-0.1	12.8	-0.5	-1.8	-0.7	7.6	2.9	10.3	0.6	4.8
Extra-euro area	33.1	0.5	2.0	2.8	2.4	-1.1	-1.8	-5.4	7.5	1.6	3.9	8.7	-4.7
of which:													
United Kingdom	10.3	-4.2	3.5	1.5	-3.9	0.5	-1.9	-4.3	7.9	-4.6	5.5	6.1	-11.0
USA	5.7	0.9	2.1	1.9	9.0	-3.1	-3.5	-9.9	5.8	4.2	5.8	13.1	3.1
Memo:													
Total (real rate of change)		0.4	2.3	7.1	3.9	1.0	1.5	3.8	8.2	-0.6	0.8	3.2	-4.0

Sources: *INE*, European Commission (AMECO database), United Kingdom's Office for National Statistics.

Notes:

(a) Portuguese merchandise exports by countries of the international trade statistics of *INE*. The rates of change of total goods exports exclude the exports of aeronautical material after reparation.

(b) Calculated as weighted average of nominal growth of goods imports, assessed in euro, of 17 major trading partners. Each country was weighted according to its share in Portuguese exports of goods in the previous year. The 17 selected countries are the destination of around 90 per cent of total exports.

Chart 4.4
MARKET SHARE OF PORTUGUESE EXPORTS OF GOODS[a]
Rate of change, in volume

Sources: *INE*, European Commission (AMECO database) and United Kingdom's Office for National Statistics.

Notes:

(a) Real growth of exports of goods from *INE*'s international trade statistics (excluding repairs) *versus* real growth of external demand. An increase means a gain in market share of Portuguese exporters.

(b) Real growth of imports of goods of major trade partners. The 17 selected countries are responsible for around 90 per cent of total exports. Each country was weighted according to its share in Portuguese exports of goods in the previous year.

Chart 4.5
**UNIT PROFIT MARGIN
IN THE EXPORTING SECTOR**
Rate of change

Sources: *INE* and Banco de Portugal.
Note:

(a) Unit labour costs (ULC) in manufacturing and intermediate goods import deflator, aggregated according to the wage and import content of exports of goods and services obtained from supply and use tables of the *INE* national accounts of 1999.

tral and eastern European and Asian economies is likely to be more intense (Table 4.4). Losses in market share were broadly based across the various types of product. The productive specialisation of Portuguese exports, with a rather significant weight of the so-called traditional products, which are subject to increased competition from the new international market participants and generally benefit from lower trend growth of demand, tends to negatively influence the behaviour of market shares. In fact, Portuguese exports of this type of products, which include textiles, clothing and footwear, continued to perform unfavourably in 2004, in some cases declining significantly. However, it is important to note that exports of equipment goods also decelerated sharply in 2004, despite the recovery in the international demand for this type of goods.
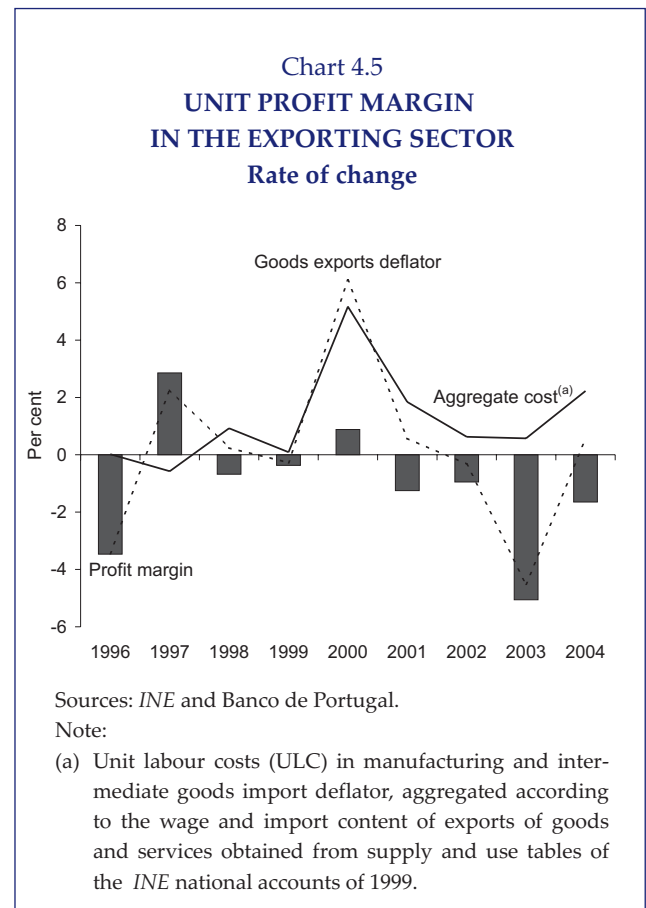
Imports of goods and services recovered rather markedly in 2004, as a reflection of strong growth in import-intensive expenditure components. The significant cumulative appreciation of the euro in the most recent period fostered the purchase of goods and services in particular from extra-European Union origin. The downward trend in the relative price of imports of consumer and equipment goods led to a substantial rise in the real rate of import penetration, showing that there seems to be some replacement of domestic production by imported goods at lower prices. This reflects the appreciation of the euro and the progressive increase in international competition (Chart 4.6). Strong growth in Portuguese imports of goods in 2004 was broadly based across most product categories, but particularly marked with regard to goods characterized by a high income elasticity of demand, such as motor vehicles, machinery, computers and information processing equipment, radio and television equipment and telecommunication equipment.

Chart 4.6
PENETRATION OF IMPORTS OF GOODS AND SERVICES FOR FINAL USE[a]
Rate of change

Sources: *INE* and Banco de Portugal.

Note:

(a) Nominal (real) growth of imports of goods and services for final use (excluding intermediate goods, fuel and other business activities) *versus* nominal (real) growth of domestic demand. An increase means a higher penetration of foreign producers in the national market.

5. EMPLOYMENT AND WAGES

Employment in the Portuguese economy stabilised in 2004, while the average unemployment rate rose to 6.7 per cent, thus remaining above the estimates available for the natural rate of unemployment[11]. The behaviour of employment continued to be generally consistent with developments in the cyclical position of the Portuguese economy (Chart 5.1). The stabilisation of employment coupled with the rebound in economic activity translated into a 1.0 per cent increase in productivity per employee. Unit labour costs decelerated, albeit maintaining a growth differential of around 1 p.p. vis-à-vis the euro area.

According to data from the Employment Survey of the *INE* (National Statistical Institute), total employment increased by 0.1 per cent in 2004, compared with a 0.4 per cent decline in the previous year (Table 5.1). Employment developments were similar in both semesters of 2004, in contrast with developments in 2003 characterised by a more marked decline in employment in the first half of the year. The change in total employment in 2004 resulted from an increase in dependent employment (1.2 per cent), which offset the fall observed in other types of employment (-3.0 per cent). This behaviour is quite different from that seen in 2003, when contributions from dependent employment and other types of employment to total employment growth were both slightly negative. In line with sectoral developments in activity, the behaviour of employment continued to benefit from the positive contribution from the services sector, which offset the negative contributions from the remaining sectors. Employment in manufacturing continued the negative trend observed in recent

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(11) The natural rate of unemployment is compatible with non-accelerating prices (NAIRU). According to Dias, F., Esteves, P. and Félix, R. (2004) in "Revisiting the NAIRU estimates for the Portuguese economy", in the June 2004 issue of the *Economic Bulletin* of Banco de Portugal, the NAIRU for Portugal is set at around 5.5 per cent.

Table 5.1

EMPLOYMENT, UNEMPLOYMENT AND WAGES

	1999	2000	2001	2002	2003	2004
Total employment (y-o-y.r.c.)	1.9	1.7	1.7	0.4	-0.4	0.1
Unemployment rate (as a per centage)	4.4	3.9	4.0	5.0	6.3	6.7
Long-term unemployment (as percentage of total employment)	41.2	43.8	40.0	37.3	37.7	46.2
Compensation per employee – whole economy[a] (y-o-y.r.c.)	5.3	6.6	5.6	3.9	2.6	2.6
Compensation per employee – private sector (y-o-y.r.c.)	4.5	5.9	5.6	3.9	1.7	3.2
Unit labour costs in Portugal – whole economy[a] (y-o-y.r.c.)	3.4	4.9	5.6	3.9	3.3	1.6
Unit labour costs in the euro area[b] (y-o-y.r.c.)	1.0	1.2	2.5	2.2	2.0	0.5

Sources: *INE*, European Central Bank and Banco de Portugal.

Notes:

(a) Gross compensations of contributions and taxes on income, adjusted for temporary measures effects and excluding government transfers to CGA. See section 3.2 *Fiscal Policy* of this bulletin.

(b) The value for 2004 is an estimate up to the 3rd quarter.

Chart 5.1
PRIVATE GDP AND PRIVATE EMPLOYMENT GROWTH

Sources: *INE* and Banco de Portugal.

Chart 5.2
RATES OF CHANGE IN HOURLY PRODUCTIVITY AND IN PRODUCTIVITY PER WORKER
(Effective hours worked and total employment)

Sources: *INE* and Banco de Portugal.
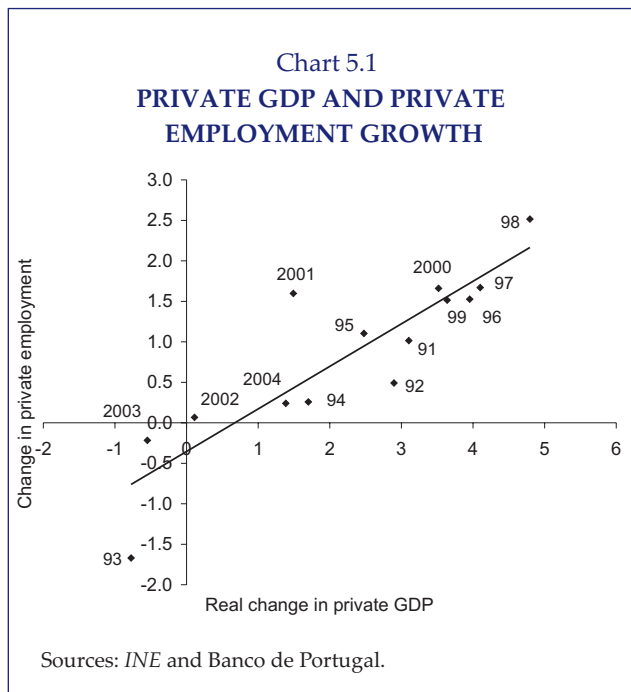
years, which corresponds to a cumulative decline of 8.6 per cent since 2002.

As previously mentioned, the unemployment rate stood at 6.7 per cent, reflecting a 0.4 p.p. increase from the average value in 2003, concentrated in the second half of the year. The total number of unemployed calculated by the *INE*'s Employment Survey increased by 6.6 per cent in 2004, while the number of unemployed recorded in the employment offices of *Instituto do Emprego e Formação Profissional* (Employment and Professional Training Institute) grew by 7.9 per cent. Expenditure on unemployment benefits grew by 11.8 per cent in 2004. In addition, there was a significant increase in the average unemployment duration, as a reflection of an increase in long-term unemployment[12].

Productivity per employee in 2004 grew by 1.0 per cent, reversing the fall recorded in 2003 (Chart 5.2). Developments in productivity per hour worked were similar to those of productivity per employee. This contrasts with developments in 2003, when the number of hours worked declined contributing to limit the contraction of employment. Growth of productivity per employee and developments in compensation of employees had a significant impact on unit labour costs (ULC) for the total economy, which grew by 1.6 per cent in 2004, i.e. 1.7 p.p. less than in 2003. However, the deceleration in ULC was much more moderate in the private sector of the economy, reflecting higher growth of compensation in this sector. In fact, ac-

cording to Banco de Portugal estimates, compensation per employee in the private sector increased by around 3.2 per cent, in 2004 while in the economy as a whole, excluding government transfers to CGA, the increase was 2.6 per cent.
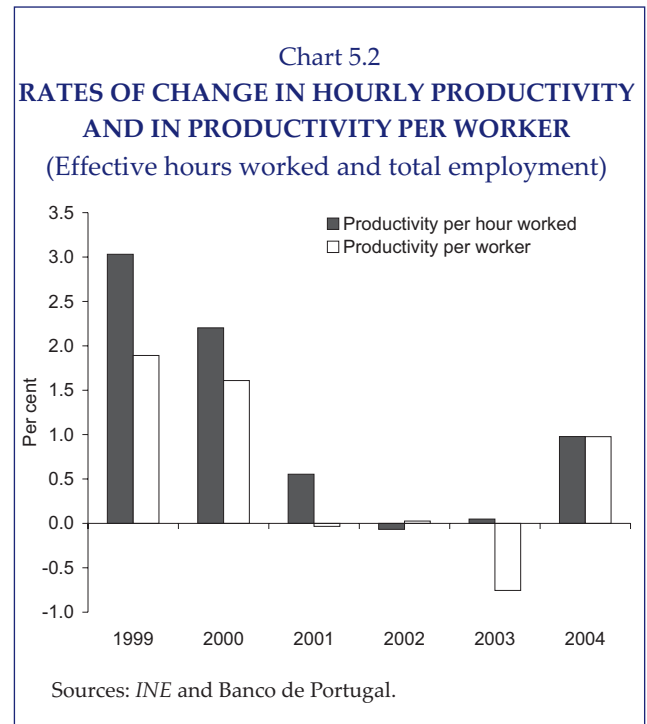
6. PRICES

Inflation declined further in 2004, for the third consecutive year. Measured by the annual average rate of change in the Consumer Price Index (CPI), inflation stood at 2.4 per cent, compared with 3.3 per cent in the previous year (Table 6.1). However, the decline in average inflation reflected a strong deceleration in prices in 2003, in a context of contraction of domestic demand, strong slowdown in wages and sharp appreciation of the euro. In fact, throughout 2004 the inflation rate remained relatively stable around the levels recorded at the end of the previous year (Chart 6.1). The interruption of the downward trend of the inflation rate was associated with the acceleration in domestic demand and wages, which contributed to the maintenance of high growth of prices in the services sector. Despite the strong increase in international oil prices, pressures on goods prices remained contained,

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(12) Long-term unemployed is a person who has been searching for a job for 12 months or longer.

against a background of a continuing decline in import prices of consumer goods and a rise in the real rate of import penetration.

The year-on-year rate of change in the CPI was, in general terms, equal to or below 2.5 per cent in the course of 2004, with the exception of June and July, when it reached higher values (2.7 and 2.8 per cent respectively). The most volatile components of the CPI, i.e. unprocessed food and energy, showed contrasting developments, which however balanced each other out in the year as a whole. Thus, the CPI excluding these components recorded an annual average growth similar to the total index. Energy prices accelerated almost continuously from April onwards, in line with the rise in international oil prices, which led to an annual average increase of the energy component of the CPI of 5.4 per cent. By contrast, unprocessed food prices, as in the euro area as a whole, recorded rather low changes in the course of the year, with negative year-on-year rates of change from August onwards, which translated into a nil annual average change in 2004.

Non-energy industrial goods prices increased only modestly by 0.8 per cent on average over the year. By contrast, services prices continued to show high growth rates, which resulted in an average increase of 3.8 per cent in 2004. The average growth differential between the prices of both aggregates

Chart 6.1

CONSUMER PRICE INDEX

Year-on-year and average rates of change

Source: *INE*.

Note: Up to December 2002, rates of change were calculated using the CPI basis 1997. From January 2003, rates of change are calculated using the CPI basis 2002.
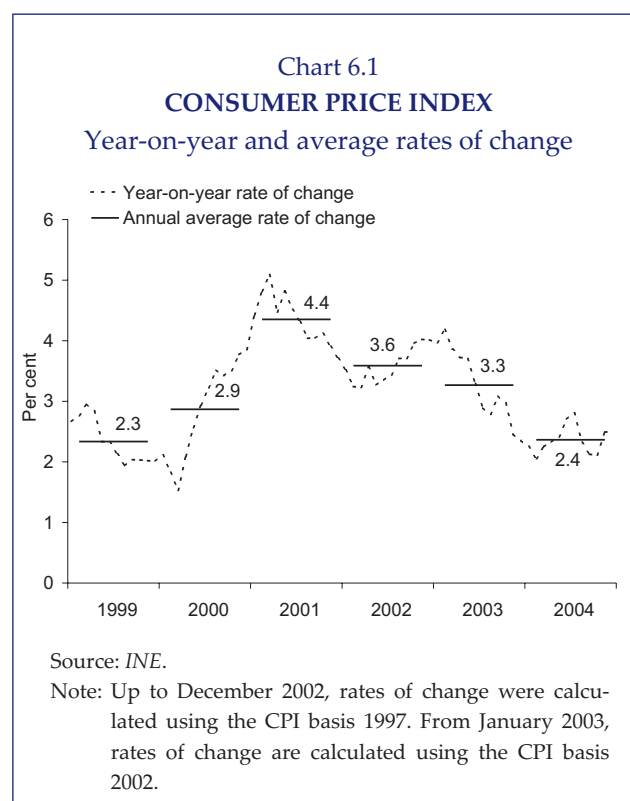
stood at 3.0 p.p., i.e. increasing by 0.5 p.p. from 2003. The differential between the two aggregates was particularly marked in the Summer months. The holding of the European Football Championship in June and early July translated into a very significant, but one-off, increase in the prices of some services more sensitive to demand by

Table 6.1

CPI – MAIN AGGREGATES[a]

Average and year-on-year rates of change, in percentage

	Weights	1999	2000	2001	2002	2003	2004
Total	100	2.3	2.9	4.4	3.6	3.3	2.4
Total excluding unprocessed food and energy	79.8	2.7	2.5	3.6	4.4	3.2	2.4
Goods	65.3	1.7	2.2	4.2	2.4	2.7	1.6
Food	22.8	2.7	1.9	6.1	1.9	2.9	1.4
Unprocessed	11.8	2.7	2.5	8.8	0.3	2.6	0.0
Processed	11.0	2.8	1.4	3.1	3.8	3.1	2.9
Industrial	42.5	1.1	2.4	3.1	2.7	2.6	1.7
Non-energy	34.1	1.8	1.4	2.5	3.1	2.0	0.8
Energy	8.4	-1.9	6.1	5.2	1.2	4.9	5.4
Services	34.7	3.7	4.2	4.8	6.0	4.5	3.8

Sources: *INE* and Banco de Portugal.

Note:

(a) Up to December 2002, rates of change were calculated using the CPI basis 1997. From January 2003, rates of change are calculated using the CPI basis 2002.

non-residents, especially accommodation services. In addition, non-energy industrial goods prices decelerated strongly in July and August, associated with an effect caused by sales and promotions which was more marked than in the previous year (Chart 6.2).

Domestic conditions in the Portuguese economy contributed to the stabilisation of the inflation rate, as well as to the widening of the differential between the growth of goods and services prices. In the labour market, according to Banco de Portugal estimates, nominal compensation per employee in the private sector increased by 3.2 per cent in 2004, after having grown by 1.7 per cent in the previous year. The cyclical recovery in productivity, however, prevented the acceleration in wages to translate into higher unit labour costs growth (Table 6.2). In parallel, despite low economic activity growth, there was an acceleration in domestic demand, especially in private consumption, which increased clearly above GDP. As had been the case in the second half of the 1990s, this acceleration in private consumption led to a significant rise in the

Chart 6.2
CPI — NON-ENERGY INDUSTRIAL GOODS AND SERVICES
Year-on-year rates of change
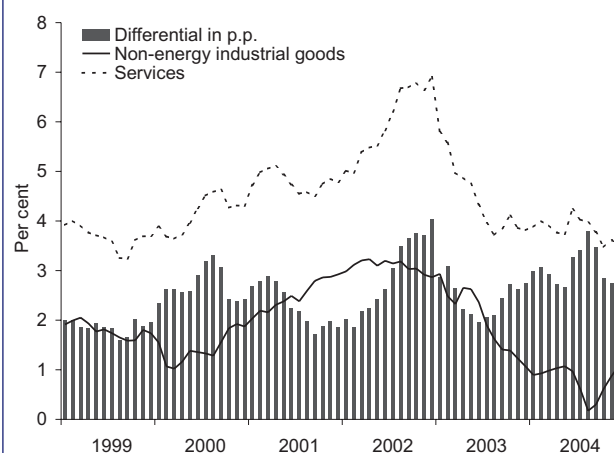
Sources: *INE* and Banco de Portugal.
Note: Up to December 2002, rates of change were calculated using the CPI basis 1997. From January 2003, rates of change are calculated using the CPI basis 2002.

Table 6.2

PORTUGAL – MAIN PRICE AND COST INDICATORS
Percentage rates of change

	1999	2000	2001	2002	2003	2004
Consumer price index						
CPI – Total.	2.3	2.9	4.4	3.6	3.3	2.4
HICP – Total	2.2	2.8	4.4	3.7	3.3	2.5
Unit labour costs[a]						
Whole economy	3.4	4.9	5.6	3.9	3.3	1.6
Private sector	2.6	4.3	5.6	3.9	2.5	2.2
Goods import prices[b]						
Total	-0.6	9.4	-0.3	-2.5	-2.2	2.1
Total excluding fuel.	-2.0	5.0	0.5	-2.0	-2.9	0.7
Consumer goods	0.5	4.0	3.4	-1.9	-2.9	-1.7
International commodities prices						
Oil (*Brent Blend*), EUR	41.0	83.0	-9.8	-4.9	-5.0	21.4
Non-energy commodities, EUR	-6.4	20.4	-8.0	-0.9	-4.6	10.8
Exchange rates						
Nominal effective exchange rate index for Portugal[c].	-1.2	-2.3	0.3	0.6	2.6	0.6

Sources: Eurostat, Thomson Financial Datastream, HWWA, *INE* and Banco de Portugal.
Notes:
(a) Compensation excluding government transfers to CGA. In 2003, figures are adjusted for the direct effects of the sale of tax credits by the general government. For further details, see section II.2 Fiscal Policy in the 2003 Annual Report of Banco de Portugal.
(b) Calculations of Banco de Portugal based on information made available by *INE*. The classification by broad economic categories shown in this table differs from that used by *INE,* given that light passenger vehicles are included in consumer goods rather than equipment goods.
(c) A positive change corresponds to an appreciation of the index. Calculations are made vis-à-vis a group of 13 trading partners until 1999; from 1999 onwards, calculations are made vis-à-vis a group of 22 trading partners. For a detailed description of the methodology, see Gouveia A.C. and Coimbra C. (2004), "New effective exchange rate index for the Portuguese economy" in the December 2004 issue of the *Economic Bulletin* of Banco de Portugal.

Chart 6.3
HARMONIZED INDEX OF CONSUMER PRICES
Year-on-year percentage rates of change and differentials in p.p.

Total

Total excluding energy and unprocessed food
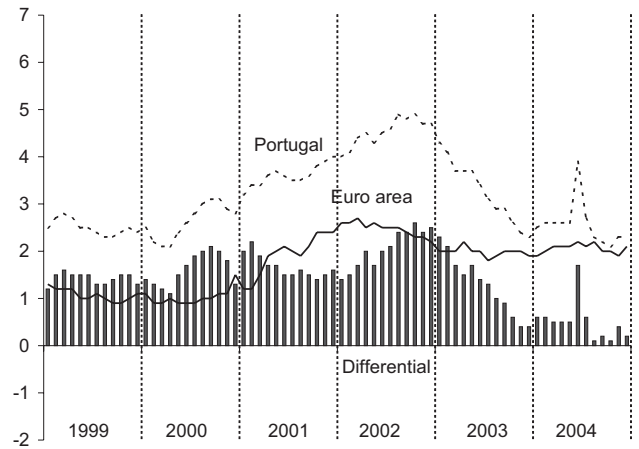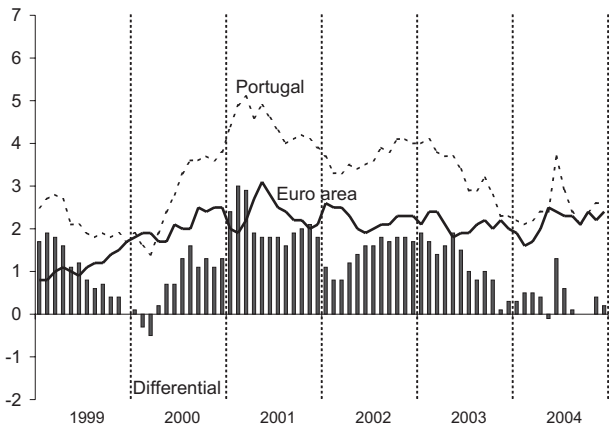
Goods

Services
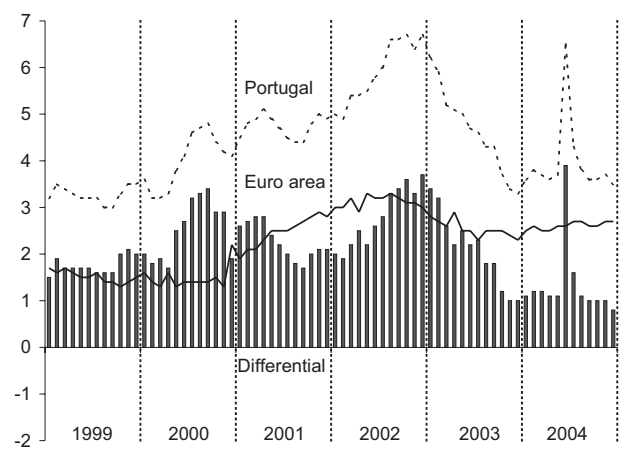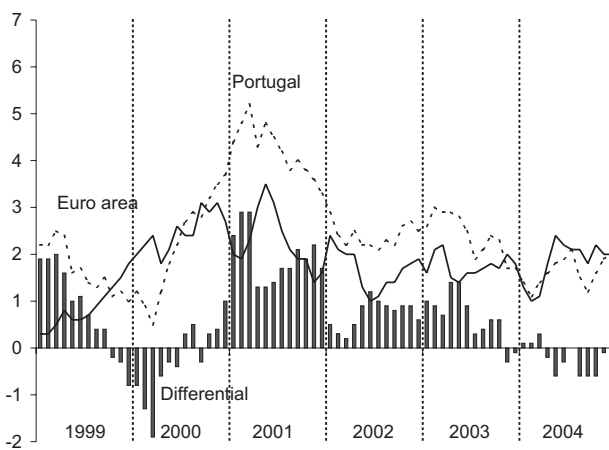
Source: Eurostat.

real rate of import penetration, and there were thus no significant pressures on goods prices. With regard to services, which are less liable of being replaced with imports and where the weight of labour costs is higher, price increases remained high.

In a small open economy, the exchange rate and international prices are, in parallel with domestic conditions, important variables to explain the behaviour of inflation. In the specific case of the Portuguese economy, participation in the euro area and the importance of trading with the remaining euro area economies imply that imported inflation is essentially determined by the behaviour of prices in the euro area as a whole, as well as by euro exchange rate developments. In 2004 average

inflation in the euro area remained close to 2 per cent, reflecting the policy of maintaining price stability pursued by the European Central Bank. Developments in the euro, with a significant cumulative appreciation in the past three years, also continued to have a favourable effect on the behaviour of inflation in Portugal. However, the dampening effect of import prices was lower than in 2003, due to strong growth in international prices of oil and non-energy commodities. Banco de Portugal estimates based on information made available by *INE* point to 2.1 per cent increase in the price of imported goods, following the declines recorded between 2001 and 2003. However, the pass-through of the significant increase in the international price

of oil to the remaining prices was relatively limited, given that, excluding fuel, the change in import prices was 0.7 per cent in 2004. In addition, imported consumer goods prices declined further in 2004, for the third consecutive year, partly as a reflection of the progressive increase in international competition in these products, with the entry of emerging market economies and developing countries into world markets.

The inflation differential vis-à-vis euro area countries as a whole in 2004 remained close to the levels seen at end-2003 (Chart 6.3). However, the decline in the average inflation rate in Portugal translated into an equivalent narrowing of the differential vis-à-vis the euro area given that average inflation in the euro area remained stable in 2004. Thus, considering the annual average change in the HICP, the inflation differential narrowed from 1.2 to 0.4 p.p. in 2004. The goods inflation differential was virtually nil, while in services it was similar to that seen at the end of 2003, i.e. approximately 1 p.p. The increase of prices in the Portuguese services sector in 2004 was the highest among the countries comprising the euro area. This was particularly significant given that services prices in the euro area were quite affected by temporary factors associated with the significant growth in health services prices, which did not happen in Portugal. The inflation differential in the services sector has always been quite high, which seems to largely reflect the fact that wage costs in Portugal record increases that are systematically higher than those observed in the euro area as a whole. This situation was not altered in 2004, given that the growth differential of unit labour costs between Portugal and the euro area continued to exceed 1 p.p.

7. BALANCE OF PAYMENTS

7.1 Current and capital accounts

The net external borrowing requirements of the Portuguese economy, as measured by the joint deficit of the current plus capital account, increased to 5.9 per cent of GDP in 2004 (Table 7.1). These developments contrast with the reduction in the external deficit seen in the previous two years and interrupt the process of adjustment of the Portuguese economy's macroeconomic imbalances. The increase in the external borrowing requirements reflected the behaviour of the private sector, which again showed net borrowing requirements, of around 1 per cent of GDP, following a net financing capacity of around 2 per cent of GDP in 2003[13].

A significant part of the increase in the Portuguese external deficit reflected the behaviour of the goods trade balance, which recorded a deficit equivalent to 10.8 per cent of GDP in 2004. As can be seen from Chart 7.1, the rise in the trade deficit essentially resulted from a rather unfavourable volume effect, associated with the strong acceleration in imported volumes and the lower real export growth. In 2004 there was also a terms-of-trade loss, largely resulting from the sharp increase in imported fuel prices[14].

The services surplus increased by around 0.4 p.p. of GDP in 2004, continuing to be essentially determined by the travel and tourism balance. Nominal tourism receipts grew significantly, by 7.7 per cent, as a reflection not only of the improvement in the international tourism market, but also due to the European Football Championship being held in Portugal. Tourism services imports also accelerated strongly in 2004, reflecting the recovery in disposable income and consumer confidence and some replacement of travel and tourism in Portugal by tourism services abroad, due to the appreciation of the euro and the expansion of the supply of package tours abroad.

The income deficit increased in 2004, as a result of the deterioration of investment income in shares and other equity[15], since the low level of interest rates allowed a stabilisation of interest payments. In 2004 the balance on emigrants'/immigrants' remittances, which is the main component of current transfers, maintained a downward trend, declining to 1.4 per cent of GDP. Moreover, there were less public transfers inflows from the European Union, both current and capital transfers, of which the reduction of almost 25 per cent in receipts associated with *FEDER* is particularly relevant. Consequently, the balance on current transfers and particularly on the capital account, declined in comparison with the previous year.

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(13) Values adjusted for temporary measures that affect the flows of funds of the private and public sectors in 2003 and 2004. For more details, see section 3.2 Fiscal Policy in this issue of the *Economic Bulletin* and section II.2 Fiscal Policy in the 2003 Annual Report of Banco de Portugal.

Chart 7.1

BREAKDOWN OF THE CHANGE IN THE TRADE BALANCE
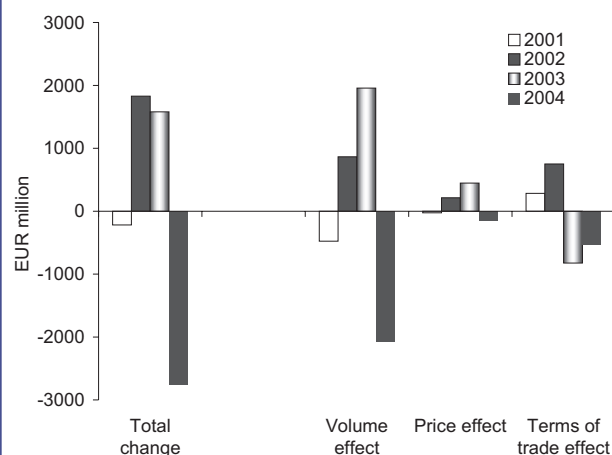
Sources: *INE* and Banco de Portugal.

Note: A positive (negative) change means an increase (decrease) in the trade balance. For a detailed description of the methodology used in the breakdown of the change in the trade balance, see the 2003 *Annual Report* of Banco de Portugal, page 169.

7.2. Financial account

The widening of the joint deficit of the current plus capital account in 2004 was financed by a higher recourse to medium and long-term issuance in international financial markets by branches of Portuguese banking groups, who benefited from the exceptionally favourable conditions prevailing in those markets (Table 7.2). Indeed, banks are the main intermediaries of the Portuguese economy, channelling most financial flows between resident sectors. The financial integration associated with participation in the euro area, has stimulated financial innovation in several areas of banking business, and the enlargement of investment and financing possibilities of the resident sectors. Thus, in 2004 there was also a greater financing of non-financial corporations abroad, through both the issuance of commercial paper and higher recourse to trade credit. The placement of public debt with non-residents continued to be high, although close to that recorded in the previous year.

Financial account data have been affected by end-of-year temporary operations, which, although not affecting the overall financial account balance, hamper the analysis of factors underlying its developments. Statistics for 2003 and 2004 are particularly affected by these operations, which were only reflected in the sectorisation of the external position of the economy as regards "other investment"

(14) According to the estimates of Banco de Portugal based on information provided by *INE*, the rates of change in goods export and import prices were 0.5 and 2.1 per cent respectively, resulting in a terms-of-trade loss of 1.5 p.p. in 2004. Excluding fuel, export and import price changes were 0.3 per cent and 0.7 per cent respectively, and the terms-of-trade loss was 0.4 p.p.

(15) The balance on income from direct investment in shares and other equity improved markedly in 2003, due to abnormally high growth of receipts of dividends and distributed profits of some companies located in the Madeira offshore.

Table 7.1

CURRENT ACCOUNT AND CAPITAL ACCOUNT

Balances as a percentage of GDP

	1999	2000	2001	2002	2003	2004
Current Account............................	-8.5	-10.4	-10.1	-7.6	-5.4	-7.5
Goods....................................	-12.0	-13.0	-12.4	-10.5	-9.1	-10.8
Services	1.7	1.9	2.3	2.6	2.7	3.1
of which:						
Travel and tourism	2.6	2.9	3.1	3.0	2.8	3.0
Income	-1.5	-2.4	-3.1	-2.0	-1.2	-1.8
Current transfers	3.3	3.1	3.0	2.3	2.2	2.1
of which:						
Emigrants/immigrants remittances	2.8	2.8	2.7	1.9	1.5	1.4
Capital Account	2.2	1.4	1.0	1.6	2.0	1.6
Memo:						
Current Account + Capital Account.....	-6.3	-8.9	-9.1	-6.0	-3.3	-5.9

Sources: *INE* and Banco de Portugal.

Chart 7.2

FOREIGN DIRECT INVESTMENT EXCLUDING THE MADEIRA AND SANTA MARIA (AZORES) OFF SHORES

Sources: *INE* and Banco de Portugal.
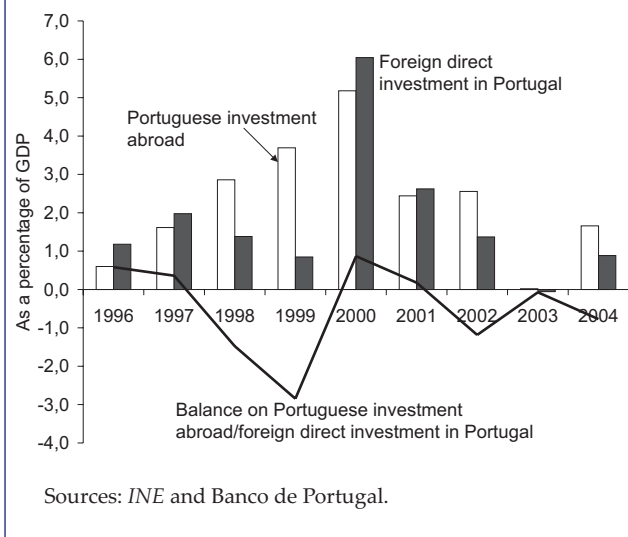
of monetary authorities, vis-à-vis other monetary financial institutions, essentially banks. Moreover, in order to correctly assess the contribution of banks to the financing of the current plus capital account deficits, it is necessary to take into consideration operations conducted to securitise credits originally granted by banks (which translated into increases in liabilities in the non-monetary financial institutions sector – non-MFI sector), and that were then partly purchased by banks themselves. Excluding these two effects, it is noticeable that banks made a significant contribution to financing the widening of the current plus capital account deficits. This is consistent with the widening of the gap between domestic credit and deposits of the non-monetary sector, compensated with recourse to funds abroad, which is visible from the banks' balance sheet. As has been the case in previous years, this was essentially associated with other investment flows. The latter reflect the channelling of funds resulting from the issuance of medium and long-term securities denominated in euro by foreign branches of Portuguese banking groups, given that recourse to the euro area interbank money market declined significantly.

In 2004 there was a net external inflow directly to non-financial corporations, in contrast to the rather significant outflow recorded in 2003. These developments were essentially due to new issues of commercial paper in 2004, partly bought by

non-residents, following net repayments of this instrument in the previous year. In addition, the increase in other investment liabilities also contributed to the financing of corporations abroad, as trade credits obtained with suppliers increased in line with the acceleration in imports, and given payment deadlines similar to those of the previous year.

Similarly to 2003, a substantial part of portfolio investment abroad by banks corresponded to the repurchase of bonds associated with securitisation operations conducted by banks themselves. These investments in securities were counterbalanced by equal purchases by non-residents of securitisation units resulting from such operations in the non-MFI sector. In turn, non-MFIs, particularly insurance companies and pension funds, continued to invest very high amounts in securities issued by non-residents.

Still with regard to portfolio investment, in 2004 as in previous years, non-residents purchased a rather high amount of Portuguese public debt securities. Similarly to 2003, such purchases were higher than the net consolidated issues of general government securities. This seems to be related to the shortening of maturities of public debt issues, and their consequent lower adequacy to institutional investors' portfolios such as insurance companies and pension funds, which tend to privilege medium and long-term securities.

In the analysis of foreign direct investment it is important to make some adjustments to the information so as to take into account the frequent and high foreign direct investment operations conducted in Portugal by companies that use the Madeira and Santa Maria off shores to invest in third countries. Excluding companies having their head office in these off shores, in 2003 both Portuguese direct investment abroad and foreign investment in Portugal recorded virtually nil values (Chart 7.2). In 2004, and in line with the recovery in investment flows at the global level, both aggregates recorded positive values, although corresponding to a net outflow of 0.8 per cent of GDP.

Table 7.2

FINANCIAL ACCOUNT[a]

As a percentage of GDP

	2002	2003			2004		
	Net change	Change in liabili-ties	Change in assets	Net change	Change in liabili-ties	Change in assets	Net change
Current plus capital account	**-6.0**			**-3.3**			**-5.9**
Financial account	**5.4**	**21.8**	**-18.2**	**3.6**	**14.3**	**-7.3**	**7.0**
Direct investment	1.3	4.4	-5.0	-0.5	0.7	-3.7	-3.0
Excluding Madeira and Azores off-shores	*-1.2*	*-0.1*	*0.0*	*-0.1*	*0.9*	*-1.7*	*-0.8*
Portfolio investment	2.4	10.5	-14.4	-3.9	7.7	-6.8	0.9
Financial derivatives	0.0	-3.1	3.1	0.0	-2.4	2.4	0.0
Other investment	2.6	9.9	-6.4	3.5	8.3	-0.3	8.0
Reserve assets	-0.9	-	4.4	4.4	-	1.1	1.1
By resident institutional sector :							
Monetary authorities[b]	**0.1**	**-4.3***(1.9)*	**0.8**	**-3.5***(2.7)*	**4.4***(0.9)*	**1.3**	**5.7***(2.2)*
Portfolio investment	0.4	-	-3.9	-3.9	-	0.7	0.7
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investment	0.6	-4.3*(1.9)*	0.3	-4.0*(2.1)*	4.4*(0.9)*	-0.6	3.8*(0.3)*
Reserve assets	-0.9	-	4.4	4.4	-	1.1	1.1
General government	**3.1**	**3.7**	**0.2**	**3.9**	**4.1**	**0.3**	**4.4**
Direct investment.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excluding Madeira and Azores off-shores	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Portfolio investment	2.8	4.3	-0.2	4.0	4.1	-0.1	4.0
Financial derivatives	0.2	-0.5	0.5	-0.1	-0.2	0.2	0.0
Other investment	0.1	0.0	0.0	0.0	0.3	0.1	0.4
Other monetary financial institutions[b]	**6.3**	**11.6**	**-8.3***(-14.4)*	**3.4***(-2.8)*	**-1.9**	**-2.5***(0.9)*	**-4.4***(-0.9)*
Direct investment.	0.1	0.2	-0.2	0.0	-1.5	-0.2	-1.7
Excluding Madeira and Azores off-shores	*0.2*	*0.2*	*-0.2*	*0.0*	*-1.5*	*-0.2*	*-1.7*
Portfolio investment	-0.6	0.0	-4.2	-4.2	-0.8	-3.4	-4.2
Financial derivatives	-0.1	-1.9	2.0	0.1	-1.5	1.5	0.0
Other investment	6.9	13.4	-5.9*(-12.1)*	7.5 *(1.4)*	2.0	-0.5*(3.0)*	1.5*(5.0)*
Non-monetary financial institutions	**-0.1**	**6.6**	**-2.9**	**3.7**	**5.2**	**-2.5**	**2.7**
Direct investment.	0.3	-1.1	0.1	-1.1	1.6	0.0	1.6
Excluding Madeira and Azores off-shores	*0.2*	*-0.7*	*0.1*	*-0.6*	*1.5*	*0.0*	*1.6*
Portfolio investment	-1.2	8.0	-3.7	4.4	3.9	-3.0	1.0
Financial derivatives	0.0	-0.5	0.5	0.0	-0.5	0.5	0.0
Other investment	0.7	0.2	0.2	0.4	0.2	-0.1	0.2
Non-financial corporations and households.	**-3.9**	**4.2**	**-8.1**	**-4.0**	**2.4**	**-3.8**	**-1.4**
Direct investment.	0.9	5.4	-4.9	0.5	0.6	-3.5	-2.9
Excluding Madeira and Azores off-shores	*-1.5*	*0.5*	*0.1*	*0.6*	*0.8*	*-1.5*	*-0.7*
Portfolio investment	1.0	-1.8	-2.4	-4.1	0.5	-1.1	-0.6
Financial derivatives	0.0	-0.1	0.1	0.0	-0.1	0.1	0.0
Other investment	-5.7	0.7	-1.0	-0.4	1.4	0.7	2.1
Errors and omissions	**0.6**			**-0.3**			**-1.1**

Sources *INE* and Banco de Portugal.

Notes:

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

(b) Values in brackets for other investment of the monetary authorities and of the other monetary financial institutions are adjusted for end-of-year operations among the two sectors, which were reversed at the beginning of the following year.

8. CONCLUSION

In 2004 there was an interruption in the adjustment of the imbalances of the Portuguese economy.

In fact, in contrast to the past two years, developments in activity were characterised by a buoyant behaviour of private domestic demand, in particular of private consumption, and by a negative contribution from net external demand. The rise in the rate of import penetration and the losses in export market shares should be analysed in the light of the deterioration of the economy's competitive position observed since the mid-1990s, which partly stemmed from cumulative growth in relative unit labour costs. This upward trend in relative labour costs continued in 2004, highlighting the difficulties of the tradable goods sector, particularly in a context of increased competition from new players in the world economy. Thus, notwithstanding strong domestic demand growth, GDP growth continued to be rather limited, indeed one of the lowest in the EU. This demonstrates that in the case of a small open economy such as Portugal, maintaining international competitiveness is instrumental to ensure economic growth.

The current situation must be understood in the light of the new regime under which the Portuguese economy operates. Portugal's participation in the euro area drastically reduced liquidity restraints, so that it now seems possible to easily maintain a gap between domestic demand growth and income growth. Such gap translates into a widening of the current plus capital account deficit. The favourable financing conditions in international financial markets made it easy to accommodate the higher borrowing requirements of the Portuguese economy in 2004. However, solvency conditions stemming from intertemporal budget constraints of economic agents continue to be relevant.

In other words, maintaining a persistent and substantial gap between domestic demand and income growth by increasing indebtedness, will tend to translate in a need to contain expenditure growth so as to meet increasing debt service costs. This situation will have a negative impact on growth, which is likely to be exacerbated in a context of interest rate increases.

From a medium-term perspective, resuming a real convergence path inevitably implies the implementation of a consistent structural reform programme that supports productivity growth and facilitates the adjustment of the goods and services markets in the current context of participation in the euro area and intensification of international competition. The correction of the significant structural imbalance in public accounts is also a necessary condition for sustained economic growth. This, by reducing pressure on domestic demand, tends to foster the allocation of resources to the tradable sector. On the other hand, fiscal consolidation may also have positive effects on the economy's efficiency and thus on medium-term growth. Thus, compliance with the requirements of the Stability and Growth Pact through the implementation of a coherent fiscal consolidation strategy is particularly relevant at the current juncture.

Box: THE IMBALANCE OF US EXTERNAL ACCOUNTS

In 2004 current account imbalances widened further at the global level. In particular, the US external current account deficit reached an unprecedented level of 5.7 per cent of GDP, maintaining the upward trend seen in recent years. This deficit was the counterpart of current account surpluses in Asian economies, including Japan, in oil-producing countries in the Middle East and the Commonwealth of Independent States and, to a lesser extent, in the euro area. The accumulation of external deficits in the US implies that the international investment position of this economy has become increasingly negative. At the end of 2003 US assets held by foreigners already exceeded external assets held by the US residents, to an amount equivalent to 22 per cent of GDP. However, the balance on the income account continued to show a small surplus in 2004, as a reflection of the higher relative profitability of external assets held by the US residents (see Chart 1). This partly results from the fact that the US external investment consists of equity, while a substantial part of net capital inflows consists of US public debt.

Up to 2001 the sharp increase in the US external borrowing requirements essentially reflected growing private sector borrowing requirements, associated with a strong expansion of investment and household consumption. Subsequently, in the context of a slowdown in economic activity, private sector borrowing requirements declined, as a reflection of a significant improvement in corporate saving and, up to 2003, also of a decline in the weight of corporate investment in GDP. However, at the household level, borrowing requirements increased further, essentially reflecting a continuing decline in the household saving rate, as private consumption continued to grow strongly. In parallel, the balance on public accounts recorded a strong deterioration – largely of a structural nature -, which more than offset the behaviour of the private sector as a whole. Thus, the external deficit continued to widen in the last three years (see Chart 2).

In the second half of the 1990s, the US current account deficit was largely financed by private financial net inflows. In 2003 and 2004, however, these net inflows declined, whereas inflows associated with financial flows from external official entities increased. In 2004 the non-resident official sector was responsible for more than half of external net inflows in the US (see Chart 3). These developments are associated with foreign exchange interventions led by Asian central banks, targeted at preventing the appreciation of their currencies against the US dollar. This was seen not only in China, which maintains a fixed exchange rate policy vis-à-vis the US dollar, but also in other countries with more flexible exchange rate regimes (particularly in Japan, up to March 2004). These foreign exchange interventions caused a significant increase in Asian economies' foreign reserves in recent years (see Chart 4). However, it should be noted that developments in net flows and in gross flows showed a different behaviour throughout the period. Between 2001 and 2003 the amounts invested by non-resident private entities in US assets decreased, although in 2004 they increased strongly. On the other hand, in 2001 and 2002 investment by US private entities abroad also declined, albeit recovering in the last two years.

The fact that the external deficit in the most recent period reflects a high public deficit combined with a historically low household saving rate seems to have contributed to increase the perception of its unsustainability, and can thus help explain the weakening of the US dollar since 2002[1]. Between February 2002 and December 2004, the real effective depre-

Chart 1

USA – CURRENT AND INCOME ACCOUNTS AND INTERNATIONAL INVESTMENT POSITION
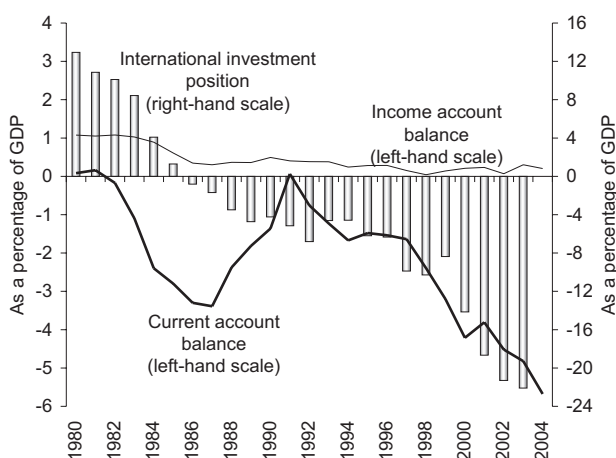
Source: Thomson Financial Datastream.

Chart 2
USA – NET LENDING(+)/ NET BORROWING(-) OF INSTITUTIONAL SECTORS OF THE ECONOMY

Total Economy

Net lending/borrowing of the internal sectors of economy
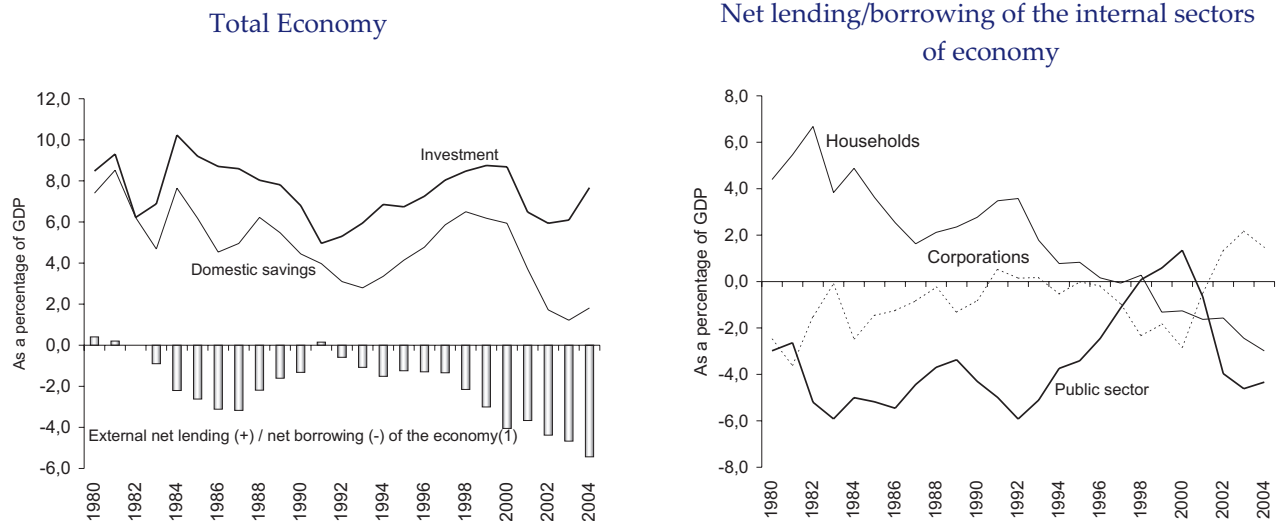
Source: Thomson Financial Datastream.

Note:

(1) The net lending (+)/ net borrowing (-) of economy equals the combined balance of current and capital accounts.

Chart 3
USA – CAPITAL AND CURRENT ACCOUNT DEFICIT AND FINANCING
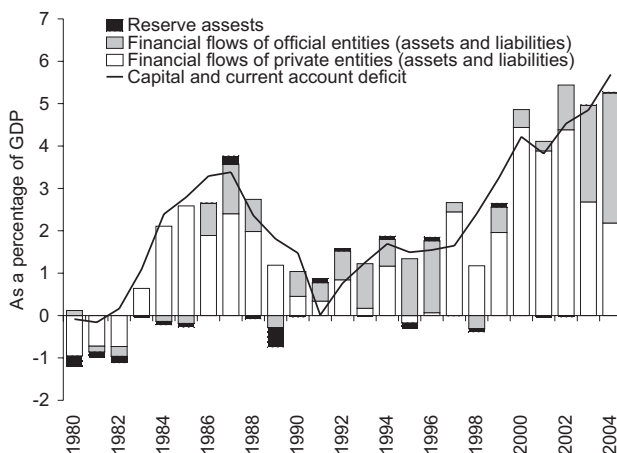
Source: Thomson Financial Datastream.

Chart 4
OFFICIAL RESERVES (EXCLUDING GOLD)
End-of-year-amounts
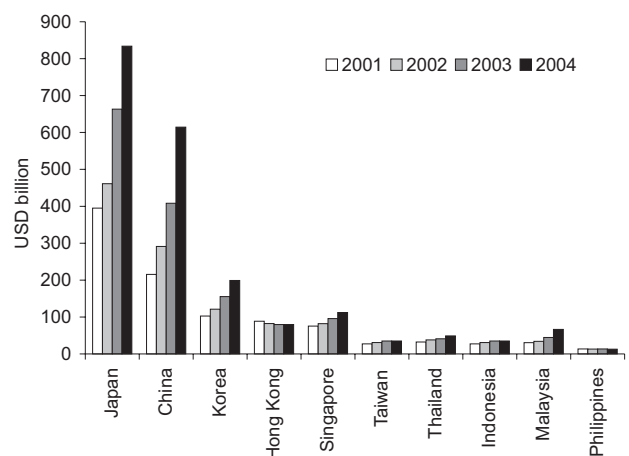
Source: Thomson Financial Datastream.

ciation of the US dollar amounted to around 16 per cent, considering the broad index of the Federal Reserve Board (see Chart 5). The depreciation of the US dollar was particularly strong against the currencies of industrialised economies, and namely the euro, as can be seen from the comparison with developments in the index that only considers currencies of these economies. This partly resulted from the fact that the overall weakening trend of the US dollar was countered by the above-mentioned intervention of the Asian central banks.

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(1) By contrast, the external deficit during the second half of the 1990s seems to have been of a more "virtuous" nature: recourse to external saving reflected the need to finance productive investment, with a positive impact on future growth of the economy and the generation of resources to ensure future external debt service payment. This framework can help interpret the strong appreciation of the US dollar seen during the period.

In spite of the depreciation of the US dollar, the US current account continued to deteriorate. On the one hand, this reflects a quite moderate response of international trade volumes to changes in the exchange rate. This moderate response appears to be associated with both the reduction of the degree of transmission of exchange rate changes to import prices in the US over the most recent period, and the fact that in the short term the impact of the depreciation will tend to especially affect international trade prices, with amounts traded adjusting with a longer lag. The latter implies that the trade balance tends to record an initial deterioration associated with the deterioration in the terms of trade, followed by a medium-term improvement as a result of a greater net external demand. This is usually known in literature as the "J-curve effect". On the other hand, domestic demand in the US remained quite buoyant in recent years – partly fostered by an expansionary fiscal policy -, thereby implying economic activity growth at a faster pace than that of the major trading partners (notably the euro area and Japan).

Chart 5

USA – REAL EFFECTIVE EXCHANGE RATES

Source: Thomson Financial Datastream.

The growth pace of US net external liabilities in recent years is not indefinitely sustainable. However, the adjustment of current account imbalances can take place in a relatively long time span. In fact, the growing integration and innovation of international financial markets and the specific features of the US economy, with special emphasis on the role of the US dollar as a major international reserve currency, result in an easier financing of the US external deficit in comparison with the past and vis-à-vis other economies. The adjustment will include a rebalancing of the growth of domestic production vis-à-vis global demand in the United States. The effects of this adjustment on the world economy and in particular on the US economy will largely depend on how this rebalancing is achieved. Maintaining a strong buoyancy of US domestic demand raises the probability of the adjustment being triggered by participants in international financial markets, via the increase in the risk premium of assets denominated in US dollars, leading to abrupt movements in exchange rates and long-term interest rates. This is the riskiest scenario for the world economy, particularly the euro area.

Articles

The monetary transmission mechanism: is it relevant for policy?

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THE MONETARY TRANSMISSION MECHANISM: IS IT RELEVANT FOR POLICY?*

*Bernardino Adão**
Isabel Correia**
Pedro Teles**

1. INTRODUCTION

Central banks implement policy changes by setting their policy instruments. Short term interest rates have recently become the most common monetary instruments, but a monetary or some credit aggregate could be and has been used.

The monetary transmission mechanisms describe the channels through which these instruments affect the final objectives of the policy maker. There is a large literature, theoretical and empirical, that attempts to describe these different channels and the most relevant variables and markets for the monetary transmission mechanism. In this note we try to analyse how important that understanding is for the conduct of monetary policy. How differently should monetary policy be conducted in economies characterized by different transmission mechanisms? The answer to this question is even more relevant when comparing countries that belong to the same monetary union. In this case the answer is a first step towards understanding the costs that a single monetary policy can impose on countries that don't share a single monetary transmission mechanism.

If the economy has no frictions, the way the monetary shock is transmitted to the economy is quite well known. An increase in the money supply will induce an increase of prices and wages. Without persistence, money would be neutral in the economy. When the shock is persistent, the reduction in the interest rate would lead to a slight increase in output, consumption and labour. The recent literature on monetary policy has introduced mechanisms through which monetary policy can have important short-run real effects in the economy. Most deviations from frictionless economy come by moving from an environment where prices and wages are flexible, or in other words are set with the whole information including the monetary shock, to others where price and wage setting are subjects to some type of restrictions. In those environments, prices or wages respectively are set by firm or workers acting in monopolistic competitive markets from which they can extract some mark-up. Restrictions on the set of prices/wages are rationalized as a result of menu costs, information costs, decisions costs or others. Other branch of the literature assumes that markets are segmented and the heterogeneity created across agents that have access to the market and those who have not, creates a channel through which monetary policy can have real effects.

In dynamic general equilibrium macro models, these three frictions, nominal rigidities of prices or wages and limited participation, are those most frequently used to explain the transmission mechanisms of monetary policy. Although the paper in which this note is based on treats all those type of frictions, we will limit this note to an environment where prices are sticky. The argument is very similar in models with other type of frictions.

The most widespread price setting model is the Calvo model, where for every period every firm

have a positive probability of resetting prices. This probability is common across firms and therefore constant over time, that is it does not depend on the last resetting of prices by a particular firm. This probability is a measure of the degree of price stickiness. The lower the probability the stickier are prices in this economy. And the lower the probability, the higher the real effects on the economy. This probability, which can also be measured by the share of firms that have the option to change the price, measure the strength of the transmission mechanism. In this note we will show the circumstances under which that share of firms that reset prices is relevant to how monetary policy is conducted.

For the same positive monetary shock, the higher the degree of stickiness of the economy the larger would be the effect on output and later on inflation. Then if the policy maker's objective is to achieve a certain level of output (or inflation), the higher the degree of stickiness the lower should be the monetary shock to achieve that level. At first sight one could think that economies with different degrees of monetary transmission should also follow different monetary policy rules. This is the conventional wisdom and the reason for the conjecture that a common monetary policy would imposes a cost on economies characterized by different degrees of rigidity.

The use of stabilization monetary policy has been under suspicion since the works of Lucas and Barro, which show that these shocks could not be used systematically with agents that have rational expectations, but could improve the economic performance when taken as one time event. In this case the repeated use of this type of policy would simply create more volatility in the economy.

The use of short-run or cyclical monetary policy has recently been rehabilitated. This fact is clearly a corollary of the success of real business cycle models as a fundamental device to explain the high frequency characteristics of the economy. Using that paradigm in a world without frictions and without money, the cyclical characteristics are derived from exogenous real shocks to the economy, plus the transmission of these shocks through the no-friction environment. The introduction of money and the introduction of frictions lead to two different consequences: first the one usually explored, which we described above, that

an additional role is given to monetary policy since those frictions affect the transmission mechanism of a monetary policy change; and second that the way real shocks are transmitted through the economy is also affected by the existence of the same frictions that nowadays characterize most monetary dynamic general equilibrium models. It is the change in the transmission of these real shocks to the economy, due to the existence of frictions in comparison with the frictionless world, that rehabilitates the role of money as a short-run policy instrument. The argument is the following: the frictions interact with real shocks so that the equilibrium deviates from the one which results from the shock in an environment without frictions. This deviation is what is currently called a gap. That gap is usually measured through the output but we could have it measured in any other real variable. Suppose that prices are flexible and the economy suffers a negative technological shock. This shock leads, under normal circumstances to a decline of labour in the equilibrium, this reinforces the negative effects of technology, and output and consumption declines. If we analyse the same shock in an economy where prices are sticky, for example set one period in advance, and if monetary policy, either the interest rate or the quantity of money, does not react to the technological shock, transactions cannot change, either in nominal or real terms, and consumption and output cannot react to the technological shock. Equilibrium would imply that labour increases to allow the same level of output with a lower level of technology. It is easy to see that output, as well as consumption and labour, is lower in flexible prices than in sticky prices. The gap is positive in this case, since output in the environment with sticky prices is higher than output with flexible prices. Consider now that the flexible price equilibrium is desirable from the point of view of the decision maker. In that case, the objective can be expressed as to "close" the gaps that occur in the economy due to the realization of fundamental shocks. Suppose that the Central Bank uses the monetary aggregate, in the environment of sticky prices, to close the gap. As monetary policy, given the frictions, has real effects, in this case a contractionist monetary policy could replicate the flexible price allocation. That is, with sticky prices the effect of the technological shock plus the mon-

etary policy reaction to this shock determine the equilibrium. This equilibrium would be the same that results in flexible prices due to the technological shock. In this case, what is identified as a monetary policy shock it is not an exogenous shock to a rule, but is a reaction to a fundamental shock, being therefore endogenous and defining the rule. If the technology follows a stochastic process, the policy instruments will also follow a stochastic process, and even when the rule is transparent, when the realization of fundamental shocks is not part of the information set of a group of economic agents, the instruments realizations will also not belong to that set.

The results of this work are that, contrary to conventional wisdom, the monetary rule that connects policy instruments with fundamental shocks does not depend on the degree of stickiness in the economy. This results from a general principle that monetary policy is most effective when it is most necessary. When we apply this principle we have an explanation as to the conditions in which the strength of the monetary transmission mechanism is irrelevant for the conduct of the optimal monetary policy. These conditions coincide with the ones that make the optimum of flexible prices feasible and also optimum in economies with frictions. We will illustrate these conditions in a very simple model, both in relation to the way the monetary economy is built in the model and in relation to the proposed nominal rigidity. Money demand is derived from a cash-in-advance condition and frictions are due to Calvo price setting.

The note proceeds in the following way: In Section 2 the allocations in an economy where prices are perfectly flexible are identified. It is shown also that there exist policies that include prices independent from contemporaneous information, or even constant over time. In section 3 the following step is derived from that result: the condition that with Calvo pricing it is possible to decentralize flexible price allocations. It is also explained why the optimum with flexible prices coincides with the optimum with sticky prices. Section 4 concludes and discusses the robustness of the result of irrelevance of the transmission mechanism.

2. FLEXIBLE PRICES ECONOMY

Our model economy is very similar to the one in Adão, Correia and Teles (2003) with flexible prices. The economy consists of a large number of identical households, a continuum of firms, each producing a distinct good and a government. This government is understood in the broad sense because it can use monetary and fiscal policy instruments. In the simple environment described in this note, those instruments are the nominal interest rate, R_t the quantity of money, M_t, the tax rate on profits, τ_t^π and the tax rate on labour income, $\tau_t^{n\,(1)}$. The demand for money by the households results from a cash-in-advance restriction on the transactions of consumption goods. The economy is subject to fundamental shocks. The shocks under consideration are technological shocks, A_t and public consumption shocks, G_t. The vector of shocks at t is $s_t = (A_t, G_t)$. The set of every shock at t is S_t, and the state at t is denominated by $s^t = (s_0, s_1, ..., s_t)$. All variables in this economy are a function of the state history, but to simplify notation instead of writing $X(s^t)$ for the generic variable X we will simply write X_t [2].

2.1. Equilibrium Characterization:

An equilibrium in this environment is a feasible allocation sequence, a price system, and a government policy such that: (i) given the price system and the government policy, the allocation solves: a) the problem of the households. Households maximize expected utility which depends on sequences of consumption and labour. Consumption of goods produced by different firms have constant marginal rates of substitution; and b) the problem of the firms. Every firm produces a different good with an identical technology, linear in labour, and operates in a monopolistic competitive market for these products; and (ii) the allocation sequence satisfies the market clearing conditions.

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(1) The government has also debt state contingent as a policy instrument.

(2) For an example of the type of terminology used in this note see the article published in *Economic Bulletin*, June 2004, "Instruments of Monetary Policy".

We assume that the government chooses a policy that solves the standard Ramsey[3] problem. In other words the government chooses the policy associated with the equilibrium allocation that gives the highest value of households life time utility. Such a government policy implies $\tau_t^\pi = 1$, since the tax on profits is like a lump-sum tax.

The equilibrium sequence that determines the level of utility for the households is $(C_t, N_t)_{t=0}^\infty$. In equilibrium, the sequence can be summarized by two conditions for each date and state.

The first one comes from intratemporal households' decisions that equate the marginal rate of substitution between consumption and labour, $u_L(t)/u_C(t)$, to the net real wage, $(1-\tau_t^n)\frac{W_t}{P_t}$, discounted by the gross nominal interest rate, R_t since to consume it is necessary to hold money, $u_L(t)/u_C(t) = [(1-\tau_t^n)/R_t]W_t/P_t$. It is also obtained from the condition that determines the pricing of firms, which equal the price, P_t to the mark-up over the marginal cost, W_t/A_t where W_t is the gross nominal wage, $W_t/P_t = [(\theta-1)/\theta]A_t$. These two conditions together imply that,

$$\frac{u_L(t)}{u_C(t)} = \frac{\theta-1}{\theta} A_t \gamma,$$

were

$$\gamma_t = \frac{(1-\tau_t^n)}{R_t} \tag{2.1}$$

where $(\theta-1)/\theta$ is the inverse of the constant mark-up, which depends on the elasticity of substitution across goods. The second one is the feasibility condition,

$$C_t + G_t = A_t N_t, \tag{2.2}$$

and this simply tell us that the resources produced with labour are represented by $A_t N_t$ because the technology is linear, and that those resources have to be used for private and public consumption. Given a trajectory for A_t and the policy instruments G_t, R_t and τ_t^n these two equations determine the equilibrium trajectories of C_t and N_t. Changes in the policy set that change γ_t lead to a different sequence of allocations. From those there is a

unique equilibrium real allocation $(C_t^*, N_t^*)_{t=0}^\infty$, that maximizes utility. This optimal equilibrium deviates from the first best equilibrium due to the wedge between the marginal rate of substitution and the marginal rate of transformation, that is by $[(\theta-1)/\theta]\gamma_t^*$. It is easy to check that this wedge cannot be eliminated in every state: $(\theta-1)/\theta$ is lower than one. It is possible to see that if $[(1-\tau_t^n)/R_t] > 1$ in every state, and of magnitude sufficient to offset the mark-up, the economy cannot finance a positive G_t even using the total taxation of profits. As $R_t > 1$ it would be necessary that $\tau_t^n < 0$, that is that in every state labour would get a subsidy. In this case, revenues from the inflation tax $(R_t > 1)$ added to the amount of profit taxes would satisfy government budget constraints only where $G = 0$ This means that the optimal solution is always a second best one. This optimal, or Ramsey allocation, will depend uniquely on the value of $(\gamma_t^*)_{t=0}^\infty$. That is, there is not a unique sequence of interest rates and taxes on labour income that decentralize the optimal sequence of consumption and labour. If the monetary authority chooses a certain trajectory for R_t, given γ_t^* there is a unique trajectory for the tax on labour income.

However, given R_t and γ_t^* there is nominal indeterminacy, that is the variables P_t, W_t and M_t are not uniquely determined in the optimum. The relevant equilibrium conditions to determine these variables are[4]:

$$\frac{W_t}{P_t} = \frac{\theta-1}{\theta} A_t, t \geq 0 \tag{2.3}$$

and

$$\frac{u_C^*(t-1)}{P_{t-1}} = R_{t-1} E_{t-1}\left[\frac{\beta u_C^*(t)}{P_t}\right], t \geq 1, \tag{2.4}$$

$$M_t = P_t C_t^*, t \geq 0 \tag{2.5}$$

The first type of condition is the firms' pricing conditions, described above, the second represents the intertemporal decision between consumption

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(3) A Ramsey problem is the problem regarding the choice made by a government that has the same preferences as the representative household and that has policy instruments to affect the market equilibrium of the economy.

(4) In addition to these conditions, the transversality condition must also be satisfied. The transversality condition is satisfied if both the government budget constraint and the intertemporal government budget constraint are satisfied. The budget constraint is satisfied each period and state because there are contingent government securities. The intertemporal budget constraint is satisfied because it can be written, using households first order conditions, as an infinite sum of terms that depend exclusively of real variables.

today and saving in non-contingent bonds with return R_{t-1}, where $u_C^*(t)$ represents the marginal utility of consumption at t, and the third one represents the aggregate cash-in-advance condition.

The real wage is uniquely determined by the first set of equations. However given the optimal trajectory of consumption and labour and the sequence of the nominal interest rate R_t the intertemporal equations just determine the expected inflation rate, or given the initial price, the expected price level for every state. Given the indeterminacy of the price level in every state, the nominal wage rate and the money are also indeterminate in every state. This result is summarized in the following proposition[5].

Proposition 1: Given a sequence $\left(\gamma_t^*, R_t\right)_{t=0}^{\infty}$ the optimal equilibrium allocation is determined but there is nominal indeterminacy. There are multiple sequences for the money supply, the price level and the nominal wage associated with that real allocation.

The similar indeterminacy result was first stressed in Sargent and Wallace (1975), where it is shown that the price level is indeterminate when the monetary authority picks only the interest rate.

Remember that to show the nominal indeterminacy we choose a path for the nominal interest rate but that the real optimal allocation of consumption and labour are compatible with a multiplicity of those trajectories that satisfy γ_t^*. Since there are many equilibrium sequences of nominal variables, $P_t, W_t, M_{t=0}^{\infty}$, compatible with the same equilibrium sequences of real variables, $\left(C_t^*, N_t^*\right)_{t=0}^{\infty}$ we investigate whether it is possible to have an equilibrium sequence for the price level that is state independent or even independent of the whole history. In the first case the price level today is independent of the state, that is of the realization of A_t and G_t, and depends just on the state of yesterday. The second case is a stronger one, where the price today not only does not depend on the realization of

A_t and G_t but also does not depend on the whole history. In this case, the price level would be constant over time.

The answer is affirmative and easy to reach. The structure of the proof is as follows. First we prove that any trajectory for the price level can be an equilibrium, and in particular trajectories with the price level independent of the state history are equilibrium trajectories. Once the sequence of the price level is fixed, the remaining nominal variables and policy instruments are uniquely determined. Propose a certain trajectory for the price level. Given $\left\{C_t^*, N_t^*\right\}_{t=0}^{\infty}$ cash-in-advance conditions determine uniquely the sequence of money supply in the economy. Pricing equations determine the nominal wages and the substitution of the price level trajectory in (2.4) determines the sequence of the nominal interest rate. Given this sequence of the nominal interest rate, the γ_t^* determines the optimal tax rate on labour income that can decentralize the optimal sequence of consumption and labour.

We have just proved the result that we restate in the following proposition:

Proposition 2: The instruments $\left\{\tau_t^n, R_t, M_t\right\}_{t=0}^{\infty}$ can be chosen in such a way that $\left(P_t^*\right)_{t=0}^{\infty}$ does not depend on the state history and implements the optimal real allocation $\left\{C_t^*, N_t^*\right\}_{t=0}^{\infty}$.

Lucas and Stokey (1983) confirmed in a dynamic general equilibrium model the result of Sargent and Wallace (1975). They have shown that there are many equilibrium price levels compatible with the same equilibrium real allocation and equilibrium interest rate. Building on this, Carlstrom and Fuerst (1998) showed that inside this set of equilibrium prices there is a subset of prices that are pre-determined in the sense that they do not depend on the contemporaneous state of the economy.

In Adão, Correia and Teles (2004), we extend this result since we show that there are government policies able to make at least one of the nominal variables, prices, wages or deposits, independent of the history.

3. TRANSMISSION MECHANISMS

The model contained in the previous section is not the model that is usually used to study monetary policy. The type of models used contain fric-

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(5) In order to establish the result it must show that there are less equations than unknowns. Let there be one state at date 0 and $\Phi_t\left(s^{t-1}\right)$ states at date t for the history s^{t-1}, with $t \geq 1$. At $t = 0$, there is one equation of the type (2.3) and one equation of the type (2.5). At $t \geq 1$ there are $\Phi_t\left(s^{t-1}\right)$ equations of the type (2.3), $\Phi_t\left(s^{t-1}\right)$ equations of the type (2.5), but only one equation of the type (2.4). Thus, there are $2\Phi_t\left(s^{t-1}\right) + 1$ equations to determine $3\Phi_t\left(s^{t-1}\right) + 1$ variables. There are $\Phi_t\left(s^{t-1}\right) - 1$ degrees of freedom for setting these nominal variables.

tions that allow the monetary policy to have real effects in the short-run. We consider here the most popular type of friction in the literature, rigidities in setting prices.

The most popular way of formalizing a friction by setting prices is the so-called Calvo model. In this environment, just some firms can decide the price in a given time period. We use α to define the probability that a particular firm can determine the price in a given period, and also to the share of firms that are allowed to review its price. The remaining firms have to maintain the price that they decided sometime in the past. Each firm has the same probability α of being able to decide the price. As a result, in general in a given period there will be different prices for the goods produced. This difference creates a heterogeneity across firms that did not exist in the model described in the last section. In this case α is an indicator of the degree of rigidity of the economy When, for example, there is a monetary injection in the economy, because some individual prices are already set and cannot be revised, prices will not increase fully in order to compensate the additional money supply; consumption and employment will increase. The value of the α determines the strength of that monetary shock in the economy. The smaller is α less firms will increase their prices, and therefore for a shock of identical magnitude the more will consumption, employment and output increase. This monetary injection will increase the real wage. Due to this increase, marginal costs increase, and ex-post mark-up for the firms that cannot decide the price will be lower than it would be if prices were flexible. This reduction in the mark-up is in itself beneficial. However, there will also be a relative price distortion, because the flexible prices will adjust in order to partially absorb the shock. Obviously, even if the gains offset the losses, this policy cannot be used systematically. As described in the introduction, a stochastic monetary policy, independent of the state of the economy, is not useful.

In the presence of price rigidity, shocks on government expenditures, taxes or technology will also have effects on ex-post mark-ups and relative prices. As we saw, the usual way of describing these effects is to measure the gaps that will depend on the type of shock and on the degree of rigidity of the economy, that is on the transmission mechanism. The first question to be answered is if, given the policy instruments, the flexible price equilibrium, $\left(C_t^*, N_t^*\right)_{t=0}^{\infty}$, it is possible to replicate for any α. That is, whether it is feasible to "close" the gaps and to reproduce in a sticky price environment the optimal solution that was obtained when prices were flexible. The answer is the following:

Proposition 3: In an economy with sticky prices, for example with Calvo´s pricing, whatever the value of α it is possible to decentralize one equilibrium identical to the optimal of flexible prices. That allocation can be decentralized with the same vector of policies whatever the value of α, that is whatever the strength of the transmission mechanism.

The proof for this proposition can be seen as a corollary to Proposition 2. As we show that there is a price vector constant over time that can decentralize the sequence $\left(C_t^*, N_t^*\right)_{t=0}^{\infty}$ this implies that, for every period, the restrictions to price changing are not bidding, and that the set of firms which can choose their prices will set exactly the same price as every other which had the option to decide on the whole past history of the economy. Then the mark-up is constant and identical across firms and there are no relative price distortions.

As a result of the last proposition, the monetary transmission mechanism which results from a particular nominal rigidity, in the case described prices, it is irrelevant when the allocation chosen by the policy maker is $\left(C_t^*, N_t^*\right)_{t=0}^{\infty}$. It is irrelevant in the sense that the magnitude of the policy instruments, including the monetary instruments, is independent of the transmission mechanism of an isolated monetary shock.

Will it be desirable in an environment with sticky prices to replicate the optimal flexible price allocation? That is, should we formalize the policy maker's objective as a minimization of gaps? If the answer is affirmative, it means that the optimal decision, when the optimal sequence of flexible prices, $\left(C_t^*, N_t^*\right)_{t=0}^{\infty}$ belong to the feasible set, it is that same allocation. The literature on this question concludes that the answer depends on the policy instruments available. Let us quote two examples that illustrate this point in the second best literature of sticky prices. In the first one prices are set one period in advance. In Adao, Correia and Teles (2003) it is shown that, even when the mone-

tary policy is decided independently of the fiscal policy, under quite strict conditions the flexible price allocation is the optimal one. This result is revisited in Correia, Nicolini and Teles (2001), the second example. There, fiscal instruments are extended and decided simultaneously with monetary instruments and the work concludes that it is always optimal to replicate the flexible price allocation. This result is summarized in the following proposition:

Proposition 4: When prices are sticky, the optimal monetary policy $\{M_t, R_t\}_{t=0}^{\infty}$ is independent of the value of α.

The following corollary highlights the main policy conclusion of this note:

Corollary: Economies characterized by different αs, that is, with different transmission mechanisms, but with the same type of friction, share the same optimal policy reaction to aggregate shocks. Empirically it would be impossible to estimate the degree of rigidity, α, with aggregate data.

The intuition behind the first part of this result is related with three facts. First, that monetary instruments should react to fundamental shocks. Second, that the effects of the fundamental shocks over the economy give rise to larger gaps (the absolute difference with respect to the flexible economy allocation) the more rigid is the economy. And third that the real effects of the monetary shocks on the economy are larger the more rigid the economy is. Thus, a fundamental shock on two economies with two different transmission mechanisms will have different effects. If we compare an economy which is more flexible, with a higher α to a more rigid economy, where α is smaller, we know that a given monetary shock has higher real effects in the more rigid economy. However, it is also in this economy that the gaps created by fundamental shocks are larger. On the contrary the same monetary shock will have a smaller real effects in the more flexible economy but it is also in this economy that the gap will be smaller. Since the monetary policy should replicate the flexible allocation, or close the gap, it would have to have a bigger impact in the more rigid economy. And that is precisely the case, since the same monetary policy has more efficacy when it is more necessary. Then, for a given fundamental shock, a monetary shock of identical magnitude is able to replicate the same equilibrium in economies with very dif-

ferent degrees of rigidity, and this equilibrium is the optimum.

Another way to look at our results is in the positive analysis or in the contribution of monetary policy to explain the cyclical behaviour of the economy. As the equilibrium does not depend on the degree of rigidity of the economy, this cannot be identified. Without the identification of the degree of rigidity it is not possible to identify the transmission mechanism of a pure monetary shock, the one that is not a reaction to a fundamental shock. One reason why the quantitative contribution of the monetary shocks for the explanation of the cycles has turned out to be relatively insignificant may be due to the fact described in the corollary. In the environment described, if the monetary policy is optimal, it is not possible to separate the fundamental shock from the monetary shock that reacts to the first one. Therefore, a full flexible economy model can replicate the main real business cycles of actual economies, but cannot be used to assess the efficacy of monetary policy.

4. CONCLUSION

In monetary economies with frictions, money shocks will have very different effects depending on the strength of the monetary transmission mechanism. A monetary policy conducted with a stochastic component that does not react to the state of the economy is not, however, the way monetary policy is, or should be, run. This does not show that when it is feasible and optimal to conduct monetary policy so that the allocation under full flexibility is replicated the transmission mechanism is irrelevant.

This result is a benchmark against which we should measure what happens in actual economies. It would be on the distance of reality from this paradigm that the monetary transmission mechanism would differ across countries with different strengths of frictions. One reason why reality could differ from the simple environment used in this note is because it may not be feasible to replicate the full flexibility allocation. In general, monetary policy cannot undo the effects of more than one source of friction. The monetary policy that makes the price non-state contingent is different from the monetary policy that makes the wage

(or deposits) non-state contingent. In this case, the monetary transmission mechanism is relevant for monetary policy. But is it really the case that there is such a vast menu of transmission mechanisms as we commonly see in the policy oriented surveys on this issue? It seems that recent work on cyclical behaviour of economies are converging toward the conclusion that there is a major distortion in the formalization: this distortion can be interpreted as a nominal wage rigidity. In favour of this point we could conjecture that the reason why the monetary policy shocks do not play a role in the early real business cycle literature may be because the monetary policy followed was the one able to replicate the flexible price allocation which would mean that there was not more than one friction in the economy. Another case in which it is not feasible to replicate the full flexibility allocation is when the technological shocks are idiosyncratic across firms. To replicate flexible prices, the relative prices would have to change according to the shocks. It is not reasonable to think that an aggregate policy could be the instrument to use in that case. Even when it is feasible to decentralize the flexible price allocation, the choice made by policy makers could be a different one: either because it is not optimal in the Ramsey sense, or because policy makers have different objectives.

The existence of different transmission mechanisms has influenced the discussion on the costs of a common monetary policy. The first step towards understanding these costs is to identify whether economies with different transmission mechanisms should follow different monetary policies. We conclude in this paper that this may not be the case.

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SIMPLE GUIDELINES FOR INTEREST RATE POLICY*

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1. INTRODUCTION

Those of us working at research departments in central banks are regularly questioned on the right target for the interest rate in the inter-bank market. For many of us this is not an easy question, since the models are not unanimous and the information on the true model of the economy is insufficient. In this note we describe simple guidelines for interest rate policy compromising on the underlying model as well as on other more practical issues.

In an environment with multiple distortions where fiscal and monetary policy are decided optimally, such as Correia, Nicolini and Teles (2002), the interest rate policy is the Friedman rule, of a zero nominal interest rate. The distortions that are taken into account arise from the need to raise revenues with distortionary taxes, the inability of the government in issuing state-contingent debt, a monopolistic competitive structure, as well as nominal rigidities in the form of price setting restrictions. The application of optimal principles of taxation implies the Friedman rule. This simple policy recommendation obtained in a complex environment is nevertheless foreign to the policy discussion where the question is whether to raise or lower rates around an average rate that is low but different from zero. In this note we describe an alternative framework where the optimal recommendation is closer to the policy discussion. The

recommendation can also be followed in a simple fashion with a number of practical shortcuts.

The alternative framework abstracts from important aspects of the more complete environment, including the need to raise revenue with distortionary taxes and the potential distortions resulting from the need to use money for transactions. It is a first best world where all the distortions can be eliminated. Lump sum taxes can be raised to finance government expenditures. They also finance a subsidy to production that eliminates the mark up distortion arising from monopolistic competition. In order to eliminate the distortions resulting from sticky prices, it is enough that the price level be constant over time. In this case the firms that are restricted not to change prices will charge the same price as the firms that are free to set them. Since the price level is constant over time, then the nominal interest rate fluctuates with the real interest rate around a positive average rate. The distortion caused by a positive and variable nominal interest rate is eliminated by assumption as if transactions could be performed without money.

Since the distortions associated with sticky prices are eliminated, the real interest rate in the model with sticky prices coincides with the one under flexible prices. This is the optimal target for the nominal interest rate, the real interest rate under flexible prices that moves in response to shocks, i.e. the natural rate of interest.

There are two main difficulties in conducting interest rate policy, targeting the natural rate of interest. One is to compute the target, i.e. the real interest rate that would hold under flexible prices in

response to the shocks that hit the economy. In order to infer the behaviour of the natural rate of interest we look at the behaviour of the real interest rate on short term bonds in periods where, in the U.S., inflation was low and stable. The rationale is, as mentioned above, that in a model with sticky prices where the price level is constant over time, the price setting restrictions on firms are not binding. The equilibrium quantities and prices will be the same as under flexible prices and, therefore, so will the real interest rate.

The second difficulty is that it is well known that interest rate policy is not sufficient to pin down a single equilibrium. For each interest rate policy there are multiple equilibria. Even if global multiplicity cannot in general be excluded it is possible to use policy to generate local uniqueness. Under certain conditions, there is therefore a unique equilibrium close to a particular steady state. The conditions for local uniqueness are model dependent but there is a class of models where a sufficient condition is that the nominal interest rate respond to inflation in a particularly strong fashion.

In summary, the ingredients to conduct monetary policy in the simplified, and unfortunately not very satisfactory, framework are the estimation of the flexible price real interest rate and an active response to variations in inflation. In the theoretical model, since the objective is precisely to eliminate the distortions arising from sticky prices, inflation will not vary in equilibrium and therefore all that policy will have to do is to follow the real rate of interest under flexible prices in its movements in response to shocks. This is the Wicksellian policy named by Woodford (2003) after the Swedish economist of the turn of last century Knut Wicksell.

The note proceeds as follows: In Section 2 we describe the behaviour of a measure of the real interest rate on short term bonds in the US for the post war period. In particular we look at the correlation with the growth rate of output and detrended output. In periods of low inflation those correlations are high, so that the inference on the natural rate of interest will be based on the behaviour of those series. In Section 3 we address the issue of local determinacy and therefore the need for interest rate policy to react to inflation. In Box 1 we discuss how interest rate policy should be con-

ducted in a model with less instruments and more distortions, that takes into account the joint decision of fiscal and monetary policy when taxes are distortionary.

2. THE NATURAL RATE OF INTEREST

In the theoretical model, the goal of interest rate policy is to follow the movements of the real rate of interest under flexible prices, the natural rate of interest. This unobserved series moves with shocks that are not observed, according to laws of behaviour that are also unknown. Without the aid of complex quantitative tools it would seem impossible to find a decision rule on the target for the nominal rate. However, policy makers seem to be able to take decisions based on a few indicators of the state of the economy, such as fluctuations of GDP around its trend and GDP growth.

In this section we describe the behaviour of a measure of the real rate of interest for the post war US economy. We compute this using as the forecast for inflation, the previous four quarters PCE inflation. We look at the correlations with the growth rate of GDP, as well as detrended GDP. We do this for both periods of low and stable inflation and periods where it was relatively high and volatile. We are not surprised to find out that the correlations are high in the periods where inflation was low and stable.

Charts 1 and 2 plot the real interest rate at quarterly frequency against, respectively, the annualized GDP growth rate, and deviations of GDP from trend, for the post war period, 1948-2004, for the US[1]. The shaded bars are the NBER recessions. If we take for instance the 1990-91 recession, the real interest rate fell down with output from a

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(1) All data are in quarterly frequency. The annualized GDP growth series was computed as year-on-year rates of change of real GDP. The GDP deviations from trend series was computed in reference to a Hodrick-Prescott (HP) filter with a smoothing parameter of 1600. The real interest rate series was computed as the difference between the nominal yield on secondary market three-month Treasury Bill, and the lagged year-on-year rate of change of the Personal Consumption Expenditure (PCE) deflator. The real GDP and the PCE deflator series were extracted from the NIPA Tables of the Bureau of Economic Analysis. The nominal yield of the three-month Treasury Bill was extracted from the Board of Governors of the Federal Reserve System. This series comes in monthly frequency and so was converted into quarterly frequency through averaging.

Chart 1

GDP GROWTH AND THE REAL INTEREST RATE

Sources: Bureau of Economic Analysis, Board of Governors of the Federal Reserve System.

Chart 2

GDP DEVIATIONS FROM HP TREND AND THE REAL INTEREST RATE

Sources: Bureau of Economic Analysis, Board of Governors of the Federal Reserve System.
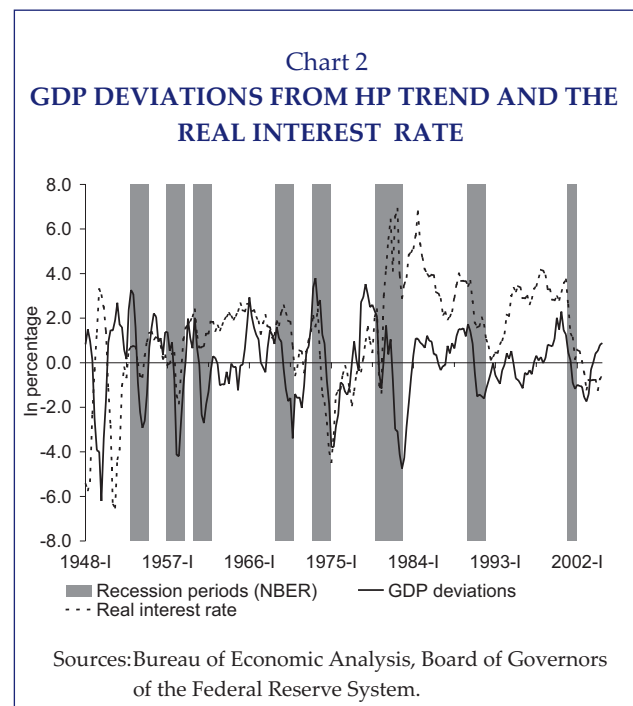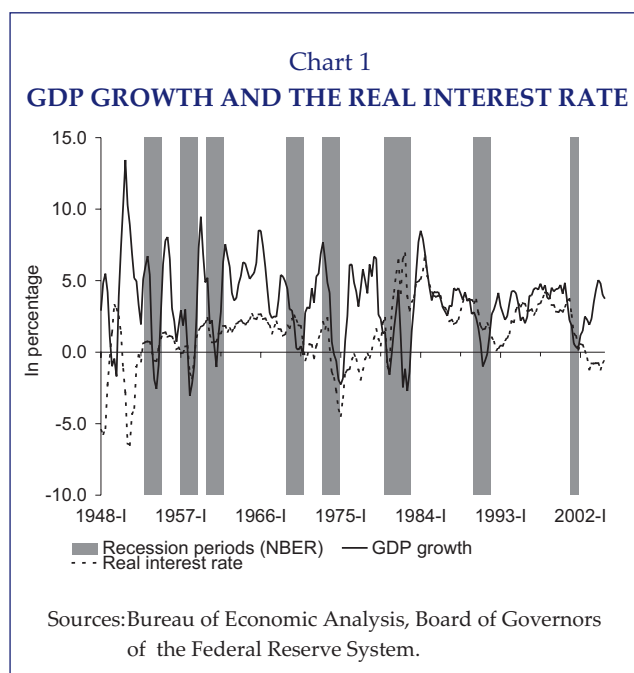
level of around 4% to a level close to zero after the trough to go back up with output to a level again close to 4%, and down again with the 2001 recession (Chart 2). Other cycles exhibit the same pattern. However, as illustrated in Tables 1 and 2, the correlation between the real rate of interest and the measures of economic activity for the whole period is zero.

Instead, the correlations are positive and high in periods of low and stable inflation, when we trust the behaviour of the real rate of interest to be close to the object of interest, the natural rate of interest. We divide the whole sample, 1948-2004, in a somewhat arbitrary way as shown in Chart 3. The shaded areas are the periods considered of low and stable inflation. In the periods 1953-1973 and 1983-2002 the correlations between the real interest rate and the measures of economic activity, is high (around 60%), when we take GDP growth and somewhat lower for deviations of GDP from trend (around 50%)[2]. The average real rate is 1.2% for the period 1953-1973 and 2.4% for the second subperiod of low inflation. For the periods of high and volatile inflation the averages are -1.7% and 0.6%, respectively, for 1948-1952 and 1974-1982.

The high historical correlation recorded between the real interest rate and GDP growth in pe-

riods of low and stable inflation justifies an interest rate policy that targets the natural rate of interest by reacting to changes in output growth, raising the interest rate in phases of accelerating activity and lowering it otherwise. For the period 1983-2002 the correlation is higher with lagged output growth, meaning also that the interest rate is increasing while growth is decreasing before the peak of the boom. Focusing on Chart 2, it is apparent that in the later period of low and stable infla-

Table 1

CORRELATION BETWEEN GDP GROWTH AND THE REAL INTEREST RATE

	Contemporaneous	dy(t),r(t+1)	dy(t),r(t+2)
1948-2004	0.03	0.00	-0.02
1948-1958	-0.34	-0.50	-0.58
1959-1968	0.61	0.52	0.44
1969-1978	0.45	0.51	0.48
1979-1988	0.28	0.22	0.18
1989-1998	0.32	0.40	0.48
1994-2002	0.61	0.74	0.84
1953-1973	0.60	0.57	0.40
1983-2002	0.61	0.68	0.72
1983-2004	0.44	0.52	0.56

Source: Bureau of Economic Analysis, Board of Governors of the Federal Reserve System.

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(2) It is interesting to note that the correlation in the calibrated real business cycle model of Prescott (1986) is 60%.

Table 2

CORRELATION BETWEEN DETRENDED GDP AND THE REAL INTEREST RATE

	Contemporaneous	desv. y(t),desv. r(t+1)	desv. y(t),desv. r(t+2)
1948-2004	0.04	0.02	-0.01
1948-1958	-0.35	-0.38	-0.34
1959-1968	0.46	0.17	0.00
1969-1978	0.47	0.42	0.26
1979-1988	-0.20	-0.26	-0.30
1989-1998	0.54	0.52	0.48
1994-2002	0.52	0.45	0.35
1953-1973	0.46	0.25	0.00
1983-2002	0.40	0.33	0.22
1983-2004	0.33	0.33	0.28

Source: Bureau of Economic Analysis, Board of Governors of the Federal Reserve System.

Chart 3

PCE DEFLATOR-BASED INFLATION RATE

Periods of low and stable inflation — Inflation rate

Source: Bureau of Economic Analysis

tion, the typical behaviour of the targeted natural rate of interest rate along the cycle is to be lowered with output to the point where it is close to zero, after the trough of the recession, followed by a rise to a level of 3 or 4% at the peak of the boom.

In the introduction we mentioned that there were two difficulties in conducting optimal interest rate policy within our framework. The first stemmed from the need to find series that can track the movements of the natural rate of interest. The GDP growth rate, or detrended output seem to fare well on that criteria. The second difficulty is related to finding a policy design that ensures a unique equilibrium. Since global uniqueness is not achievable, we will take comfort in local uniqueness. We now turn to the discussion of this latter issue and will see that it is in guaranteeing local uniqueness that there is a role for inflation in the interest rate feedback rule.

3. TARGETING THE NATURAL RATE OF INTEREST: LOCAL UNIQUENESS

In the simplified framework all that interest rate policy has to do in equilibrium is to track the natural rate of interest. Without knowledge of the underlying shocks and the true model of the economy that would reveal the equilibrium rate associated with a particular history of shocks, the knowledge of the historic correlations between output and the real interest rate can be useful. In the previous section we have documented that in periods of low and stable inflation, and thus in periods, where we trust, the real rate of interest was the natural rate, the one under flexible prices, the correlation is positive and high.

Tracking the real interest rate in this manner is a necessary condition to confirm a path of low and stable inflation which is the optimal equilibrium path in this set up. It is not sufficient. Every interest rate policy generates multiple paths, possibly converging to a steady state. When there is a single path converging to a steady state, while all the other equilibrium paths do not, we say that there is local determinacy. It is little comfort that, within a multiplicity of equilibrium paths, there may be a single path converging to a steady state. Still there is a huge literature on conditions for local determinacy. In a class of models, those conditions are that the response of the nominal interest rate to inflation be positive and high. Out of equilibrium variations in inflation require a response in the nominal interest rate that has to be higher than the variation itself. The intuition is straightforward. Let us consider the following linear approximation to the Fisherian equation in a deterministic model

$$i_{t+1} = r_{t+1} + \pi_{t+1}$$

where i_{t+1} is the nominal interest rate between period t and $t+1$, r_{t+1} is the real interest rate and π_{t+1} is the inflation rate. If interest rate policy is described by the following rule

$$i_{t+1} = r_{t+1} + \alpha \pi_t$$

where $\alpha > 1$, then the resulting equilibrium dynamic equation is

$$\pi_{t+1} = \alpha \pi_t$$

There are two types of solution of this equation. Either

$$\pi_t = 0,$$

or π_t is explosive when it starts from any other point. In this case the equilibrium with zero inflation is locally determinate. Notice that the policy rule is such that the interest rate responds to realized inflation rather than a forecast of inflation. If that was the case the equilibrium equation would be

$$\pi_{t+1} = \alpha \pi_{t+1},$$

so that, for $\alpha \neq 1$, the forecast of inflation would be pinned down but not current inflation.

When $\pi_t = 0$, in equilibrium, policy is conducted so that

$$i_{t+1} = r_{t+1},$$

implying that it is necessary to identify the real rate of equilibrium under flexile prices in order to be able to target zero inflation. For this reason we looked at the behaviour of the real interest rate when the frictions resulting from sticky prices were made redundant by restricting attention to periods of low and stable inflation.

4. CONCLUDING REMARKS

In a world with very low and stable inflation, firms that are restricted in the setting of prices and unrestricted firms charge the same prices. Sticky price restrictions are not binding. In that world the real interest rate is the natural rate of interest, the one that would hold under flexible prices. In order

to infer the behaviour or the natural rate of interest we identify time periods for the post-war US economy where inflation was low and stable and compute the correlation of the nominal interest rate with measures of economic activity.

We observe that the correlation between the real interest rate and fluctuations in GDP is high for periods of low inflation, contrary to the figure for the whole period, where it is close to zero. If the task of interest rate policy is to track the natural rate of interest, thus ensuring a stable price level, then it is justifiable to follow the principle of raising the interest rate with output in booms and lowering it in recessions around a low average positive rate. The interest rate should also react to inflation as a means of guaranteeing local uniqueness of equilibrium.

Unfortunately, in deriving the goal of policy to be the target of the natural rate of interest we have abstracted from important issues in what concerns the underlying framework. In particular we have ignored the need to raise revenue with distortionary taxes and the welfare cost of the money demand distortions. We have also followed a simplistic approach to the estimation of the natural rate of interest. Also, local uniqueness of equilibria is little comfort when it may be associated with global indeterminacy (see Benhabib, Schmitt-Grohe and Uribe, 2001). Finally, we have assumed that the nominal rigidity is due to sticky prices and have not considered the possibility of other sources of distortions, such as sticky wages or segmented asset markets.

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Box: OPTIMAL FISCAL AND MONETARY POLICY

In this box we describe optimal policy in the environment in Correia, Nicolini and Teles (2004)[1]. In this environment there is underlying uncertainty resulting from shocks to technology and public expenditure. The agents are households, firms that are monopolistic competitive and set prices in a staggered manner as in Calvo (1983), and a government. The households have preferences over final consumption goods and leisure. The consumption goods are a composite of differentiated goods produced by the different firms with labour. Money is used for transactions. The government must finance revenues with distortionary taxes on consumption and labor income as well as a profit tax and is not able to issue state-contingent debt.

There are multiple sources of distortions in the economy. The unavailability of lump sum taxes makes it necessary for the government to raise revenue with consumption and labour income taxes creating wedges in the marginal choice between consumption and leisure. Since the firms are monopolistic competitive, prices are set with a mark up over marginal cost which is also a source of inefficiency. The fact that firms face different restrictions on the timing of price changes may create a relative price distortion since firms that are otherwise identical may charge different prices. This is a productive inefficiency since production would take place inside the production possibilities frontier. A positive nominal interest rate distorts the demand for money inducing agents to spend productive resources on transactions. Finally, the inability of the government to issue state-contingent debt may also add to the welfare cost of distortionary taxation, since it may limit the capacity of the government to deal with uncertainty in expenditure and revenue.

In this complex environment where there is a trade-off between different distortions, it is feasible and optimal to eliminate every distortion except for the necessary wedges in the decision of consumption and leisure arising from the absence of lump sum taxes. The mark up distortion is eliminated with the revenue from the profit tax. The money demand distortion is eliminated with the Friedman rule. The distortions associated with price stickiness are dealt with a policy that promotes the stability of the price level net of consumption taxes (producer price level). The elimination of these distortions is consistent with the policy aim of achieving productive efficiency according to the principle in Diamond and Mirrlees (1971) that even in a second best environment productive efficiency is optimal. This is compatible with the Friedman rule since the optimal use of consumption taxes allows the price level gross of consumption taxes (consumer price level) to change according to fluctuations in the real interest rate. Consumption taxes also allow to replicate real state-contingent debt with ex-post volatility of the price level gross of consumption taxes.

More precisely, the rationale for the optimality of the Friedman rule is the following: The nominal interest rate is the price charged on the use of money. In case it is higher than the production cost of money then it includes a tax on money. The usual assumption on the production cost is that it is negligible, so that whenever the nominal interest rate is positive we say that money is being taxed. There are two good reasons to set the nominal interest rate equal to zero. While final goods in general should be taxed that is not the case with intermediate goods. Taxation of intermediate goods creates inefficiencies in production that should be avoided. Money is obviously not a final good but, rather, an intermediate good that is useful to perform transactions. For this reason money should not be taxed. But there is an even stronger reason to charge a very low price on money. Money is a good that has a very low cost of production. The cost in producing coins or bank notes is not zero but it is very low. Even if the proportionate tax on money was positive and very high, when applied to a very low cost of production, the resulting price charged for the use of money would also be very low[2]. This is the second reason not to tax money.

The policy of a zero nominal interest rate is consistent with the principles of optimal taxation from another angle. In particular, it is consistent with no price dispersion across firms that only differ on the price setting restric-

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(1) See also Siu (2004), Schmitt-Grohe and Uribe (2004), Benigno and Woodford (2003), Chari, Christiano and Kehoe (1991) and Lucas and Stokey (1983).

(2) Since the nominal interest rate (i_t) is the price of money, it can be written as a function of the production cost of money (γ) and the proportionate tax rate on money (τ_t^m) as: $i_t = \gamma(1 + \tau_t^m)$. For γ arbitrarily close to zero, a positive i_t entails an arbitrarily large τ_t^m.

tions. For this it is necessary that the producer price level be stable. If the price level is stable, then firms that are not able to set prices will charge the same price as the unrestricted firms. A stable producer price level is optimal according, again, to the principle that, even in a second best world, it is not desirable to create distortions in production.

When the nominal interest rate is zero, since the real interest rate fluctuates around a positive average, and because the nominal interest rate is roughly equal to the real rate plus expected inflation (gross of taxes), it must be the case that expected inflation is different from zero and fluctuates with the shocks. With consumption taxes the movements in the inflation rate can be captured by policy movements in those taxes still keeping the producer price level constant.

NEW EUROPEAN UNION MEMBER STATES
FACTS AND CHALLENGES *

*Patrícia Silva***

1. INTRODUCTION

On 1 May 2004, the European Union (EU) welcomed ten new countries, in what represents the largest enlargement in its history: the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovakia and Slovenia, thus raising to 25 the total number of Member States forming the EU. As a result of this enlargement, the size of the EU in terms of the number of inhabitants increased by approximately 19 per cent, and the EU market is now composed of around 456 million consumers. However, the impact of the accession of the new Member States on EU output level was considerably lower, accounting for an increase below 5 per cent of nominal Gross Domestic Product (GDP), measured in current exchange rates. The discrepancy between the effect of enlargement on total population and on the aggregate level of output of the EU reflects the differences between the average level of economic development in old and new Member States.

In order to join the EU, the new Member States had to comply with a number of political, economic and institutional conditions, referred to as Copenhagen Criteria. These criteria, agreed in 1993, consist of three requirements: the existence of a stable democracy guaranteeing the respect for human rights and the protection of minorities, a market economy able to cope with competitive

pressures and market forces within the EU, and finally the ability to take on the obligations of EU membership, including adherence to the aims of political, economic and monetary union. In the run-up to EU membership, the new Member States made significant progress in the three areas envisaged in the criteria. The changes were particularly pronounced in Central and Eastern European economies, which, in the late 1980s, started the transition process from centralised economies to market-oriented economies, in the wake of the fall of the socialist regime. The transition process involved significant economic adjustments, which were reflected in the reorganisation of the productive structure, increasing openness of their economies vis-à-vis the rest of the world in terms of trade and capital flows, and the restructuring of the banking sector in tandem with the implementation of a new institutional framework of the economy. Progress made by the new Member States during this period benefited from the strong boost of EU accession prospects, which have contributed to generate strong national consensus in these countries around the transformation process.

By joining the EU, the new Member States became also members of Economic and Monetary Union (EMU) with a derogation. This means that they must take the necessary measures in order to participate in the euro area in the future. Similarly to other countries that are now part of the euro area, the adoption of the single currency by the new Member States will be subject to compliance with the Maastricht Criteria. For this purpose, the new EU Member States must carry on the macro-

economic stabilisation effort pursued over recent years, while simultaneously fostering the real convergence process.

This article analyses the economic situation of the new Member States as at the date of their integration into the EU and discusses the major challenges faced at this new stage. Section 2 reviews progress made in terms of real and nominal convergence by the new Member States vis-à-vis the other EU countries (EU-15) and the degree of integration of the two groups of countries, in particular as regards trade and capital flows. Section 3 focuses on the major challenges faced by the new Member States in the pursuit of macroeconomic stability and real convergence, within the scope of their integration into the EU. Section 4 draws conclusions.

2. THE ECONOMY OF THE NEW MEMBER STATES[1]

Over the past few years, the new Member States made significant progress in terms of real and nominal convergence vis-à-vis the EU-15 average. Overall, these countries maintained relatively high economic growth rates and registered improvements in terms of the disinflation process. In most EU Member States, however, the situation in the public sector continues to be a source of macroeconomic vulnerability, pointing to the need of further budget consolidation efforts.

Accession to the EU was also preceded by growing integration between the economies of the new Member States and the other EU countries, in terms of trade and direct investment flows.

2.1. REAL CONVERGENCE AND STRUCTURAL ISSUES

Over the last decade, the annual average GDP growth rate in the new Member States stood above the average observed in EU-15 countries (Table 1). Even in the most recent 2001-2003 period that was marked by economic slowdown in the EU, economic growth remained sustained in most new Member States which, as a whole, continued to grow at a faster pace than EU-15 countries. In

Table 1

ECONOMIC GROWTH

Gross Domestic Product

(Annual average growth rate, in volume)

	1995-1997	1998-2000	2001-2003	2004
Poland	6.6	4.3	2.1	5.8
Czech Republic	3.1	1.3	2.4	3.8
Hungary	2.5	4.7	3.5	3.9
Slovakia	5.5	2.6	4.1	4.9
Slovenia	4.2	4.3	2.8	3.9
Lithuania	5.0	3.2	7.6	7.1
Cyprus	3.6	4.8	2.7	3.5
Latvia	3.7	5.0	7.3	7.5
Estonia	6.5	4.3	6.3	5.9
Malta	5.0	4.7	-0.1	1.0
EU-15	2.2	3.1	1.2	2.3

Sources: European Commission and Eurostat.

Chart 1

GDP PER CAPITA IN PURCHASING POWER STANDARDS: CONVERGENCE VIS-À-VIS EU-15 AVERAGE

Source: European Commission.
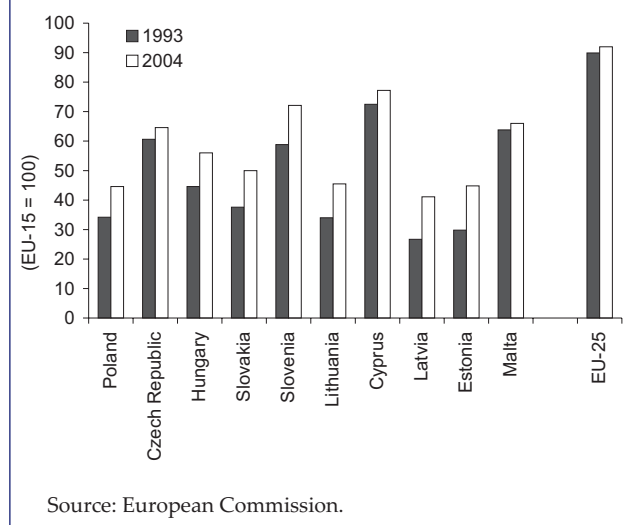
2004, GDP per capita in the new Member States, measured in Purchasing Power Standards (PPS), was equivalent to around 50 per cent of average GDP per capita in EU-15, which corresponds to approximately 10 percentage points more than in 1993 (Chart 1). Convergence vis-à-vis the EU-15 as a whole was more marked, on average, in the countries that were farther way from the EU-15 average, evincing a catching up phenomenon. However, sharp differences continue to persist in individual terms[2].

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[1] For a brief note on the economies of the new Member States see Banco de Portugal (2003).

Economic reforms and changes in new Member States have led the sectoral structure of economic activity in these countries to become closer to that of the other EU Member States, as the share of the services sector increased to the detriment of the shares of the agricultural and industrial sectors (Table 2). However, the differences between the two groups of countries are more marked in what regards to the breakdown of employment by sector of activity, which points to a long lag between both groups in terms of labour productivity, particularly in the agricultural sector.

Unemployment rates in most new Member States stand at relatively high levels and are, on average, higher than those observed in EU-15 countries, notwithstanding significant differences in individual terms (Table 3). The high unemployment levels recorded in these countries are, in part, the result of the sectoral restructuring process of economic activity that occurred in recent years and of the transition to market-oriented economies, which may have contributed to create

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(2) Among the new countries that joined the EU, only Cyprus and Slovenia have levels of GDP per capita that stand within the distribution range of the GDP per capita of the EU-15. At the other extreme of the ranking is Latvia, with the lowest level of GDP per capita among current EU Member States, accounting for approximately one fifth of the highest GDP per capita recorded in Luxembourg.

a competence mismatch between labour supply and demand that was not fully corrected by labour market flexibility.

2.2. RECENT MACROECONOMIC DEVELOPMENTS AND NOMINAL CONVERGENCE

The macroeconomic stabilisation efforts carried out by the new Member States in the run-up to EU accession were also reflected in nominal convergence vis-à-vis EU-15 countries.

In 2003, before the enlargement, average inflation in the new Member States as a whole, measured by the Harmonised Index of Consumer Prices, stood at a level similar to that of average inflation in EU-15 countries (Chart 2). In spite of the increase in the inflation rates in some countries in 2004, current inflation levels in the new Member States are rather low, particularly when compared with the earlier years of the transition process, when, in the wake of the gradual elimination of administered prices and quantitative declines in supply, prices underwent significant readjustments. In the mid-1990s, excluding Cyprus and Malta that did not went through the same transition process, most other new Member States still recorded double-digit inflation rates. A determining factor behind the success of the disinflation

Table 2

VALUE ADDED AND EMPLOYMENT BY SECTOR SECTOR OF ACTIVITY
(2003)

	Value added(1)			Employment(2)		
	(As a percentage of the total)			(As a percentage of the total)		
	Agriculture	Industry	Services	Agriculture	Industry	Services
Poland	3.0	30.7	66.4	18.4	28.6	53.0
Czech Republic	2.8	37.9	59.3	4.5	39.4	56.1
Hungary	3.7	30.2	66.1	5.8	31.9	62.3
Slovakia.	3.9	32.0	64.0	4.4	34.1	61.5
Slovenia.	2.6	35.8	61.6	10.9	36.9	52.3
Lithuania	6.2	31.9	61.9	17.8	28.0	54.1
Cyprus	4.3	20.2	75.6	9.1	20.7	70.2
Latvia	4.3	22.8	72.9	13.4	25.8	60.8
Estonia.	4.4	28.1	67.5	6.1	32.3	61.5
Malta	2.3	27.2	70.5	1.9	34.3	63.7
EU-15.	2.0	26.7	71.3	4.0	24.6	71.4

Sources: European Commission and Eurostat.
Notes:
(1) The latest available data for Hungary refer to 2002.
(2) The latest available data for Poland and Cyprus refer to 2000.

Table 3

MAIN ECONOMIC INDICATORS OF THE NEW MEMBER STATES
(2004)

	GDP[1] (Rate of change in volume)	Unemployment rate[1]	Inflation[3]	Fiscal balance[2]	Public debt[2]	Current account[2]
Poland.....................	5.8	19.0	3.5	-5.6	47.7	-2.6
Czech Republic	3.8	8.3	2.8	-4.8	37.8	-6.1
Hungary	3.9	5.8	6.9	-5.5	59.7	-8.7
Slovakia	4.9	18.4	7.7	-4.0	44.5	-2.9
Slovenia	3.9	6.3	3.9	-2.3	30.8	-0.2
Lithuania	7.1	11.4	1.2	-2.5	20.9	-8.7
Cyprus	3.5	4.2	2.5	-5.3	73.6	-4.5
Latvia	7.5	9.9	6.8	-2.0	14.8	-9.9
Estonia	5.9	9.7	3.4	0.5	4.8	-13.0
Malta......................	1.0	8.6	3.7	-5.1	72.5	-4.0
EU-15......................	2.3	8.1	1.9	-2.7	64.4	0.5

Source: European Commission.
Notes:
(1) In percentage.
(2) As a percentage of GDP.
(3) Inflation measured by the Harmonised Index of Consumer Prices.

process in the new Member States was the authorities' steady commitment to reducing inflation, within the scope of the new institutional framework of monetary policy arising in the course of the transition process[3]. Another element that may have also been relevant for the decline in inflation was the increased financing capacity of the fiscal deficit in these countries, made possible both by the introduction of market-tradable Treasury debt instruments and by privatisation proceeds, which reduced the expectations of monetary financing of deficits and, consequently, led to a decline in inflation expectations[4]. Currently, following the disinflation process observed in recent years, the new Member States reveal different inflation levels, which stem from country-specific factors[5].

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(3) Poland and the Czech Republic followed an inflation-targeting framework; Hungary, Slovenia and Slovakia had an explicit price stability target; the other countries had pegs to other currencies or currency baskets with lower inflation rates.

(4) See Wachtel and Korhoen (2004) for a broader discussion on the disinflation process in transition countries.

(5) In 2003, for example, Slovakia recorded the highest inflation rate in EU-25, due to the effect of the liberalisation of administered prices in the course of the year, while in Lithuania the consumer price index fell, as a result of the appreciation of the euro vis-à-vis the dollar.

Progress in terms of nominal convergence is also evident in the evolution of interest rates. In recent years, interest rates in the new Member States have decreased from still relatively high levels at the end of the 1990s to levels close to those seen in

Chart 2
INFLATION IN THE NEW MEMBER STATES[a]

Source: European Commission.
Note:
(a) Inflation was measured by the Consumer Price Index, due to the limited availability of data for the Harmonised Index.

Chart 3
THREE-MONTH MONEY MARKET INTEREST RATE DIFFERENTIAL VIS-À-VIS EU-15

Source: Eurostat.

Chart 4
LONG-TERM INTESREST RATE DIFFERENTIAL VIS-À-VIS EU-15[(a)]

Source: Eurostat.

Note:

(a) No data is available for Slovenia, Latvia and Estonia.

hand, the macroeconomic stabilisation achieved in the new Member States, particularly the control of inflation and the decline in inflationary expectations and, on the other hand, the expectations regarding the participation of these countries in the EU. The combination of such factors has contributed to improve the assessment of these countries by international investors (Chart 5), thus increasing access to capital markets and reducing risk premia.

Since the introduction of the euro on 1 January 1999, the currencies of the new Member States have followed different trends vis-à-vis the single European currency (Chart 6). In addition to country-specific political and macroeconomic developments, the diverse exchange-rate trends observed vis-à-vis the euro have also been influenced by the fact that the new Member States followed rather different exchange-rate regimes, and by the exchange-rate changes introduced in each country (see Box). After EU accession, Estonia, Lithuania and Slovenia joined the Exchange Rate Mechanism II (ERM II) on 27 June 2004. Therefore, the central parity of the currencies in these countries is now fixed against the euro, and the market rate may fluctuate within a ±15 per cent fluctuation band around the central parity. On 1 January 2005, Latvia pegged its currency to the euro, which replaced the SDR as the reference currency of the exchange rate regime, with a ±1 per cent fluctuation margin around the central parity. The EU Treaty establishes the compulsory adoption of the euro in new Member States as soon as the required criteria are complied with. It is therefore expected that all new Member States will eventually participate in ERM II, given that foreign exchange stability within this system for a two-year period is one of the relevant criteria.

Turning to public sector finances, the imbalances observed in most new Member States point to the need for further fiscal consolidation efforts. In 2004, most new Member States recorded fiscal deficits above the average deficit of the EU-15 countries as a whole (Table 3). In turn, average public debt in these countries was lower than in the other EU Member States. In individual terms, nevertheless, there are considerably different realities in terms of the situation of public finances. In 2004, while the fiscal balance and the public debt in the Baltic countries[(6)] and Slovenia were consis-

the other EU countries. This decline was observed in both shorter and longer-terms (Charts 3 and 4). From early 1999 to late 2003, the three-month interest rate spread vis-à-vis the EU-15 average narrowed by approximately 8 percentage points to around 3 percentage points in the new Member States as a whole, whereas the implicit spread of ten-year Treasury bond yields recorded a downward trend standing below 2 percentage points in nearly every country in 2003. The evolution of interest rates in recent years reflected, on the one

Chart 5
STANDARD & POOR'S RATING FOR LONG-TERM TREASURY BONDS DENOMINATED IN FOREIGN CURRENCY

Source: Standard & Poor's.

Chart 6
NOMINAL EXCHANGE RATE VIS-À-VIS THE EURO[(a)]

Source: Eurostat.

Note:

(a) An increase corresponds to an appreciation vis-à-vis the euro.

Chart 7
CHANGE IN FISCAL DEFICIT AND PUBLIC DEBT IN THE NEW MEMBER STATES
(2000-2003)

Source: European Commission.

tent with the reference values established in the EU Treaty, the European Council decided that excessive fiscal deficits existed in Poland, the Czech Republic, Hungary, Slovakia, Cyprus and Malta. Excluding Slovakia, all these countries posted a strong deterioration of public accounts over the last three years, which was reflected in the sharp increase in the debt ratio and in the deterioration of the fiscal deficit (Chart 7). The deterioration of government fiscal positions in most new Member States was related to the macroeconomic slowdown, in some cases, but also to the adoption of expansionary fiscal policies. On the other hand, the decrease in interest rates made it possible to re-

duce government debt financing costs, wherefore, in spite of the widening of the debt ratio in some countries, interest expenditure in general was not aggravated. Against this background, the increase in government deficit was chiefly the result of the deterioration in the primary fiscal balance.

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(6) Estonia, Latvia and Lithuania.

2.3. INTEGRATION WITH THE EUROPEAN UNION

Throughout the 1990s, there was an increasing integration between the economies of the new Member States and the other EU countries, fostered by the strengthening of trade between the two groups of countries and by the increased flows of foreign direct investment from the EU to the new Member States.

The EU gained an increasing weight in the external trade of the new Member States and became the major trading partner of that group of countries. From 1993 to 2003, the share of EU-15 in trade in goods of the new Member States increased by approximately 7 percentage points to around 63 per cent (Chart 8). According to data available for 2003, the relevance of EU-15 in the external trade of the new Member States ranges between 37 per cent of total trade in goods in Cyprus and 68 per cent in Slovenia and Poland. In turn, during the same period, the new Member States have also increased their share in EU-15's external trade. The share of the new Member States in extra-EU-15 imports increased from 5.6 per cent in 1993 to 11.6 per cent in 2003. In terms of EU-15's total trade in goods (imports and exports), excluding intra-EU trade, the share of the new Member States went up from 6.4 per cent of the total in 1993 to 12.4 per cent in 2003.

Trade between the new Member States and the EU-15 was boosted by the prospects of EU accession as well as by the gradual elimination of barriers to trade between the two groups of countries during the 1990s, through a number of trade agreements - the so-called Europe Agreements - that envisaged a gradual liberalisation of trade between the EU and candidate countries. Liberalisation was first focused on manufactured goods and involved a swifter reduction of barriers by the EU than by the new Members[7]. Liberalisation in trade in agricultural products occurred at later stage and at a more gradual space. The full elimination of barriers to trade in these products was only completed on the date of accession of the new Member States[8].

In the case of former central planned economies, the increase in trade with the EU was partic-

Chart 8
SHARE OF THE EUROPEAN UNION IN THE EXTERNAL TRADE OF THE NEW MEMBER STATES (GOODS)

Source: International Monetary Fund
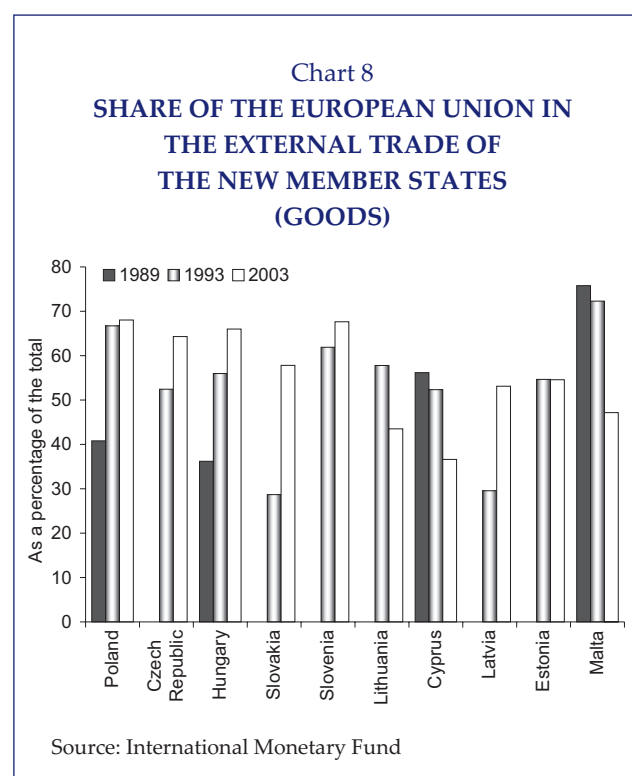
ularly significant during the first years of the transition process, as the adoption of market economy rules and the changes in the political regime increased the openness to trade in these countries[9] and led to the reorientation of trade with the former Soviet Union towards EU-15 countries. Taking into account total exports and imports of goods and services in the eight new Member States classified as transition economies, the average degree of openness to international trade[10]

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(7) See EBRD (2003).

(8) See De Nederlandsche Bank (2004).

(9) The sole exception among these countries is Slovenia, which was not part of former Soviet Union block and had, in the mid-1990s, a high degree of openness to trade.

(10) The average degree of openness to trade corresponds to the simple mean of the individual degrees of openness. For each country, the degree of openness to trade was calculated as the ratio of the total value in euro of exports and imports of goods and services to GDP measured in PPS vis-à-vis the euro, following the methodology suggested by Berg and Krueger (2003). Using the PPS instead of the current exchange rate to convert the GDP in each country to euro has two advantages. On the one hand, it makes it possible to obtain static comparisons in time between countries that are in different development stages and, therefore, may have quite different prices for non-tradable goods. On the other hand, it also avoids that intertemporal comparisons for a given country, as a result of the Balassa-Samuelson effect, lead to a counter-intuitive decrease in the indicator of openness to international trade due to the increase in productivity in the tradable goods sector in the course of the economic development process.

Chart 9
DEGREE OF OPENNESS
TO INTERNATIONAL TRADE

Source: European Commission.

Chart 10
DIRECT INVESTMENT FLOWS
IN THE NEW MEMBER STATES

Sources: International Monetary Fund and Eurostat.
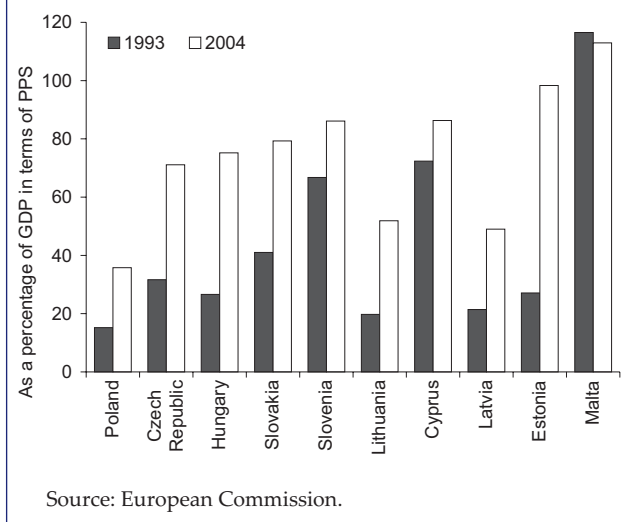
doubled, between 1993 and 2003, to approximately 64 per cent of GDP measured in PPS (Chart 9).

In the run-up to EU enlargement, the new Member States also introduced a gradual liberalisation of capital movements that was nearly finished by the date of accession[11]. The process of liberalisation of capital movements in new Member States was followed by a strong increase in direct investment flows between these countries and the rest of the world, in particular after the second half of the 1990s. In 2002, total direct investment flows had nearly tripled vis-à-vis 1995, reaching approximately € 25.8 billion (Chart 10). In terms of composition, and despite the significant two-way increase in investment flows between the new Member States and abroad, more than 90 per cent of total flows correspond to foreign direct investment in the new Member States.

The new Member States proved to be rather attractive countries for foreign direct investment. Available data for the Inward Foreign Direct Investment Performance Index of the United Nations (Table 4) shows that these countries have succeeded in capturing relatively high levels of for-

eign direct investment flows relative to the size of their economy, during the second half of the 1990s, showing on average a better performance than the EU-15 countries and other developing economies[12].

The sharp increase in the volume of direct investment flows to the new Member States, in the course of the process of liberalisation of capital movements, was the result of important unexplored investment opportunities in those countries. When compared with other developing countries and emerging markets, the new Member States, except Cyprus and Malta, recorded low levels of foreign direct investment stocks in the early 1990s (Chart 11) that rapidly caught-up to levels close to those recorded in the other countries. Among the favourable conditions behind foreign direct investment in the new Member States, it should be stressed the role of low labour costs[13] (Chart 12), the relatively high education level of the population vis-à-vis other economies in identical development stages, the privileged geographical location due to the vicinity if industrialised economies, when compared with Asian and Latin American economies, as well as the need for mod-

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(11) There are presently some limitations to the purchase of real estate by non-residents, that will be in force during the transition periods established for each country, within the scope of the accession negotiations. For detailed information on restrictions on capital flows see De Nederlandsche Bank (2004).

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(12) See also United Nations (2003).

(13) In 2001, average unit labour costs for the new Member States as a whole corresponded to approximately 22 per cent of the average cost in EU-15 countries.

Table 4

**INWARD FOREIGN DIRECT INVESTMENT
PERFORMANCE INDEX[(1)]**

	1993-1995	1998-2000	2001-2003
Poland	2.2	1.4	1.2
Czech Republic	3.1	2.7	3.9
Hungary	6.8	1.2	2.3
Slovakia	1.5	1.4	4.0
Slovenia	0.8	0.2	1.6
Lithuania	1.0	1.6	1.5
Cyprus	1.0	1.9	3.2
Latvia	4.2	1.6	1.8
Estonia	5.0	2.4	4.1
Malta	4.1	4.6	1.0
Developed Countries	0.8	1.0	0.9
EU-15	1.1	1.6	1.9
Developing Countries	2.0	1.0	1.3
Latin America	1.6	1.4	1.4
Asia	2.3	0.9	1.2

Source: United Nations.
Note:
(1) The Inward Foreign Direct Investment Performance Index is calculated as the ratio of world flows of foreign direct investment received by each country to the contribution of that country to world GDP. Thus, a figure above the unity means that the country in question receives a share of direct investment flows that exceeds its economic size.

ernisation of productive structures inherent on the transition process. In addition, the improvement in the competitive environment, the progress made in the creation of market economies in transition countries, together with the prospects of EU membership and the stabilisation of macroeconomic policies and conditions, have improved international investors' assessment of these countries, thus contributing to increase foreign direct investment. The increasing openness to direct investment flows also resulted in a higher integration of the economies of the new Member States with the EU-15 countries. According to the geographical breakdown of direct investment flows received by the new Member States in 2002, EU-15 countries were the major investors in the region, and accounted for around 84 per cent of total foreign investment in that year. In the same period, the new Member States received approximately 12 per cent of total direct investment of EU-15 countries outside the EU.

3. CHALLENGES

Over more than a decade marked by changes related to the process of transition to market econ-

Chart 11
**FOREIGN DIRECT INVESTMENT STOCKS
IN THE NEW MEMBER STATES**
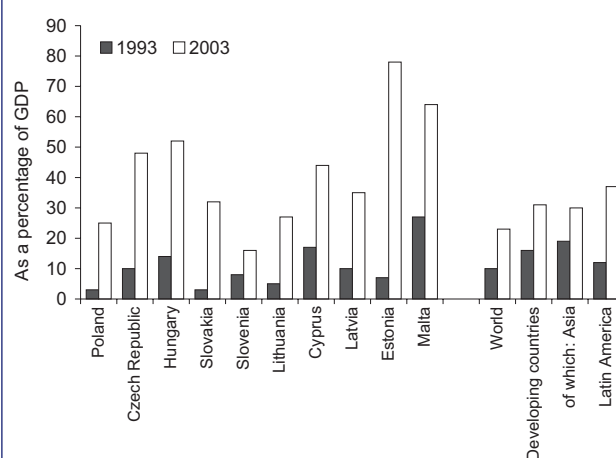
Source: United Nations.

Chart 12
**HOURLY LABOUR COSTS
IN INDUSTRY AND SERVICES[(a)]
(2002)**
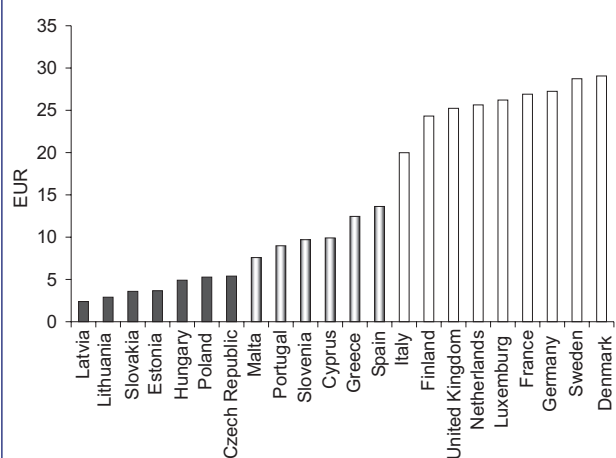
Source: Eurostat.
Note:
(a) Hourly labour costs were measured in Purchasing Power Standards in order to eliminate the effect of the changes in the exchange rate of national currencies vis-à-vis the euro.

omies, by increased trade with the rest of the world and the subsequent liberalisation of capital movements, the new Member States succeeded in increasing the integration of their economies with the other EU countries. EU membership does not mark the culmination of this process but rather the beginning of a new stage of integration of those

countries into the European project. In this new stage of European integration, the new Member States are expected to step up their efforts to comply with the Maastricht criteria, with a view to their participation in the euro area, while pursuing on a path of sustained economic growth and real convergence vis-à-vis the other EU countries, in order to consolidate the progress made in this field. Against this background, the conduct of economic policy in those countries faces a number of challenges. In addition to the challenges associated with the completion of the disinflation process and with managing the deepening of monetary integration into the EU, these economies will have to cope with the challenges resulting from the public sector imbalances and the external financing requirements of their economies.

3.1. EXTERNAL IMBALANCES

The new Member States record deficits in the current account (Table 3), which are particularly high in the Baltic countries, Hungary and the Czech Republic. These imbalances tend to reflect the real convergence process, since the more attractive returns on investment projects in these countries lead to a high level of investment, when compared with domestic savings rates, and the difference is offset by capital inflows under the form of foreign direct investment or other forms of financing from abroad.

The analysis of the recent trend of external imbalances reveals that most new Member States showed a widening trend of the current account deficit during recent years, thus reversing the narrowing trend of external imbalances observed in the 1998-2000 period (Chart 13). The deterioration of the current account in most countries was due to the rapid growth of bank credit, associated with the financial liberalisation process, and to the adoption of expansionary fiscal policies that led to an increase in imports.

In parallel with the deterioration of the current account deficit, the composition of foreign capital flows received by the new Member States changed. The process of transition to market economies and the prospective EU membership made it possible for new Member States to attract high levels of capital inflows, in particular since the second half of the 1990s, countering the general

Chart 13

THE CURRENT ACCOUNT DEFICIT IN THE NEW MEMBER STATES[a]

Source: European Commission.
Note:
(a) Excluding Malta due to the limited availability of data.
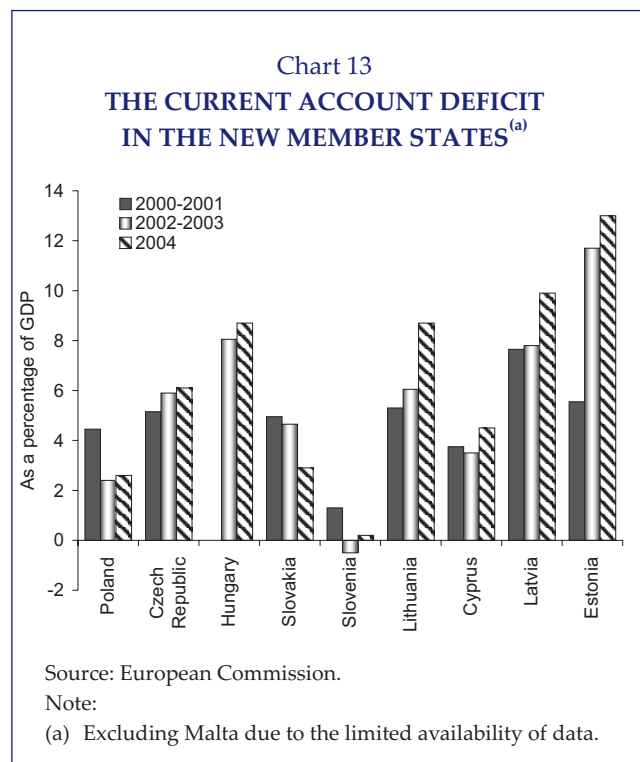
downward trend of private capital flows to emerging market economies in the wake of the Asian crisis in 1997. Foreign direct investment flows account for a significant share of total capital flows received by the new Member States. From 1995 to 2000, net foreign direct investment flows received by the new Member States increased by approximately € 9.0 billion to around € 18.7 billion in 2000, reaching their peak in that year (Chart 14). In addition to structural factors that favoured foreign investment, described in section 2.3, the marked increase in direct investment during this period was also driven by the temporary effect of the privatisation process in the new Member States, in particular the banking sector privatisation, that provided an opportunity for the establishment of foreign banks in those countries. Recently, the structure of capital flows received by the new Member States has been changed towards an increase in debt-generating flows, to the detriment of net foreign investment inflows[14]. This change in the breakdown of capital flows was due, on the one hand, to the fact that the banking sector privatisation had already been concluded in the previous period and, on the other hand, to the increase in public sector borrowing requirements associated with the deterioration of the fiscal situation, which was reflected in the issue of debt secu-

Chart 14

**CAPITAL FLOWS RECEIVED BY
THE NEW MEMBER STATES(a)**

- Other Net Capital Flows
- Net Direct Investment Flows
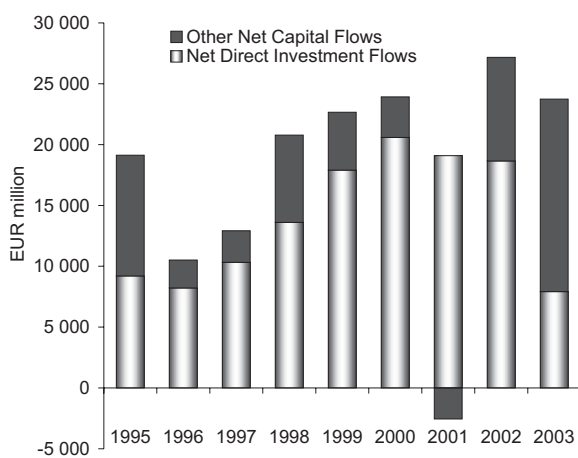
Source: International Monetary Fund.
Note:
(a) Excluding Slovakia due to unavailability of data.

presently, the current account deficit continues to be mostly offset by that type of flows (Chart 15). Therefore, as long as the new Member States are able to attract further foreign direct investment flows, maintain an upward trend in terms of potential output growth of their economies and, simultaneously, control the public sector borrowing requirements, the risks arising from external imbalances will remain under control.

Since foreign direct investment flows are driven by real investment opportunities, they tend to provide a higher degree of protection of the economies against financial markets volatility, when compared with the other capital flows. Due to their nature, direct investment flows are based on a long-term investment perspective, and are therefore less reversible than other flows, thus providing more stability. On the other hand, foreign direct investment flows also have some advantages vis-à-vis external-debt generating flows, as regards to the evolution of their value and profitability throughout the economic cycle. Whereas foreign direct investment profitability depends on real investment profitability and is therefore pro-cyclical and contingent on the performance of the economy, the external debt service and the debt value, in turn, tend to increase in crisis periods usually characterised by a decline in output and devaluation of the exchange rate. Therefore,

rities partly acquired by foreign investors. Therefore, since 2001, foreign investment flows to the new Member States have been on a downward path, to stand in 2003 at approximately € 8.0 billion, whereas the volume of other capital flows have been on the upside.

Against the background of persisting high deficits in the current account and an upward trend in the share of external financing through short- and medium-term capital flows, concerns may emerge as to the sustainability of the current account in the medium-term and the increased exposure to financial market volatility.

In the case of the new Member States, these risks are mitigated by the fact that a significant share of those capital flows correspond to banking sector flows, since the financial system in those countries is controlled by banks predominantly held by financial institutions having their head office in EU-15 countries. Thus, the volatility of debt flows associated with the banking sector is expected to be lower than in the case of flows pertaining to the other sectors of the economy. In turn, in spite of the decrease in the volume of foreign direct investment flows recorded over past years,

Chart 15

**FOREIGN DIRECT INVESTMENT FLOWS
AS A SHARE OF THE CURRENT ACCOUNT
DEFICIT IN THE NEW MEMBER STATES**

- 1999-2000
- 2001-2002
- 2003
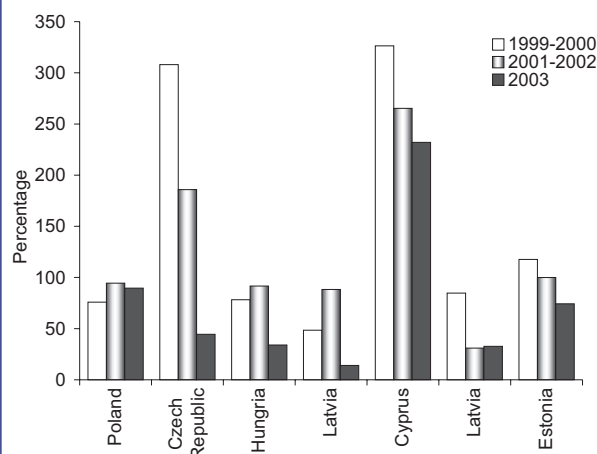
Source: International Monetary Fund.

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(14) For a more detailed analysis of the breakdown of capital flows received by the new Member States see Baudino et al. (2004).

financing the current account through foreign direct investment flows tends to reduce the vulnerability of the economy to financial account crisis. In addition, foreign direct investment flows have an important contribution to the sustainability of economic growth and to the real convergence process, since they allow to import and spread the use of new technologies and management techniques, with positive impacts on productivity, and give rise to dynamic effects on activity that feed through the rest of the economy. This advantage of direct investment flows is particularly relevant for the new Member States, given that investment levels in these countries are still low when compared with other OECD countries[15] and there is the need to replace obsolete capital and update technologies.

3.2. FISCAL DISCIPLINE

Another major challenge that lies ahead in the new Member States is related to the imbalance of public sector accounts, given that, in addition to the recent deterioration of public finances, these countries will also have to cope with a number of factors liable to generate additional pressures on the fiscal situation in the coming years. Some of these factors are also shared by other Member States. In effect, the new Member States, despite standing at a different development stage from that of the EU-15 countries, present similar levels of public expenditure as a percentage of GDP and face identical fiscal challenges in terms of the effects of population ageing on health expenditure and pension system expenditure. However, in the case of the new Member States, there are also other factors that may lead to increased tensions on the fiscal situation, such as the expected decline in privatisation proceeds during forthcoming years and important contingent responsibilities in the public sector that are not reflected in official statistics. On the other hand, accession to the EU is also likely to have additional effects that may be felt in the course of forthcoming years, since it will involve the participation of the new Member States in the community budget, the national co-financing of investment projects supported by

the EU, the implementation of the *acquis communautaire* related to fiscal harmonisation issues and compliance with several rules and regulations that may have an impact on public sector finances[16].

Controlling government finances is particularly relevant not only on account of macroeconomic stabilisation and sustainability of public debt, but also because it constrains compliance with two of the relevant criteria for the future adoption of the euro by the new Member States. In effect, maintaining a deterioration trend of public finances, such as that recently observed, would tend to limit the use of fiscal policy as an instrument of macroeconomic stabilisation and could lead to a sustained increase in the public debt ratio as a percentage of GDP, with the corresponding costs in terms of public sector financing. In addition, persistently high budget deficits could also give rise to adverse effects on inflation and exchange rate stability.

In this context, the implementation of further budget consolidation efforts is expected to be one of the major priorities in the coming years, particularly in the new Member States that are in an excessive deficit situation. It should be stressed that some countries have already taken some measures in that direction, and have started the pension system reform process.

3.3. INFLATION

In the wake of the disinflation process, most new Member States have succeeded in reaching inflation levels close to those recorded in developed countries overall. However, there are several upward pressures on prices in the new Member States that may lead to a widening of the inflation differential between those countries and the EU-15 countries and pose challenges to the conduct of economic policy.

Upward effects over the price level are expected in the new Member States during the first years of EU membership, as a result of fiscal harmonisation in matters for which these countries benefit from transition periods established within

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(15) See EBRD (2003).

(16) For an estimate of the medium-term effects of EU membership on the fiscal balance of the new Member States see CESifo (2004).

the scope of accession negotiations. Among these are measures such as the levelling off of customs duties vis-à-vis those levied in the other EU countries, the harmonisation of the Value Added Tax with the levels established in the *acquis communautaire* and the introduction of the intervention system in prices of agricultural products defined in the Common Agricultural Policy[17].

On the other hand, the increase in administered prices associated with the conclusion of the price liberalisation process in sectors where prices were significantly below production costs, such as in the case of heating services, is likely to be reflected in a positive effect on inflation in the new Member States.

Another possible source of inflation risks in the new Member States could be the absence of fiscal consolidation in the coming years, particularly in countries that are currently registering high public sector deficits. The possible persistence or deepening of imbalances in public accounts could be reflected in a deterioration of investors confidence and, thus, lead to an increase in inflationary pressures and exchange rate volatility in those countries, hindering the management of monetary policy in the new Member States.

The new Member States are also subject to pressures on the price level that are due to the Balassa-Samuelson effect, associated with the real convergence and structural adjustment process in which they are involved. Transition to market economy rules and the growing openness in terms of trade and foreign direct investment have led to an increasing exposure of the tradable goods sector of the new Member States to international competition. Under these conditions, as a result of the Balassa-Samuelson effect[18], the real convergence process tends to bring the price levels in the new Member States closer to the levels recorded in the EU-15 countries, leading to a real appreciation of the currency. Taking into account that the impact on inflation implied by the Balassa-Samuelson effect depends on the degree of adjustment of the nominal exchange rate in each country, the objective of price stability may eventually not be compatible with exchange rate stability.

3.4. MONETARY INTEGRATION

The deepening of monetary integration with the EU also poses challenges to the new Member States in terms of the pace of integration and the management of monetary policy during the transition period.

In the context of high capital mobility, capital flows into the new Member States may rise sharply during the economic convergence process and the preparation for the adoption of the euro, especially shorter-term capital associated with profit opportunities triggered by speculative activities, within the scope of the so-called convergence plays. In these circumstances, by increasing demand for domestic assets, excess capital inflows could lead to increases in asset prices at a rate well above the pace of growth of the economy and thus to speculative bubbles, thereby contributing to the weakness of the financial system. Likewise, a sharp increase in domestic credit, by triggering a fast expansion of domestic demand for consumer and investment goods, could lead to the overheating of the economy, with a marked increase in inflation.

Macroeconomic stabilisation under these conditions may create serious difficulties to policy-makers during the run-up to the adoption of the euro. If, on the one hand, increasing the interest rate could contribute to reduce the overheating of the economy, on the other hand, it would foster higher short-term capital inflows associated with convergence plays, in a context of high capital mobility.

The deepening of monetary integration with the EU also poses challenges to the new Member States as to changing the exchange rate regimes with a view to comply with the exchange rate criterion and with regard to the pace of integration. On the one hand, premature participation in the ERM II may impose an excessive limitation to exchange rate flexibility in the new Member States. In overheating situations, nominal and real appre-

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(17) For further information on the implementation of Common Agricultural Policy in the new Member States see European Commission (2004).

(18) The price level increase described by the Balassa-Samuelson effect results from the fact that the rise in productivity in the tradable goods sector during the catching up process leads to wage growth in this sector that, due to labour mobility between both sectors, also triggers higher wages in the non-tradable goods sector, where the differential in productivity growth vis-à-vis other countries is narrower.

ciation of the exchange rate may be important for macroeconomic stabilisation purposes in the new Member States, considering the difficulties raised by the use of interest rates previously mentioned. Exchange rate flexibility is also necessary to harmonise the compliance with the Maastricht inflation criterion in the new Member States with the upward pressures on the price level expected to take place in these countries. On the other hand, participation of the new Member States in the ERM II without a prior adequate synchronisation of the economic cycles with the euro area may trigger difficulties in the management of exchange rates, if there are no other economic policy instruments that can be effectively used for macroeconomic stabilisation purposes in the new Member States, with special emphasis to the stabilisation role of fiscal policy. Finally, it is worth mentioning that exchange rate stability during participation in the ERM II also depends on the appropriate choice of the central parity for the exchange rate. This choice should reflect the economic fundamentals and an appropriate assessment of the factors that may cause predictable pressures on the exchange rate in the new Member States, such as the catching-up process and the sustainability of external imbalances.

4. CONCLUSIONS

EU accession was preceded by a number of significant changes in the economies of the ten new Member States, largely associated with the process of transition to market economies. The changes that took place in these countries allowed substantial progress to be made in terms of structural reforms and macroeconomic stabilisation, resulting in nominal and real convergence vis-à-vis the other EU countries. During this period, there was an increasing integration of the new Member States with the EU through the strengthening of trade and foreign direct investment flows from the EU to those countries.

Although this process made it possible to bring the economies of both groups of countries closer by the date of accession, the group of new Member States still showed diverse characteristics from the EU-15, and even significant differences amongst individual countries. Therefore, heterogeneity within the EU increased following the enlargement.

Despite the subsisting differences among countries, the major challenges posed to the new Member States seem to stem, on the one hand, from the need to consolidate progress made in terms of nominal convergence and, on the other hand, from the high public sector deficits. In addition, the deepening of monetary integration with the EU, in a context of high capital mobility, poses important challenges to the management of economic policy in the new Member States.

In order to overcome such challenges and pursue a sustained trend of real convergence vis-à-vis the other EU countries, it will be essential that the new Member States safeguard the overall consistency of their stabilisation policies and strengthen fiscal, financial and monetary institutions.

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Box: RECENT EVOLUTION OF FOREIGN EXCHANGE REGIMES IN THE NEW MEMBER STATES

According to the de facto[1] classification of the exchange rate regimes adopted by the International Monetary Fund (IMF), and taking the year 2003 as a reference, the most rigid exchange rate policies were followed in Estonia and Lithuania, that adopted a currency board regime against to the euro, the former since the creation of the European currency and the latter since February 2002, when the euro replaced the dollar as reference currency of the exchange rate regime. In turn, the most flexible exchange rate policy was followed in Poland, that adopted a free-floating regime in April 2000, after abandoning a crawling band regime with 0.3 per cent monthly devaluation rate vis-à-vis a basket of currencies composed by the euro and by the dollar and with a ±15 per cent fluctuation margin of around central parity[2]. In 2003, the other countries followed intermediate exchange rate regimes with different degrees of exchange rate flexibility. Latvia and Malta had pegs to currency baskets: Latvia to the SDR since February 1994, and Malta to a currency basket made of the euro, the dollar and the pound sterling since 1999. Hungary and Cyprus adopted more flexible exchange rate regimes. The central parity of their currencies was pegged to the euro, and the market exchange rate fluctuated within a horizontal margin of ±15 per cent. This regime was followed in Cyprus since January 1992, with a central parity defined vis-à-vis the ECU, prior to 1999, and a narrower fluctuation margin[3], while in Hungary it was introduced later, in October 2001, to replace the crawling band regime against the euro implemented in January 2001[4]. In 2003, Slovenia followed a crawling band regime in which the Slovene authorities maintained the exchange rate within a fluctuation margin around a depreciating trend. The width of the fluctuation margin and the depreciating trend are not known, given that, since February 2002, the IMF's de facto classification of the exchange rate regime ceased to correspond to the managed floating official policy. Finally, the Czech Republic and Slovakia adopted managed float regimes, in which the authorities influence the exchange rate movements of the respective currencies without a pre-determined path for the exchange rate and without a specific exchange rate objective.

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(1) *The de facto classification of exchange rate regimes made by the IMF is based on the analysis of the information available on the actual operations carried out by the countries within the scope of the exchange rate policy, and may therefore differ from the de jure classification based on the exchange rate policy officially announced by the authorities of each country.*

(2) *Up to March 1999, the monthly devaluation rate followed in Poland stood at 0.5 per cent and the fluctuation band around central parity was ±12.5 per cent.*

(3) *The horizontal fluctuation margin around central parity was widened in January 2001 from ±2.5 per cent to the present ±15 per cent.*

(4) *The exchange rate policy in Hungary underwent a number of changes in recent years. Since early 1999 and up to the end of 2000, Hungary followed a crawling band regime against a currency basket composed of the euro and the US dollar, with an intervention margin of ± 2.25 per cent around the central parity. The crawling-peg rate stood at 0.6 per cent per month, and was subsequently reduced to 0.5 per cent in July 1999, to 0.4 per cent in October 1999 and to 0.3 per cent in April 2000. As of early 2001, the central parity was defined vis-à-vis the euro alone and the monthly devaluation rate was set at 0.2 per cent in April de 2001. In May 2001, still within the scope of the crawling band regime, the fluctuation margin around the central parity was widened to ±15 per cent. Finally, as of October 2001, the crawling peg of the central parity against the euro was eliminated, leading to the present regime.*

INFLATION AND MONETARY POLICY IN PORTUGAL BEFORE THE EURO

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1. INTRODUCTION

This article reviews inflation developments in Portugal in the 25-year period from the collapse of the Bretton Woods system to the adoption of the euro[1]. The emphasis is placed on the interaction between the behaviour of prices and the evolution of the monetary policy strategy, reflecting the monetary origins of inflation from a medium to long-run perspective. Against this background, section 2 provides an overview of inflation behaviour in the post-Bretton Woods era, and section 3 describes the evolution of monetary and exchange rate policy strategy over the same period. Section 4 concludes. A set of chronologies completes the present review: Table I provides relevant information on the computation of inflation statistics; Table II covers relevant changes in taxation; and Table III sets out the changes to the monetary and exchange rate policy objectives and to the *Statutes of the Banco de Portugal*.

2. OVERVIEW OF INFLATION DEVELOPMENTS IN THE POST BRETTON WOODS ERA

The Portuguese inflation experience since the fall of the Bretton Woods system can be divided into two major sub-periods: a period of very high and volatile inflation up to the mid-1980s, followed by a period of disinflation from the mid-1980s to the late-1990s[2] (Table 1 and Chart 1).

In the 1970s, the Portuguese economy had to cope with a series of severe negative shocks. The domestic political and social turmoil that followed the April 1974 revolution magnified the impact of the first oil shock. Substantial wage increases were enacted, and a large part of the productive sector was nationalised in 1975 (in particular the whole financial sector became state-run). In addition, the country had to absorb a significant increase in its population (about 7 per cent in 1974-76), as Portuguese citizens returned from the ex-colonies in Africa. As a result, a big recession occurred – GDP declined 4.5 per cent in 1975 (Chart 2) –, and unemployment increased substantially. Inflation, which had shown a slight upward trend since the early 1960s, rose sharply, to about 30 per cent in 1974.

In spite of a relative normalization of the political situation in the late 1970s, significant macroeconomic instability prevailed until the mid-1980s, reflecting the combined impact of the two world oil price shocks and the unsound macro policies pursued for most of the period. Substantial public sector deficits, essentially financed by the central bank, fuelled inflation; the resulting loss of competitiveness forced devaluation of the nominal exchange rate, which in turn added to price pressures: the country was caught in a vicious circle of inflation and devaluation. In the period 1973-1985,

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(2) For an account of the Portuguese disinflation experience, see Abreu (2001).

Table 1

PORTUGAL – INFLATION DEVELOPMENTS 1973-1998

	Average	Volatility
1973-1998	14.8	3.5
1973-1985	21.8	4.7
1986-1998	7.7	1.7

Notes:

(a) Inflation measured by the annual percentage change of the CPI;

(b) Volatility corresponds to the standard deviation of the differences between actual and trend inflation (measured as a five-year centred-moving average).

Chart 1
PORTUGAL – CPI INFLATION[a]

Source:
Banco de Portugal and INE.
Note:
(a) Average CPI inflation. Trend computed as 5-year moving average.

Chart 2
PORTUGAL - REAL GDP GROWTH

Source:
European Commission AMECO Database.

CPI inflation averaged 22 per cent, and fluctuated between 17 and 29 per cent.

When Portugal joined the European Community (EC) in January 1986, it had the second highest inflation rate amongst EC Member-States (only surpassed by Greece), and the differential against the EC average stood at about 14 percentage points. At this time, disinflation became a major goal of economic policy. To ensure a sustained decline of inflation, exchange rate policy became progressively less accommodating, so as to break the vicious circle of inflation and devaluation (see section 3). In addition, economic agents were encouraged to set nominal wages on the basis of expected (rather than past) price increases. Inflation, which was close to 30 per cent in 1984, declined to levels broadly compatible with price stability by the end of the 1990s.

Chart 3 shows the contributions to the change in the private consumption deflator during the disinflation period[3]. In the early years, disinflation benefited from favourable international price developments (including oil prices) and significant productivity gains, both of which contributed to the steep deceleration of prices in a context of strong GDP growth. In the late 1980s and early 1990s, as the Portuguese economy began to overheat and international price developments turned less favourable, the inflation rate temporarily resumed an upward trend and the pursuit of disinflation had to rely on a less accommodative stance of exchange rate policy. In the mid-1990s, the deceleration of unit labour costs following the 1993 recession also gave an important contribution to the decline of inflation.

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(3) The figures were obtained from the relevant equations of an annual macroeconomic model currently used in the projection exercises carried out by the Banco de Portugal.

Chart 3
CONTRIBUTIONS TO THE CHANGE IN THE PRIVATE CONSUMPTION DEFLATOR

Source:
Banco de Portugal *Long Term Series for Portuguese Economy* and *INE*.
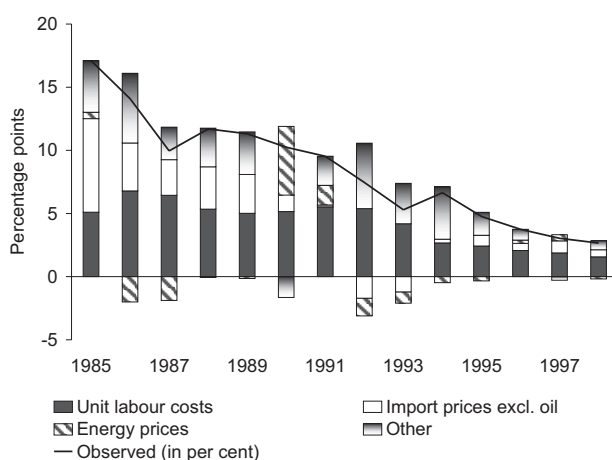
Chart 4
PORTUGAL - SHORT-TERM REAL INTEREST RATE

Source:
European Commission AMECO Database and *INE*.
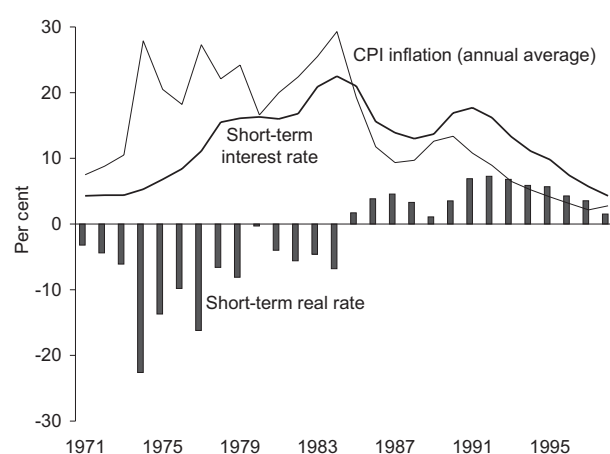
3. MONETARY AND EXCHANGE RATE POLICY FROM THE COLLAPSE OF THE BRETTON WOODS SYSTEM TO EMU

The collapse of the Bretton Woods system, the first oil shock and the 1974 Revolution brought profound changes to the conduct of macroeconomic policies in Portugal. In 1974-75, the priority of economic policy was to cope with the recession and the increase in unemployment. The money supply was adjusted to finance a widening public sector deficit, and a selective rediscount policy was put in place to promote activities linked to agriculture, exports and investment. Interest rates, which were subject to limits set by the central bank, were increased only slightly, resulting in significantly negative real rates (Chart 4)[4].

Although the escudo had been formally floating since March 1973, the effective exchange rate was kept broadly stable in 1974-75 so as to contain the inflationary pressures resulting from the increase in oil prices and steep wage acceleration[5]. However, as from 1976, the rapid decline of foreign exchange reserves (Chart 5) and the need to restore the competitiveness lost in the previous years led to a policy of gradual devaluation of the escudo. In 1977, severe balance of payments difficulties imposed a shift of priorities in economic policy. On 25 February 1977, the escudo suffered a

15 per cent devaluation, and six months later a crawling-peg regime was established (Chart 6). The crawling-peg consisted of a pre-announced monthly depreciation rate of the escudo vis-à-vis a basket of 13 currencies. The monthly rate of depreciation was initially set at 1 per cent. In 1978, a stabilisation programme had to be negotiated with the IMF. The package provided for a discrete devaluation of the escudo (6.1 per cent on 5 May), an increase of the pre-announced monthly rate of depreciation to 1.25 per cent, and the introduction of quantitative limits for bank credit, as a way of controlling the money supply. The package set a limit

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(4) Following the 1974 Revolution, the Banco de Portugal was nationalised. The new *Statutes of the Bank*, approved in November 1975 (Decree-Law No.664/75 of 15 November), provided that the issue of money should be planned in order to coordinate "the management of foreign exchange reserves and the credit to be granted by the Bank with the economy's needs for stabilisation and development" (Article 13). This provision put an end to the close link between the monetary base and the level of foreign exchange reserves that had prevailed under the Bretton Woods system. The Statutes also provided for the possibility of extensive credit to be granted by the Bank to the public sector (Article 23 and 25). Finally, the Statutes conferred upon the Bank the power to determine the interest rate regime applying to the banking sector, as well as to set the conditions governing the banks' credit operations (Article 27).

(5) Extensive capital controls made it possible for the authorities to simultaneously control domestic interest rates and the exchange rate.

Chart 5
BANCO DE PORTUGAL NET FOREIGN ASSETS
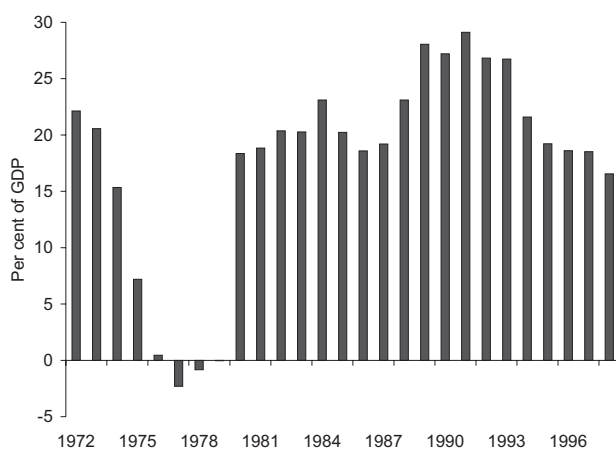
Source:

Banco de Portugal and European Commission AMECO Database.

Note:

The gold reserves of Banco de Portugal were revalued in 1980 so as to bring their book value close to the market value of gold (Decree-Law N.107/80 of 10 May 1980). The change in gold reserves amounted to 16.6 per cent of GDP, explaining 90 per cent of the increase in net foreign assets in 1980.

Chart 6
NOMINAL AND REAL EFFECTIVE EXCHANGE RATE
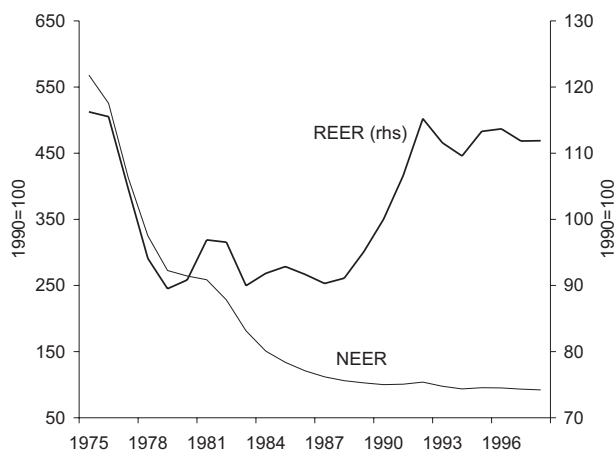
Source:

Banco de Portugal.

for the balance of payments deficit (i.e. for the change in the consolidated banking sector net external assets) and a corresponding target for the expansion of total domestic credit. In practice, given the behaviour of the general government deficit, credit to the private sector was adjusted to

ensure compliance with the limit set for the growth of total credit.

In the early 1980s, as the world economy was hit by the second oil shock, an expansionary macroeconomic policy was put in place in Portugal. On 12 February 1980, the escudo was revalued by 6 per cent, and in June of the same year the crawling-peg monthly devaluation rate was reduced to 0.5 per cent. At the same time, credit controls were eased and no fiscal consolidation took place. The expansionary policy stance, which was clearly motivated by the political calendar (general elections were to be held in October), aggravated the impact of the second oil shock and external accounts again went out of control. As the current account deficit (including capital transfers) reached 13 per cent of GDP in 1982, a second stabilisation package had to be negotiated with the IMF. Credit controls were tightened and the depreciation of the escudo was intensified. Like the previous package, the second IMF programme was quite successful in restoring balance of payments equilibrium. This came however, at the cost of a new recession (after stagnating in 1983, GDP fell by 2 per cent in 1984), and a renewed increase of inflation, which again came close to 30 per cent.

In short, monetary policy in Portugal in the mid-1980s was still based on credit ceilings and administered interest rates. Extensive capital controls were in place, and the exchange rate followed a crawling peg regime aimed at preserving the competitiveness of Portuguese exporters in a context of high inflation, chronic budget deficits and recurrent payments crises. The poor economic performance of the previous period made it clear that a regime shift on macroeconomic stability and structural reform would be needed to put the economy on a sustainable growth path. Accordingly, in the mid-1980s, an ambitious economic programme aimed at sustained disinflation, budgetary consolidation and wide-ranging structural reform was put in place[6]. The country's integration in the European Community in 1986 provided the catalyst for implementation of the reform programme. The exchange rate was chosen as the central piece in the disinflation strategy, a natural

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(6) See the 10th Constitutional Government Programme, dated November 1985 (*Diário da Assembleia da República*, II *série*, N.4, 16/11/1985).

choice for a small open economy, where import prices play a key role in the inflation process. The monthly rate of depreciation was gradually cut back from 1986, and no more discrete devaluations were carried out. As seen previously, inflation declined very rapidly up to 1987, but resumed an upward trend in 1988-90. Since the monthly rate of devaluation of the escudo continued to be cut back, the inflation differential against Portugal's main trading partners was no longer fully offset, and the escudo started appreciating in real terms (Chart 6).

In the late 1980s, in the context of the gradual liberalisation of the capital account, the monetary authorities experienced significant difficulties in controlling domestic liquidity. The decline in the country's risk premium after EC accession attracted significant amounts of foreign direct investment to Portugal. In addition, a large interest rate differential vis-à-vis the core European currencies, coupled with a tightly managed (and thus highly predictable) exchange rate in the context of the crawling-peg regime, fostered massive inflows of short-term capital. The central bank was caught in a vicious circle, as it tried to simultaneously control domestic interest rates and the exchange rate. Foreign exchange interventions to contain the pressure towards the appreciation of the escudo increased domestic liquidity, impairing the effectiveness of credit ceilings.

The interruption of the disinflation process in the late 1980s and the difficulties in controlling domestic liquidity prompted radical changes in the conduct of monetary and exchange rate policies in the early 1990s. New Banco de Portugal Statutes were adopted in October 1990, imposing strict limits to the financing of the public sector by the central bank. Credit ceilings were abolished and market-based liquidity management was put in place (most interest rate controls had already been eliminated during the second half of the 1980s). In addition, controls to short-term capital inflows were temporarily re-imposed and the crawling-peg regime had to be abandoned. As from October 1990, the escudo was allowed to fluctuate within an undisclosed band against a basket composed of the five main ERM currencies. The authorities wished to introduce some short-term unpredictability in the exchange rate of the escudo, so as to discourage short-term capital inflows. The new exchange rate policy was also aimed at preparing the country for future participation in the ERM.

The new regime failed to discourage capital inflows since, as before, the Banco de Portugal continued to impose high domestic interest rates to fight inflation, while at the same time intervening in the foreign exchange market to contain the pressure towards the appreciation of the escudo. In an environment characterised by strong optimism regarding the prospects for the creation of a monetary union in Europe, and by favourable prospects for the Portuguese economy, investors saw the Portuguese currency as a "one-way bet". In spite of the massive sales of escudos by the Banco de Portugal - the central bank's net foreign assets stood at around 30 per cent of GDP in 1989-1991 (Chart 5) - the nominal effective exchange rate appreciated by almost 3 per cent in the 18 months that followed the abolition of the crawling-peg. Given that the inflation differential against the EU average was still significant, this translated into a substantial real appreciation of the currency. The conduct of monetary policy in this period was further complicated by the expansionary stance of fiscal policy[7], which added to the strong growth of private sector expenditure, giving rise to an increasingly unbalanced policy-mix. In spite of the difficulties in running monetary policy, inflation resumed a downward path in 1991, as high domestic real interest rates and the appreciation of the currency helped contain price pressures (Charts 4 and 6).

In April 1992, the Portuguese currency joined the exchange rate mechanism (ERM) of the European Monetary System[8]. From an operational point of view, participation in the ERM was not radically different from the exchange rate policy that was actually being followed from October 1990. However, the formal commitment to keeping the escudo within a pre-established band was expected to reinforce the medium-term credibility of the Portuguese authorities' anti-inflation stance, and to have a favourable impact on inflation expectations. Exchange rate stability vis-à-vis a set of currencies characterised by a high degree of nomi-

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[7] For an account of fiscal policy in the period 1986-1994, see Cunha and Neves (1995).

[8] Abreu (2003) provides a detailed account of the experience of the Portuguese escudo in the ERM.

nal stability should provide a powerful anchor to reach and maintain price stability over the medium-run. ERM membership was also a necessary step to ensure that the country would be a candidate for participation in Economic and Monetary Union (EMU).

The escudo joined what was then called the wide band, which allowed for a ±6 per cent fluctuation of the market rate around the bilateral central rates against the other ERM currencies. The central rate against the German currency, which was effectively the anchor of the system, was set at 86.9393 escudos per German mark. The entry rate was broadly in line with available estimates for the escudo's equilibrium real exchange rate. The strong performance of the external sector since the mid-1980s, as evidenced by the market share gains of Portuguese exporters and a broadly balanced current account, suggested that the steep real appreciation of the currency in the previous years had been, at least to a large extent, an equilibrium phenomenon[9].

In the early months of participation in the system, foreign capital continued to be attracted by the high interest rate differentials, putting upward pressure on the escudo. However, the situation changed radically in the summer of 1992, with the onset of the ERM crisis, which ultimately led to a widening of the fluctuation bands to ±15 per cent in August 1993. During the ERM crisis, the central rate of the escudo was devalued twice, and the Portuguese currency depreciated by about 10 per cent in effective terms, and by twice as much against the German mark. The ERM crisis and the related depreciation the Portuguese escudo did not prevent a steady decline of the inflation rate in the period of ERM membership. Consistent with the announced strategy, the authorities did not make use of the enlarged room for manoeuvre provided by the wider ERM bands: official interest rates were adjusted and substantial interventions were carried out whenever necessary to preserve exchange rate stability. The period from the en-

Chart 7
THE PORTUGUESE ESCUDO IN THE ERM
(A) Exchange rate and intervention limits
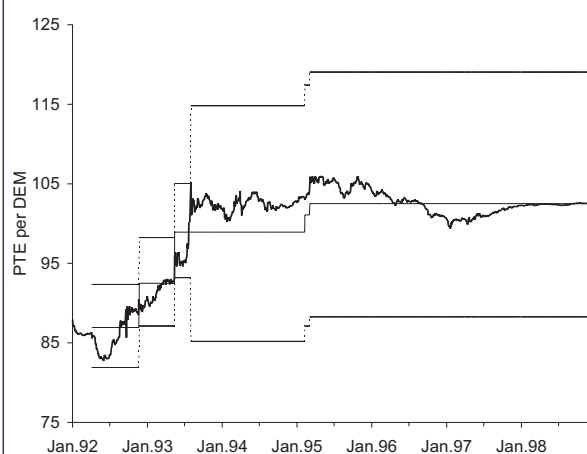
(B) Foreign exchange interventions and PTE overnight interest rate
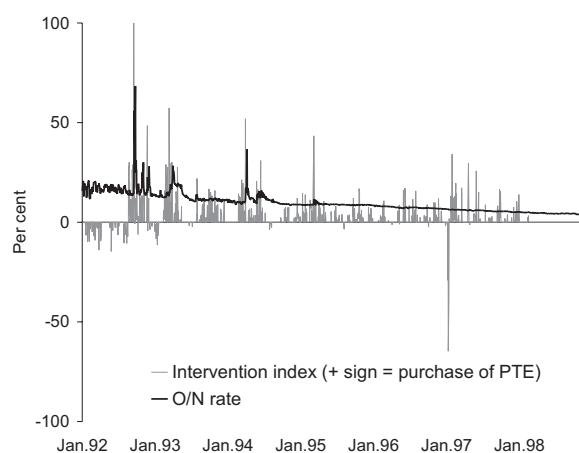
Source:
Banco de Portugal

largement of the ERM bands to the end of 1998 was thus one of increasing stability of the escudo, as attested by the fact that, in spite of a third realignment in March 1995, the escudo's conversion rate into the euro was very close to the market exchange rate vis-à-vis the German mark prevailing in August 1993 (Chart 7).

As shown in section 2 above, average CPI inflation declined from double-digit levels in the early 1990s to a range of 2-3 per cent in 1997-98. The transmission of the exchange rate depreciation of 1992-93 to CPI inflation was rather limited, and did not show up in the overall index. The signifi-

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(9) Manteu and Mello (1992) provide an estimate for the path of the fundamental real equilibrium exchange rate of the Portuguese escudo in the period 1980-1992. Later studies reported similar results (see, for instance, Costa (1998)). For a survey of the arguments pointing to an equilibrium appreciation of the Portuguese escudo, see Manteu and Neves (1998).

cant deterioration of the cyclical position in 1992-1993, and the fact that the realignments of the Portuguese escudo were not perceived as a regime shift[10] helped contain the transmission of the depreciation to domestic prices. When the Portuguese economy re-bounded from 1994 onwards, the successful preservation of exchange rate stability since the enlargement of the bands anchored inflation expectations and allowed for continued disinflation. From the mid-1990s onwards, the country benefited from a virtuous circle: improved nominal convergence increased the prospects of meeting the criteria for euro adoption, while at the same time enhanced prospects for EMU participation facilitated exchange rate stability, the decline of interest rate differentials and the improvement of the budget balance.

4. CONCLUSION

The history of Portuguese inflation from the collapse of the Bretton Woods system to the adoption of the euro contains two very distinct chapters.

From the mid-1970s to the mid-1980s, inflation was high and volatile, reflecting a monetary and exchange rate policy that was primarily designed to finance huge public sector deficits and to contain the large external deficits that emerged as a result of the economy's overall economic imbalances. The significantly negative real interest rates and the continuous depreciation of the Portuguese escudo illustrate the highly accommodative stance of monetary and exchange rate policy throughout the decade.

In the mid-1980s, coinciding with the country's accession to the European Community, control of inflation became the main objective of monetary and exchange rate policy. As policy became progressively less accommodating, the escudo started appreciating in real terms and real interest rates turned clearly positive. In 1990, the crawling-peg regime gave way to a new monetary policy strategy, based on exchange rate stability as the intermediate target to reach the final goal of price stability. The subsequent integration of the escudo in the exchange rate mechanism of the European Monetary System was a further step in the authorities' attempt to gain anti-inflation credibility. The commitment to the policy of exchange rate stability anchored inflation expectations, and helped prevent a re-emergence of inflation pressures after the depreciation of the escudo in the context of the ERM crisis, and during the economy's upswing in the second half of the 1990s.

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(10) This probably reflects the fact that the escudo realignments took place in a context of systemic adjustments, and were likely regarded as unavoidable in the context of the devaluations of the central rate of the Spanish peseta.

Table I

RELEVANT CHANGES TO THE COMPUTATION OF INFLATION STATISTICS

Table 1A – Relevant changes on the computation of the country´s reference for inflation

Date	Country's reference for inflation	Computation	Reference prices	Period	Weighting structure	Geographic coverage	Number of prices collected	Methodological notes
1961	Monthly CPI, excluding housing rentals	Laspeyres index	1963=100	1961 - 1977	Surveys on "Household Living Conditions" carried out in six cities	Six cities of the mainland: Lisboa, Porto, Coimbra, Évora, Viseu and Faro	n. a	Weighted average index, based on population coefficients.
1977	Monthly CPI, excluding housing rentals	Laspeyres index	1976=100	1976 - 1987	Households Budget Survey 1973/74	Mainland´s urban agglomerates	18000	
1988	Monthly CPI, excluding housing rentals	Laspeyres index	1983=100	1988 - 1991	Households Budget Survey 1980/81	Mainland	30000	Inclusion of actual and imputed rentals for housing, only in the average yearly index.
1992	Monthly CPI, excluding housing rentals	Laspeyres index	1991=100	1991 - 1997	Households Budget Survey 1989/90	National	63000	
1998	Monthly CPI, including actual rentals for housing	Laspeyres index	1997=100	1997 - 2002	Households Budget Survey 1994/95	National	80000	1) Change in the frequency of the price collection for actual rentals for housing from a yearly to a monthly basis; 2) Inclusion of price reductions (sales and promotions) in the index.
2003	Monthly CPI, including actual rentals for housing	Chain Laspeyres index	2002=100	>2002	Households Budget Survey 2000	National	93149	1) Adoption of an annual chain index, with the base month December acting as the linking month; 2) Change in the treatment of seasonal products.

Table I
RELEVANT CHANGES TO THE COMPUTATION OF INFLATION STATISTICS
Table 1B – Relevant changes on the computation of the price index for international comparison

Date	Price index for international comparison	Computation	Reference prices	Period	Weighting structure	Geographic coverage	Number of prices collected	Methodological notes
Jan-96	Monthly Interim Index	Chain Laspeyres index	1994=100	1990 - 1996	Structure of the CPI_{b83} and of the CPI_{b91}	88 per cent of the national CPI basket		Main items not covered: housing rentals, health, education, social protection, insurance and financial services.
Mar-97	Monthly Harmonised Index of Consumer Prices (HICP)	Chain Laspeyres index	1996=100	1995 - 1999	Structure of the CPI_{b91} and of the CPI_{b97}	92 per cent of the national CPI basket		Addition of the subindices of health and education (only non-refundable goods and services subject to market prices), insurance and financial services.
Jan-00	Monthly Harmonised Index of Consumer Prices (HICP)	Chain Laspeyres index	1996=100	>2000	Structure of the CPI_{b97} and of the CPI_{b02}, using a weighting scheme that includes the expenditure of non-residents (estimated with information from the National Accounts and the Expenditure of Non-residents in the Domestic Territory Survey).	At present, the HICP reached the total coverage for the defined scope: "Household Final Monetary Consumption Expenditure" in the economic territory.		With the extensions introduced in 2002 (i.e, inclusion in the index of the goods and services of the expenditure groups "health" and "education" and of nonresidents' purchases (tourists)) the HICP covers the entire final domestic consumption expenditure.

Table II

RELEVANT CHANGES IN INDIRECT TAXATION

Date	Value-Added Tax	Estimated impact on annual average CPI inflation rate
1986	Introduction of the Value-Added Tax (VAT): zero rate: 0 per cent (unprocessed food and agricultural inputs); reduced rate: 8 per cent(processed food and some goods and services); 30 per cent(luxury goods); standard rate: 16 per cent(remaining goods and services). Transaction tax eliminated.	
1988	Standard rate increased to 17 per cent. VAT base broadened slightly.	Effect on CPI of the change of the standard VAT rate: about 0.5-0.75 p.p.
1992	Zero rate and reduced rate of 8 per cent were abolished; new reduced rate: 5 per cent; rate of 30 per cent unchanged; Standard rate decreased to 16 per cent. Considerable broadening of the VAT tax base.	Effect on CPI of the change of the VAT rates: about 2.0 p.p.
1995	Standard rate increased to 17 per cent. Elimination of the 30 per cent rate.	
1996	Reduction in the tax rate on restaurant services and some foodstuffs from 17 to 12 per cent and rise in the VAT tax rate on diesel from 5 to 12 per cent.	
1997	Increase in the VAT rate on diesel from 12 to the standard rate.	
2001		
2002	Standard rate increased to 19 per cent in June 2002.	Effect on CPI the change in the VAT standard rate in June 2002: about 0.2 p.p.
2003		Effect on CPI of the change in the VAT standard rate in June 2002: about 0.4 p.p.

Table III *(to be continued)*

CHANGES TO THE MONETARY AND EXCHANGE RATE POLICY OBJECTIVES AND TO THE STATUTES OF THE BANCO DE PORTUGAL

Date	Event
19 March 1973	Collapse of the Bretton Woods system; Portuguese escudo (PTE) floats.
25 April 1974	Revolution puts an end to a 48-year dictatorship.
13 September 1974	Banco de Portugal is nationalised (Decree-Law N.452/74 of 13 September).
Mid-1973 to mid 1975	PTE officially floating, but stability of effective exchange rate is preserved.
March 1975	Commercial Banks and insurance companies nationalised, except those that were foreign-owned (Decree-Law N. 132-A/75 of 14 March).
15 November 1975	New *Statutes of the Banco de Portugal* (Decree-Law N.644/75 of 15 November). According to Article 13, the Bank's issue of money is to be planned so as to coordinate "the management of foreign exchange reserves and the credit to be granted by the Bank with the economy's needs for stabilisation and development". Articles 23 and 25 provide for the possibility of extensive credit to be granted by the Bank to public sector. Article 27 confers upon the Bank the power to determine the interest rate regime applying to the banking sector, as well as to set the conditions governing the banks' credit operations.
1976	Correction of external imbalance becomes the priority of economic policy; exchange rate becomes the key instrument to correct the external imbalance; depreciating trend of the PTE against the major currencies.
25 February 1977	PTE is devalued by 15 per cent vis-à-vis the currencies quoted by the Banco de Portugal. The aim of keeping the PTE stable in effective terms as from this date is announced.
25 August 1977	A crawling-peg regime is adopted. The crawling-peg consisted of a pre-announced monthly depreciation rate of the escudo vis-à-vis a basket of 13 currencies. The monthly rate of depreciation was initially set at 1 per cent.
August 1977	Portuguese inter-bank money market is set up (D-L N.353-R/77 of 29 August and Banco de Portugal Circular N.72-21/77/DSOC of 31 August).
February 1978	Portuguese Inter-bank securities market is set-up (Circular N.30-6/78/DSOC de 22/02/1978).
April 1978	First IMF Stabilisation Agreement.
5 May 1978	6.1 per cent discrete devaluation of the effective exchange rate; pre-announced monthly rate of depreciation increased to 1.25 per cent.

Table III *(contd.)*

CHANGES TO THE MONETARY AND EXCHANGE RATE POLICY OBJECTIVES AND TO THE STATUTES OF THE BANCO DE PORTUGAL

Date	Event
July 1978	Mandatory limits to credit growth are introduced.
April 1979	Pre-announced rate of devaluation reduced to 1.0 per cent.
June 1979	Pre-announced rate of devaluation reduced to 0.75 per cent.
12 February 1980	Discrete 6.0 per cent revaluation of the effective exchange rate.
June 1980	Pre-announced rate of devaluation reduced to 0.50 per cent.
December 1981	Pre-announced rate of devaluation increased to 0.75 per cent.
16 June 1982	Discrete 9.4 per cent devaluation of the effective exchange rate.
30 September 1982	First revision of the 1976 Constitution. Private banking and insurance allowed.
March 1983	Pre-announced rate of devaluation increased to 1.0 per cent.
23 March 1983	Discrete 2.0 per cent devaluation of the effective exchange rate.
22 June 1983	Discrete 12.0 per cent devaluation of the effective exchange rate.
September 1983	Second IMF stabilisation agreement.
1984-1992	Progressive liberalisation of bank interest rates.
December 1985	Pre-announced rate of devaluation suspended.
1 January 1986	Portugal joins the European Economic Community.
March 1986-December 1992	Liberalisation of capital movements[a].
April 1986	Pre-announced rate of devaluation re-established at 0.90 per cent.
July 1986	Pre-announced rate of devaluation reduced to 0.70 per cent.
October 1986	Pre-announced rate of devaluation reduced to 0.60 per cent.

Table III *(contd.)*

CHANGES TO THE MONETARY AND EXCHANGE RATE POLICY OBJECTIVES AND TO THE STATUTES OF THE BANCO DE PORTUGAL

Date	Event
January 1987	Pre-announced rate of devaluation reduced to 0.50 per cent.
January 1988	Pre-announced rate of devaluation reduced to 0.40 per cent.
April 1988	Pre-announced rate of devaluation reduced to 0.30 per cent.
July 1988	Pre-announced rate of devaluation reduced to 0.25 per cent.
8 July 1989	Second revision of the 1976 Constitution opens up the possibility of re-privatisation of nationalised companies.
March 1990	Compulsory credit ceilings suspended and replaced by recommendations on bank credit expansion (the latter were abolished as from January 1991).
May 1990	Reserve requirement regime substantially modified. Range of institutions subject to reserve requirements and reserve base broadened. Single reserve coefficient set at 17 per cent. Reserves were remunerated.
1 October 1990	Crawling-peg regime abandoned. The authorities announce that the objective of a yearly depreciation of the effective exchange rate of 3 per cent will be kept, but that in the short-term the escudo will be allowed to fluctuate within a non-announced band. The reference basket against which the escudo is to be measured changed to a basket composed of the 5 main ERM currencies (i.e., the German mark, Sterling, the French franc, the Italian lira and the Spanish peseta).
30 October 1990	New *Statutes of the Banco de Portugal* (Decree-Law 337/90 of 30 October) confer upon the Bank a greater autonomy in the conduct of monetary policy. The principle of no monetary financing is established, but some exceptions remain: in particular, the State retains the possibility of using an interest-free overdraft facility whose limit was fixed as a percentage of the State's current revenue.
December 1990 - March 1991	Major operation aimed at absorbing the excess bank liquidity deposited with the Banco de Portugal, which amounted to more than 12 per cent of GDP. The operation involved the issue of public debt to be placed with the banking system. Part of this loan was earmarked for early repayment of external public debt, whilst the remainder was reserved for the redemption of public debt securities lying in the Banco de Portugal's portfolio.
1990-1991	Restrictions to the inflow of foreign capital re-introduced in a context of increasing difficulties to control domestic liquidity. In July 1990, a compulsory non-remunerated deposit amounting to 40 per cent of foreign borrowing by Portuguese residents was introduced. One year later, restrictions were re-imposed on the purchase of floating-rate Portuguese securities by non-residents.

Table III *(contd.)*

CHANGES TO THE MONETARY AND EXCHANGE RATE POLICY OBJECTIVES AND TO THE STATUTES OF THE BANCO DE PORTUGAL

Date	Event
6 April 1992	PTE joins the ERM wide bands (±6 per cent); central rate against the ECU set at 178.735 escudos per ECU and central rate against the DEM set at 86.9393 escudos per DEM.
May 1992	Remaining interest rate controls abolished (the most important rates had been liberalised up to 1989).
16 September	A number of ERM currencies suffer a major speculative attack. The central rate of the Spanish peseta is devalued by 5 per cent; the British pound and the Italian lira withdraw from the system. Banco de Portugal resorts to massive intervention and interest rate increases and succeeds in defending the attack against the escudo.
23 November 1992	6 per cent devaluation f the PTE central rate (Spanish peseta also devalued by 6 per cent).
16 December 1992	Remaining capital controls abolished. PTE fully convertible.
December 1992	The State is interest-free overdraft facility with the Banco de Portugal is abolished (Law No.2/92). The amount outstanding is converted into a non-marketable 10-year loan bearing a 1.3 per cent interest rate that would gradually converge to market rates.
1 February	10 per cent devaluation of the central rate of the Irish pound.
13 May 1993	6.5 devaluation of the PTE central rate (8 per cent devaluation of the Spanish peseta).
2 August 1993	Enlargement of the ERM fluctuation bands to ±15 per cent.
1 January 1994	Second phase of EMU – prohibition of monetary financing applies to the European Union countries.
12 July 1994	Banco de Portugal money market intervention procedures improved. An absorption facility is created to set a lower limit to very short-term money market interest rates. An upper limit was already established by the rate applying to the Bank's overnight credit facility. Market rates to be steered through repos within the band established by the absorption and overnight credit rates.
1 November 1994	New reserve requirement system. Reserve requirement ratio lowered from 17 per cent (partially remunerated) to 2 per cent (non-remunerated). The liquidity released was sterilised through certificates of deposit issued by the Banco de Portugal.

Table III *(contd.)*

CHANGES TO THE MONETARY AND EXCHANGE RATE POLICY OBJECTIVES AND TO THE STATUTES OF THE BANCO DE PORTUGAL

Date	Event
6 March 1995	3.5 per cent devaluation of the PTE central rate (7 per cent devaluation of the Spanish peseta).
12 September 1995	*Banco de Portugal Statutes* revised (Decree-Law N.231/95 of 12 September). The Bank becomes responsible for maintaining "price stability, taking into account the overall economic policy of the government", and is given more independence in the conduct of monetary policy. The prohibition of monetary financing in accordance with Community law is formally established.
31 January 1998.	*Banco de Portugal Statutes* revised (Law No.5/98 of 31 January 1998). The new Law grants independence to the Banco de Portugal and provides for the Bank's integration in the European System of Central Banks as from January 1999.
2 May 1998.	European Council decides that Portugal meets the conditions to adopt the euro as from 1 January 1999.
31 December 1998.	Portuguese escudo converted into euro at a rate of 200.482 PTE per euro (102.505 PTE per German mark).

Note:

(a) For a chronology of the main steps in the process of capital movement liberalisation, see Banco de Portugal, *Annual Report* 1992 (Chapter V).

Chronology of major financial policy measures

January

7 January (Decree-Law No 13/2005, Official Gazette No 5, Series I-A)	Introduces changes in the legal framework of real-estate based funds, as approved by Decree-Law No 60/2002 of 20 March.
17 January (Circular Letter of Banco de Portugal No 102/2004/DSB)	Provides indications on the accounting model to be adopted by institutions subject to the supervision of Banco de Portugal that are not covered by Article 4 of Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002, and on the implementation of a transitional regime during the year starting on 1 January 2005.
17 January (Instruction of Banco de Portugal No 23/2004)	Lays down the procedures to be followed in the reporting of consolidated accounting information, prepared in accordance with the International Accounting Standards.
13 January (Regulation of the Securities Market Commission No 1/2005, Official Gazette No 31, Series II)	Amends several articles, adds others and republishes, as duly amended, Regulation No 8/2002, of 18 June, which lays down the set of rules governing the legal regime governing real estate funds.
24 January (Circular Letter of Banco de Portugal No 7/2005/DET)	Banco de Portugal lays down that credit institutions should ensure that the distribution of banknotes through ATMs takes into consideration the structure of the currency circulation of the country, so as to allow a better adequacy between cash supply and demand.
13 January (Regulation of the Securities Market Commission No 1/2005, Official Gazette No 31, Series II)	Amends several articles, adds others and republishes, as duly amended, Regulation No 8/2002, of 18 June, which lays down the set of rules governing the legal regime governing real estate funds.
24 January (Circular Letter of Banco de Portugal No 7/2005/DET)	Banco de Portugal lays down that credit institutions should ensure that the distribution of banknotes through ATMs takes into consideration the structure of the currency circulation of the country, so as to allow a better adequacy between cash supply and demand.

February

15 February (Instruction of Banco de Portugal No 1/2005)	Regulates the involvement and "implicit support" in securitisation operations.
15 February (Instruction of Banco de Portugal No 2/2005)	Defines the places and conditions under which current metal coins can be deposited with or withdrawn from Banco de Portugal. Revokes Instruction No 3/2003, published in the Official Bulletin No 2, of 17 February 2003.
15 February (Instruction of Banco de Portugal No 4/2005)	Provides for the application of a reduced rate to the calculation of the annual contribution to the Deposit Guarantee Fund regarding deposits opened in the off-shore financial centres of Madeira and Santa Maria Island. Revokes Instruction No 122/96, published in BNBP No 5, of 15 October 1996.
21 February (Notice of Banco de Portugal No 1/2005, Official Gazette No 41, Series I, B)	Lays down that institutions shall prepare their annual and consolidated accounts in conformity with the International Accounting Standards (IAS), as adopted, at each moment, by a EU regulation. Provides for a transitional regime during 2005, for the institutions, which are not subject to the provisions of Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002.
21 February (Notice of Banco de Portugal No 2/2005, Official Gazette No 41, Series I, B)	Following the adoption of the International Accounting Standards (IAS), amends Notice No 12/92 on the regulatory framework governing the own funds and the solvency ratio.
21 February (Notice of Banco de Portugal No 3/2005, Official Gazette No 41, Series I, B)	Following the adoption of the International Accounting Standards (IAS), redefines the regime governing the provisions to be set up by credit institutions and financial companies.

21 February (Notice of Banco de Portugal No 4/2005, Official Gazette No 41, Series I, B)	Following the adoption of the International Accounting Standards (IAS), amends Notice No 12/2001, of 23 November, on the coverage of liabilities on account of retirement and survivors pensions.
21 February Notice of Banco de Portugal No 5/2005, Official Gazette No 41, Series I, B	Following the adoption of the International Accounting Standards (IAS), amends Notice No 10/94, of 18 November, on the supervision and control of large exposures of institutions subject to the supervision of Banco de Portugal.
21 February (Notice of Banco de Portugal No 6/2005, Official Gazette No 41, Series I, B)	Taking into account the transposition of Directive 2003/51/EC of the European Parliament and of the Council of 18 June 2003, by Decree-Law No 35/2005, of 17 February, amends Notice No 8/94, of 15 November, as regards of composition of consolidation for prudential supervision purposes.
28 February (Instruction of Banco de Portugal No 6/2005)	Regulates Notice No 1/2005, of 28 February, with respect to (the accounting framework of) credit fallen due.
28 February (Instruction of Banco de Portugal No 7/2005)	Lays down provisions on imparity.

March

10 March (Corrigendum no. 10/2005 Official Gazette no. 49, Series I, B)	Corrigendum to Notice of Banco de Portugal no. 4/2005, published in the Official Gazette no. 41, Series I, B of 28 February.
17 March (Circular Letter of Banco de Portugal no. 9/2005/DET)	Following the Decision taken by the Governing Council of the European Central Bank on 16 December 2004, makes known the new framework laying down common principles for authentication and fitness sorting regarding banknote recycling by credit institutions and other professional cash handlers.
18 March Instruction of Banco de Portugal no. 9/2005, disclosed through Circular Letter no. 18/2005/DSB	Concerning the reporting to Banco de Portugal of statistical data prepared in accordance with the International Accounting Standards (IAS) or with the Adjusted Accounting Rules (AAR).
21 March Circular Letter of Banco de Portugal no. 13/2005/DSB	Following Notice no. 1/2005 of 28 February and Circular Letter no. 102/04/DSBDR of 23 December, provides clarification on the possible scenarios for the implementation of the accounting rules to be complied with in the transitional regime to 2005 by the institutions that must prepare consolidated and non-consolidated accounts or only non-consolidated accounts.
24 March (Circular Letter of Banco de Portugal no. 19/2005/DSB)	Provides further clarification on pre-contractual information, with regard to loan requests for the acquisition of goods or services.

April

1 April (Circular Letter of Banco de Portugal no. 20/2005/DSB)	Recommends that credit institutions and financial companies must identify the intervening parties and analyse with particular caution operations contracted with natural or legal persons resident or established in certain countries or territories, within the scope of the measures aimed at preventing money laundering. Revokes Circular Letter no. 101/2004/DSB of 3 December 2004.
11 April (Regulation of the Ministry of Finance - Portuguese Insurance Institute No 28/2005, Official Gazette no. 70, Series II)	Under the provisions laid down in subparagraph a), of paragraph 1 of Article 13 of Decree-Law No 35/2005 of 17 February, defines the statutory regime and the legal framework for the implementation of the international accounting rules adopted in accordance with the provisions of Regulation (EC) No 1606/2002 of the European Parliament and of the Council of 19 July 2002 as far as insurance companies, pension fund management companies and insurance mediating companies are concerned. This regulation shall be applicable as from the 2005 fiscal year.

Working papers

WORKING PAPERS