

INFLATION — RECENT DEVELOPMENT AND PROSPECTS FOR 1998

1. INTRODUCTION

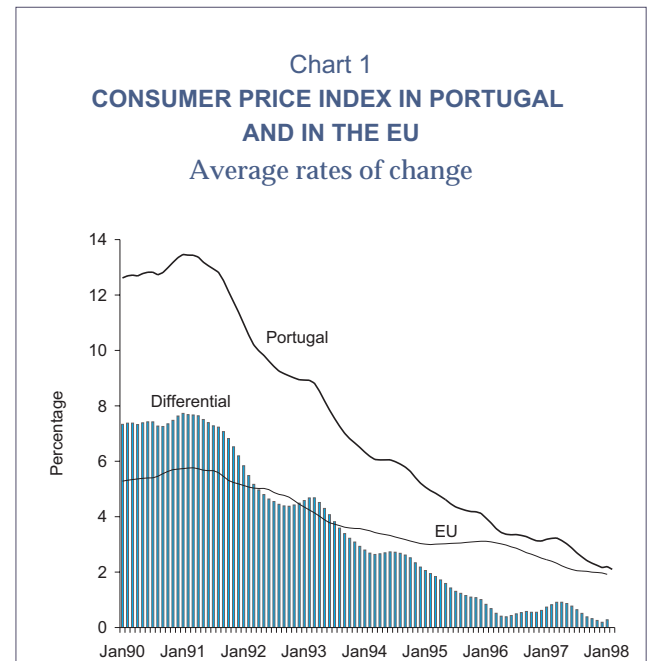
In 1997, inflation in Portugal reached values compatible with price stability. In accordance with its statute, the Banco de Portugal shall ensure the maintenance of price stability. From 1999 onwards, this task shall be fulfilled in the context of the single monetary policy in the euro area.

The gradual and sustained disinflationary process recorded since late 1990 (chart 1), was characterised by the slowdown of prices of both tradables and non-tradables. The behaviour of international prices, the exchange rate stability of the escudo and the slowdown recorded by nominal wages were crucial to this process, and remain key to the maintenance of its sustainability and credibility. The continuation of the budgetary consolidation process was also crucial to the credibility of the disinflation process. The decline in the escudo long-term interest rates, resulting in a virtual null differential vis-à-vis the corresponding Deutsche mark interest rates, confirms the strengthening of the credibility of nominal stability.

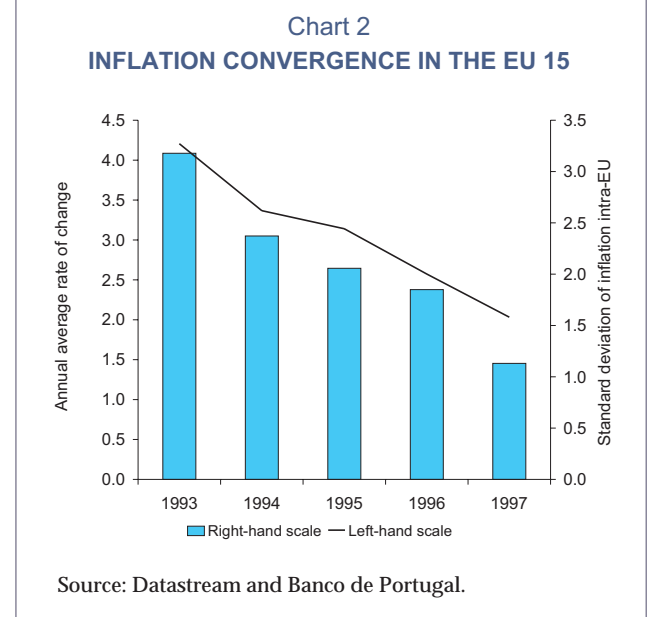
Disinflation in Portugal took place in a context of a decreasing average inflation and inflation rate dispersion in the European Union (chart 2). Price stability is now common to most Member-states. The maintenance of price stability stands as the primary objective of the European Central Bank which, from 1999 onwards, shall be responsible for the definition of monetary policy in the euro area.

2. RECENT DEVELOPMENTS IN INFLATION

In 1997, inflation measured by the annual average rate of change of the Harmonised Index of Consumer Prices (HICP) reached 1.9 per cent, 1 percentage point below the level recorded in 1996.



Source: INE and Datastream.



Source: Datastream and Banco de Portugal.

The outturn was more favourable than that projected in March 1997 *Economic Bulletin*. The Banco de Portugal had then indicated as the relevant reference for the conduct of monetary policy upper limits of 2.25 and 2 per cent for the inflation rate measured by the HICP, in 1997 and 1998 respectively.

In 1997, the European Union as a whole recorded a reduction in average inflation, alongside a narrowing of inflation rate differentials between Member-states. Price behaviour in the EU countries was in general more favourable than projected. The EU average inflation, measured by the HICP, stood at 1.7 per cent (2.4 per cent in 1996), with all Member-states — except Greece — recording inflation rates not higher than 2.0 per cent. Since the slowdown of prices in Portugal was sharper than that of the EU, the inflation differential vis-à-vis the European average narrowed, further from 0.5 p.p. in 1996 to 0.2 p.p. in 1997.

The strengthening of the inflation rate convergence in the EU resulted from a reduction of inflation rates in countries traditionally recording the highest rates in the EU, alongside with a slight increase in the countries recording the lowest inflation rates. As a result, the reference value for the price stability criterion<sup>(1)</sup> increased from 2.5 per cent in December 1996 to 2.7 per cent in December 1997.

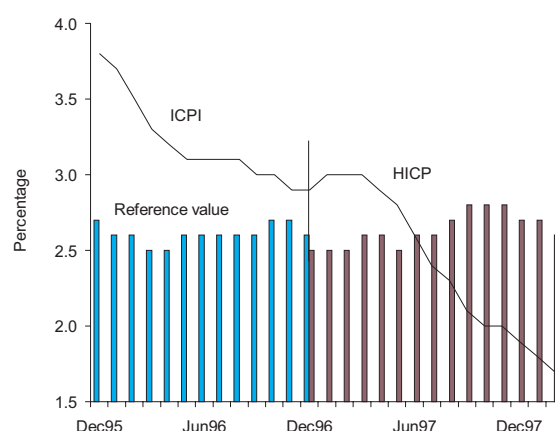
The average rate of change of the HICP in Portugal has been below the reference value since July 1997 (chart 3). The differential between this reference value and the inflation rate in Portugal widened throughout the second half of the year, reaching 0.8 percentage points in December.

Other inflation indicators confirm the favourable behaviour of prices in Portugal. The average rate of change of the CPI was 2.2 per cent in 1997, 0.9 percentage points less than in 1996. The year-on-year rate of change of the CPI reached 2.3 per cent in December 1997, as against 3.3 per cent in December 1996 (chart 4).

The fact that inflation recorded in 1997 a sharper reduction than that projected by the Banco de Por-

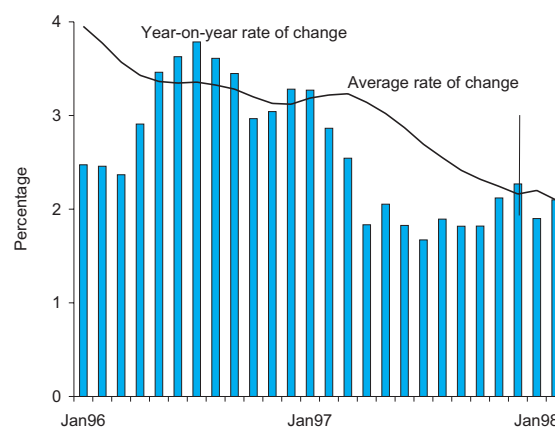
(1) The reference value is the simple average of the three lowest inflation rates of the EU plus 1.5 percentage points. See Article 109 j (1) of the European Union Treaty and Protocol no. 6, annex of the Treaty.

Chart 3  
INTERIM AND HARMONISED INDEX OF  
CONSUMER PRICES  
Average rate of change and reference value



Source: Eurostat.

Chart 4  
CONSUMER PRICE INDEX



Source: INE.

tugal in March 1997 was due to a greater than expected slowdown in tradables prices especially in the first half-year. The average rate of change of tradables prices amounted to 0.6 per cent (against 1.9 per cent in 1996). The year-on-year rate of change fell from 1.8 in December 1996 to 1.1 per cent in December 1997, after reaching a minimum in July (-0.2 per cent). The behaviour of the year-on-year rate of change over the course of 1997 reflects the highly irregular pattern of prices for this type of goods.

Tradables price developments chiefly reflect the favourable behaviour of the price of foodstuffs.

Indeed, the prices of tradable foodstuffs fell by 0.6 per cent in 1997, which compares to a 1.9 per cent increase in 1996. This type of behaviour was also recorded in other EU countries (e.g., in Spain and Italy), contributing favourably to inflation developments.

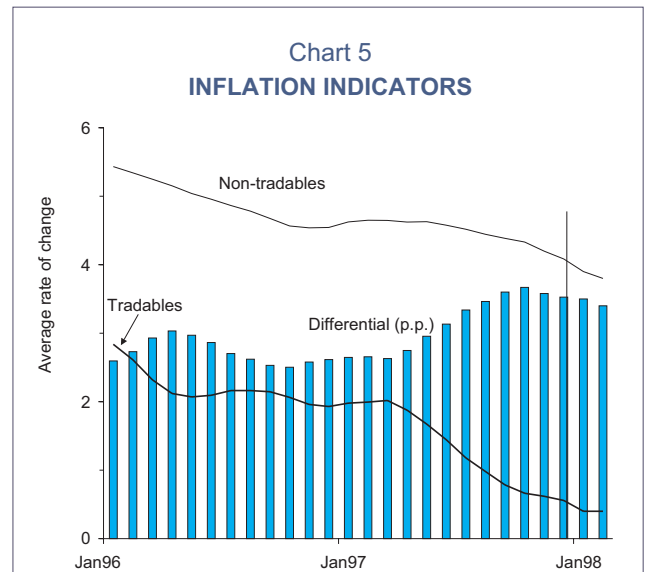
The behaviour of prices of non-tradables confirmed the picture drawn by the Banco de Portugal in March 1997. In 1997, the prices of non-tradable goods increased by 4.1 per cent in annual average terms (4.5 per cent in 1996). The behaviour of the average rate of inflation was influenced by the sharp increase of these prices in late 1996, masking the slowdown trend of non-tradables prices over the course of 1997. This slowdown is evidenced by the year-on-year rate of change, which fell by 1.4 percentage points (from 5.0 per cent in December 1996 to 3.6 per cent in December 1997). Accordingly, while the differential of the average growth of the prices of non-tradables vis-à-vis that of tradable goods increased from 2.6 percentage points in 1996 to 3.5 percentage points in 1997, the differential in year-on-year terms narrowed from 3.2 per cent in December 1996 to 2.5 per cent in December 1997 (chart 5).

The trend indicators<sup>(2)</sup> confirm the slowdown of prices. In annual average terms, the “trimmed mean at 10 per cent” fell from 3.0 per cent in 1996 to 2.2 per cent in 1997. In the same period, the “first main component” recorded a slowdown from 3.2 to 2.8 per cent (chart 6). These indicators identify a trend in the behaviour of inflation which is not disturbed by temporary factors.

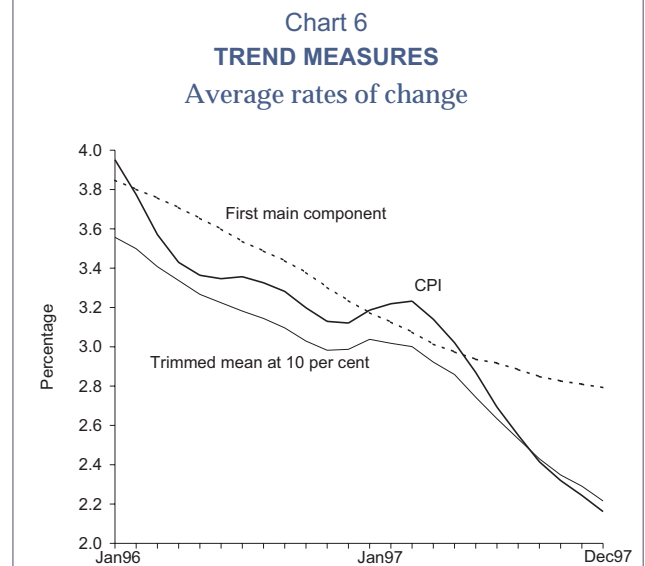
Price developments in 1997 are explained by the behaviour of the usual determinants of inflation — in particular the stability of the escudo’s exchange rate, the behaviour of international prices, the slowdown of nominal wages and the maintenance of output below its reference path.

In 1997, the escudo exhibited a remarkable stability in the context of the exchange rate mechanism, and alike the other participating currencies, depreciated in effective terms, due to the strong

(2) On the methodology of calculation of the trend inflation indicators usually used by the Banco de Portugal see Coimbra, C. and Neves, P. D. (1997), “Trend inflation indicators”, *Economic Bulletin* of the Banco de Portugal, Volume 3, Number 1, March 1997.



Source: INE and Banco de Portugal.

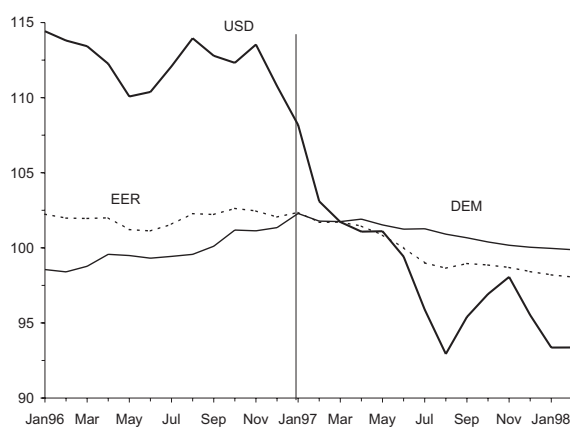


Source: INE and Banco de Portugal.

appreciation of the US dollar and Sterling (chart 7). In annual average terms, the escudo appreciated 1.4 per cent vis-à-vis the Deutsche mark, depreciating 13.7 and 19.2 per cent vis-à-vis the US dollar and Sterling, respectively. In nominal effective terms, the escudo depreciated on average 1.9 per cent.

International prices denominated in dollars behaved favourably in 1997, hence contributing to moderate the effect of the US dollar appreciation on European prices (chart 8). Dollar-denominated prices of industrial raw-materials, which had fallen by 11.0 per cent in 1996, again decreased in

Chart 7  
**ESCUDO EXCHANGE RATES**  
 August 1993=100



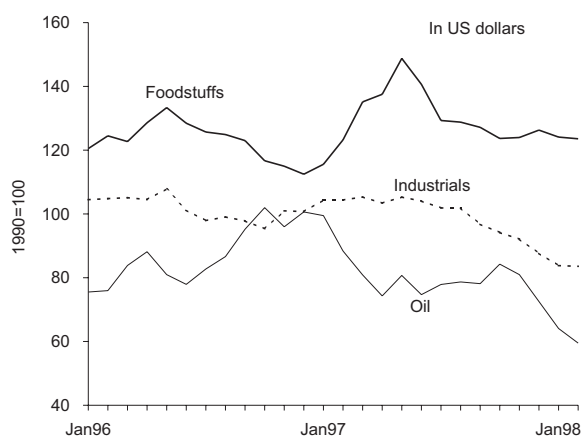
Source: Banco de Portugal.

1997 (-1.5 per cent). Oil prices fell by 7.1 per cent in 1997, following a 21.1 per cent increase in 1996.

In the period from January to November 1997, escudo-denominated prices of imports remained virtually unchanged, increasing by 0.1 per cent in year-on-year terms (against a 0.2 per cent decrease in the year 1996 as a whole). This behaviour reflects a decrease in the prices of imported consumption goods (-0.5 per cent), equipment (-0.7 per cent) and intermediate goods (-0.2 per cent), as well as an increase in the prices of fuel (6.6 per cent). In the same period, escudo-denominated export prices increased by 0.5 per cent year-on-year, after decreasing in 1996 as a whole (-3.8 per cent). This behaviour reflects the fall in the prices of exported equipment goods (-3.7 per cent) and the increase in the prices of exported consumption goods (0.3 per cent), intermediate goods (2.5 per cent) and fuel (11.2 per cent). These developments suggest that the behaviour of the escudo's exchange rate and that of international prices kept contributing favourably to the disinflationary process.

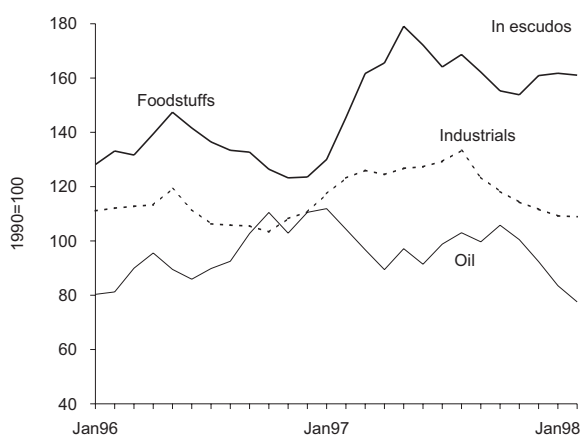
The acceleration of economic activity in 1997 exceeded the forecast implicit in the range published in the September 1997 *Economic Bulletin*. Real GDP is expected to have grown by 4.0 per cent, following a 3.6 per cent growth in 1996<sup>(3)</sup>. This behaviour was determined by a significant real growth of domestic demand, which is esti-

Chart 8A  
**INTERNATIONAL PRICE INDEX OF RAW-MATERIALS**  
 In US dollars



Source: The Economist and Financial Times.

Chart 8B  
**INTERNATIONAL PRICE INDEX OF RAW-MATERIALS**  
 In escudos



Source: The Economist and Financial Times.

ated to have amounted to 5.1 per cent. Investment stood as the most dynamic component of demand, growing by an estimated 12.8 per cent in volume terms (as against 6.4 per cent in 1996). Private consumption also exhibited a strong growth (a 3.0 per cent increase, which compares to 2.8 per cent in 1996). The expansion of domestic demand

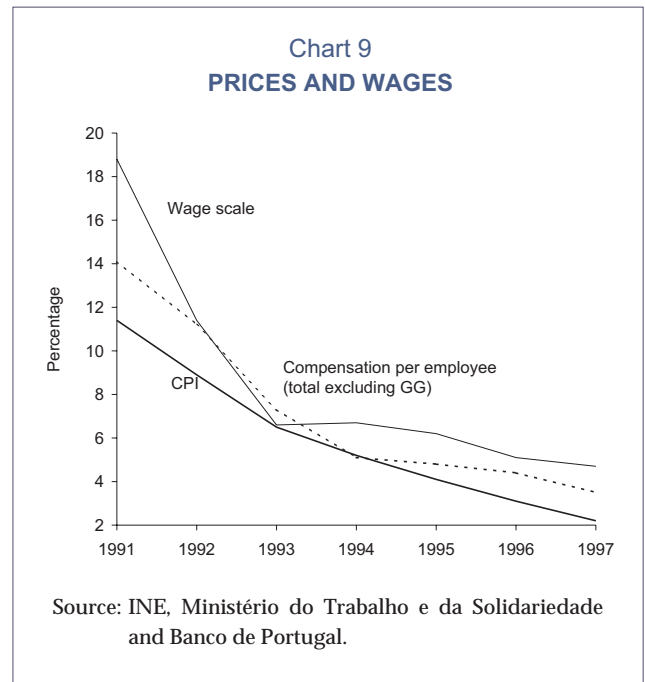
(3) Note that the estimated growth of GDP for 1996 was also significantly revised upwards, from 3.3 per cent in the September 1997 *Economic Bulletin*, to 3.6 per cent in this Bulletin. See article "The Portuguese Economy" published in the current issue of the *Economic Bulletin*.

and the change in its composition resulted in a sharp growth of imports (10.3 per cent in 1997, as against 7.8 per cent in 1996), leading to a significant increase in the Balance of Goods and Services deficit. In this context, the favourable behaviour of import prices in 1998 contributed to avoid the emergence of pressures on domestic prices.

The average rate of unemployment decreased from 7.3 per cent in 1996 to 6.7 per cent in 1997, reflecting the dynamism of economic activity. In the last quarter of 1997, the unemployment rate had already fallen to 6.5 per cent. Despite the significant economic growth and the fall in the unemployment rate, output remained below its reference path, and the unemployment rate remained above its estimated natural rate<sup>(4)</sup>.

According to the estimates by the Banco de Portugal, compensation per employee in the corporate sector<sup>(5)</sup> recorded a slowdown, from 5.1 per cent in 1996 to 4.7 per cent in 1997 (chart 9). For the economy as a whole, the growth of nominal wages per worker is estimated to have decreased, from 6.5 per cent in 1996 to 5.6 per cent in 1997. Reflecting a higher than expected economic, the slowdown of nominal wages was less significant than the one expected in the September *Economic Bulletin*. Alongside a slowdown of productivity in 1997, this translated into an acceleration of unit labour costs in the corporate sector, from 2.0 per cent in 1996 to 2.5 per cent in 1997.

Since January 1998, the CPI and HICP figures disclosed by the *Instituto Nacional de Estatística* refer to a new consumption basket, based upon the weights drawn from the 1994/95 Household Budget Survey. It is not easy to assess the impact of the changes in the indices on the measured level of inflation. Among those changes, the reduction in the weight of foodstuff goods and the increase in the weight of non-foodstuff services should be singled out. Methodological and coverage changes were also introduced. In this context, sales and promotions are now to be taken into account, which will grant the new index with a distinct and



sharper seasonal pattern. Finally, it should be noted that the monthly released CPI now includes rents of dwellings, as well as an enlarged geographical scope — now comprising Azores and Madeira.

According to the new index, the year-on-year rate of change of the CPI reached 1.9 per cent in January 1998, increasing to 2.1 per cent in February. The average rate of change amounted to 2.2 per cent in January, falling to 2.1 per cent in February.

The average change in the HICP was of 1.8 per cent in January 1998 and 1.7 per cent in February. The year-on-year rate of change also decreased, from 1.6 per cent in January to 1.3 per cent in February. It should be noted that the decrease in inflation in the first months of 1998 is being overestimated since these values now include sales and promotions, unlike those of 1997. In the EU, average inflation reached 1.6 per cent in February (1.7 per cent in January)

### 3. PROSPECTS FOR INFLATION IN 1998

The primary objective for 1998 is the maintenance of price stability. Countries entering the euro area on 1 January 1999 will be known in early May 1998. On 25 March 1998, the European Commission presented its Recommendation as foreseen by Article 109 (2) of the Treaty on European Un-

(4) See article "The Portuguese Economy" in this issue of the *Economic Bulletin*.

(5) The corporation sector corresponds to the economy as a whole, excluding the General Government workers.



ion. According to this Recommendation, eleven Member-states will join the euro area as from 1 January 1999. These Member-states are: Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland.

In early May, the bilateral exchange rates between currencies of the countries participating in Monetary Union to be used in determining the euro conversion rates, will also be announced. The existence of a terminal condition on the behaviour of exchange rates, together with the expected path of interest rates, will substantially limit the exchange rate volatility around the announced bilateral rates. The high level of stability that already characterises the functioning of the exchange rate mechanism should thus be reinforced.

In this context, price developments in Portugal will be strongly influenced by the international environment, including international prices developments and the joint behaviour of the European currencies vis-à-vis the US dollar. Specific national factors, in particular wage and budgetary developments will play an important role in the credibility of price stability.

The mechanical effects linked to the behaviour of foodstuff prices in the first half of 1997 is expected to result in a higher growth of these prices, which in turn will lead to higher inflation in the tradable goods sector. Consequently, the slowdown of non-tradables prices will be key to the maintenance of price stability. A continuing slowdown in nominal wages is indispensable for achieving a lower growth of prices in the non-tradable sector.

### 3.1 International prices

Forecasts for 1998 by the international organisations point towards the maintenance of inflation levels compatible with price stability in most EU countries. Despite the projected strengthening of domestic demand in the leading European economies, output in these countries is expected to remain below the respective reference paths, and unemployment rates should remain high — hence contributing to relieve the pressures on wages. In addition, possible pressures on prices due to the depreciation of the European currencies vis-à-vis

the dollar in 1997, will tend to be compensated by the impact of the Asian crisis and by the favourable behaviour of raw material prices (denominated in dollars). This is consistent with the slowdown of producer prices and of imports prices in the leading European economies, recorded from Summer 1997 onwards.

The financial crisis experienced by the south-east Asian economies in the second half of 1997 led to a significant fall in the prices of assets in these countries, and to a considerable worsening of their growth prospects. The depreciation of the Asian currencies and the worsening of growth prospects in the region are expected to result in a reduction in these countries' imports, and in pressure towards the reduction of prices in the international markets. Therefore, the Asian crisis led to a downward revision of world growth and inflation prospects.

In the first months of 1998, the dollar-denominated prices of industrial raw-materials and oil recorded a slowdown. In February, the former fell by about 20 per cent year-on-year and by 5 per cent on average. In the same period, oil prices fell by 32.7 per cent year-on-year and by 16.2 per cent on average. Prospects regarding the behaviour of the prices of manufactured raw-materials and oil, reflected in the prices of futures contracts, do not suggest a significant adjustment of these up to the end of the current year.

The fall in dollar-denominated international prices, alongside the interruption of the trend of depreciation of the European currencies vis-à-vis the dollar, are expected to contribute to a favourable behaviour of import and production prices in the EU countries. Such behaviour shall in turn moderate the pressures on consumer prices due to the expected acceleration of domestic demand in these countries. Under these circumstances, and in a context of stability of the escudo vis-à-vis the currencies participating in the exchange rate mechanism, prices in the EU are expected to keep influencing favourably the behaviour of prices in Portugal.

### 3.2 Economic activity and wages

The acceleration of economic activity tends to trigger pressures on prices, namely following pressure on wages. Pressures on prices tend to appear

when the capacity utilisation is very high, leading to output levels above potential and to a rate of unemployment below the natural rate.

For 1998, the Banco de Portugal forecasts that real output will increase between 4.0 and 4.5 per cent. Given the estimate of a real growth rate of 4.0 per cent in 1997, the central forecast implicit in the 1988 range points towards a new acceleration of economic activity. This being the case, output will become closer to its trend. However, despite the maintenance of a high pace of growth in 1998, the lag between the behaviour of economic activity and the behaviour of unemployment suggests that the unemployment rate will still remain above the estimated natural rate. In a context of price stability, this behaviour of the unemployment rate should be compatible with the continuing of the slowdown in nominal wages.

The behaviour of economic agents — especially those involved in wage bargaining processes — must adjust to a context of virtually fixed exchange rates and of price stability. A growth of real wages significantly above the growth of productivity will not be sustainable. Such a development would lead to an increase in the relative unit labour costs and to losses of competitiveness, resulting in a reduction in the levels of employment, and increasing the unemployment rate.

In early 1998, the increase in the national minimum wage was fixed at 3.9 per cent for most activities, and at 5.1 per cent for domestic services. These figures are similar to those recorded in 1997 (3.8 and 5.1 per cent, respectively) and correspond to a significant growth in real terms. The increase of average wages implicit in the Labour Collective Agreement amounted to 3.1 per cent in the first quarter of 1998, which compares with 3.6 per cent in the first quarter of 1997<sup>(6)</sup>. In turn, the wage scale of civil servants was adjusted upwards, by 2.75 per cent.

Possible wage pressures in the current context of expanding economic activity constitutes a risk for the behaviour of inflation, mainly since the

slowdown of the prices of non-tradable goods is key to maintaining price stability.

The absence of a social agreement and signs of labour conflict in early 1998 underline this risk scenario, and may threaten the sustained fall in the unemployment rate.

The significant growth of domestic demand generates favourable conditions to the reinforcement of budgetary consolidation. The latter would be relevant to the maintenance of adequate conditions for nominal stability, and would contribute towards accomplishing the objectives of the Stability and Growth Pact.

#### 4. CONCLUSION

In 1997, inflation in Portugal reached levels compatible with price stability. This behaviour took place in a context of strong economic growth, job creation, moderate growth of nominal wages, the reinforcement of the budgetary consolidation process and the convergence of Portuguese interest rates towards the lowest levels in the EU.

The continuing of the slowdown in nominal wages is a necessary condition to the sustainability of price stability. In a context where monetary conditions in Portugal are increasingly determined by participation in the euro area as from 1 January 1999 and where economic growth is greater than initially expected, further budgetary consolidation would also contribute to enhance the credibility of nominal stabilisation. Structural reform that would strengthen the flexibility of adjustment in the markets for goods and for productive factors would also play a non-negligible role.

From 1999 onwards, the maintenance of price stability will be ensured in the context of the Portuguese participation in Monetary Union. Inflation rates in most Member-states of the EU are presently at levels compatible with price stability, and have converged significantly. Conditions are thus favourable to the fulfilment of the primary objective of the European System of Central Banks from 1 January 1999 onwards — the maintenance of price stability in the euro area.

Completed with information available as on 6 April 1998.

(6) Total economy excluding the General Government. The number of workers comprised was 900,100 in the first quarter of 1997, and 490,943 in the first quarter of 1998.

## THE PORTUGUESE ECONOMY

### Developments in 1997 and prospects for 1998

#### 1. INTRODUCTION

According to the Convergence Report of the Banco de Portugal, the Portuguese economy in 1997 behaved consistently with the fulfilment of the necessary conditions to the adoption of the single currency. According to the recommendation of the European Commission, under article 109 j (2) of the European Union Treaty, Portugal integrates the group of eleven countries constituting the euro area, from 1 January 1999 onwards. The Portuguese participation in the euro area has been anticipated with increasing confidence by the financial markets, resulting in a sharp reduction in interest rates, especially in longer maturities.

The fall in interest rates alongside the favourable perspectives regarding the future behaviour of economic activity resulted in a strong growth of domestic demand. The fall in nominal interest rates, made possible by the reduction of inflation and by the credibility of the convergence process, reduced the importance of liquidity constraints to households, easing the financing of consumption and investment decisions through credit. The fall in nominal interest rates contributes to a reduction in the cost of utilisation of capital, and also to a smaller incidence of liquidity constraints in corporations, favouring a stronger growth of investment. Finally, the reduction in interest rates leads to a reduction in the public debt interest service, leaving room for a growth of primary debt compatible with the deficit reduction.

In 1997, economic activity accelerated. According to the estimates of the Banco de Portugal, GDP grew by 4.0 per cent (table 1), exceeding the upper limit of the forecast interval presented in the September 1997 *Economic Bulletin*, ranging from 3.25 to 3.75 per cent. This growth stood above that esti-

mated by the Banco de Portugal for 1996 (3.6 per cent). As a result, the current evaluation the Banco de Portugal makes of economic activity points towards a stronger growth than previous projected, and clearly above the rate of growth of potential output.

The increase in the rate of growth of the Portuguese economy has been determined by the strong acceleration of domestic demand (5.1 per cent in 1997, against 3.4 per cent in 1996). Gross Fixed Capital Formation grew by 12.9 per cent in 1997 (7.7 per cent in 1996), exhibiting a strong growth in all of its items, as regards both economic categories and institutional sectors. On the other hand, net external demand recorded a negative contribution to the growth of GDP in 1997 (-1.4 per cent), following a virtually null contribution in 1996.

The acceleration of economic activity in Portugal took place in a context of strengthening of growth in most EU economies from the second half of 1996 onwards. As a result, external demand for the Portuguese exports accelerated significantly. In line with what has been recorded since the adhesion of Portugal to the European Union, Portuguese exporters experienced further market share gains in real terms in 1997.

The Portuguese economy continued exhibiting a significantly higher real growth rate than the EU average, which according to the European Commission forecasts amounted to 1.8 and 2.7 per cent in 1996 and 1997, respectively (table 2). The dynamism of economic activity in Portugal is similar to that of a group of small EU economies — the Netherlands, Denmark, Finland and Luxembourg — which grew by about or above 3.0 per cent in 1996 and 1997.



Table 1

### MAIN ECONOMIC INDICATORS

Estimates for 1997 and projections for 1998

Rates of change (percentage)

	1996	1997	1998
Private consumption . . .	2.8	3.0	3.0-3.75
Investment . . . . .	6.4	12.8	7.5-9.5
Domestic demand . . . .	3.4	5.1	4.0-5.0
Exports . . . . .	9.6	8.2	9.0-11.0
Imports . . . . .	7.8	10.3	8.0-10.0
GDP . . . . .	3.6	4.0	4.0-4.5
[CA (% of GDP)] . . . . .	-1.4	-1.8	[-1.75-1.25]

## 2. INTERNATIONAL BACKGROUND

In 1997, economic activity in the European Union as a whole strengthened, alongside a strong growth of the American economy. The higher economic growth was accompanied by a reduction of inflation in most industrialised countries. The second half of 1997 was marked by the Asian crisis, which generated some instability in the world financial markets. In the year as a whole, the US dollar recorded a further appreciation vis-à-vis the Deutsche mark and the yen, in line with the distinct cyclical positions of these economies.

Economic growth in the **European Union** (EU) increased from 1.8 per cent in 1996 to 2.7 per cent in 1997, strengthening the economic recovery process initiated in mid-1996. Inflation continued its downward path in 1997, from 2.4 per cent to 1.7 per cent, while the dispersion between the Member-states inflation rates narrowed. In a context of strengthening convergence between the EU economies and of a depreciation of the Deutsche mark vis-à-vis the US dollar, the European foreign exchange markets remained relatively stable, recording a reduction in most currencies' volatility vis-à-vis the Deutsche mark. Disinflation and budgetary consolidation progresses, together with the confidence regarding the attainment of the Economic and Monetary Union, contributed to a

greater convergence of long-term interest rates in the EU. In 1997, the interest rate differentials of all Member-states narrowed, vis-à-vis the German yields especially in Italy, Spain, the United Kingdom and Portugal. Over the course of 1997, the official interest rates of the countries participating in the Exchange Rate Mechanism of the European Monetary System also converged.

The acceleration of economic activity in the EU over the course of 1997 benefited from the fall in the interest rates in previous years, and from the maintenance of exchange rate stability in Europe, in a context of sustainable reduction of inflation and strengthening of convergence between countries. The greater growth of activity in the EU characterised almost all Member-states, accompanying the general improvement of European economic agents' confidence (the economic sentiment indicator improved in all countries in 1997). The acceleration of economic activity for the European Union as a whole was chiefly due to a greater contribution of domestic demand to the growth of output (chart 1).

However, Member-states kept presenting distinct paces of growth. The economies that had grown above the EU average in 1996 continued recording a higher growth in 1997. This is the case of the United Kingdom and of Spain, but also that of some small economies of the EU — like the Netherlands, Finland and Denmark. In these countries, economic growth has been driven not only by the behaviour of exports, but also by the acceleration of domestic demand. On the other hand, Germany and France kept exhibiting lower growth rates, close to the EU average. In the latter cases, the contribution of external demand to the growth of GDP should be highlighted, although in France the contribution of domestic demand strengthened over the course of 1997 (chart 1). Finally, it should be stressed that Ireland continued presenting a growth of GDP clearly above all other EU countries (10.0 per cent in 1997).

The growth of economic activity in the **USA** increased from 2.8 per cent in 1996 to 3.8 per cent in 1997, especially due to the high dynamism of domestic demand. Capacity utilisation in the USA remained at high levels; the rate of productive capacity utilisation in the manufacturing industry increased, and employment grew by 2.2 per cent,

resulting in a significant fall in the unemployment rate throughout the year.

The greater growth of economic activity was accompanied by a reduction in inflation over the course of 1997. The behaviour of the dollar exchange rate and the favourable behaviour of most international prices contributed decisively to the reduction in inflation. Labour costs per unit of production in the non-agricultural sector accelerated slightly in 1997 (2.1 per cent growth, compared to 1.9 per cent in 1996), reflecting the maintenance of high gains of productivity (1.7 per cent in 1997 and 1.9 per cent in 1996).

After the high growth recorded in 1996, economic activity in **Japan** exhibited a significant slowdown, from 3.9 to 1.0 per cent in 1997. The behaviour of the Japanese economic activity throughout the year was marked by increasing problems in the financial sector.

The crisis in the Asian financial markets stood as an important restraint to the international macroeconomic context, leading to lower projections for economic growth, but above all for inflation. For the EU as a whole, the European Commission March 1998 forecasts revised downwards the October 1997 figures, by 0.2 p.p. for growth, and by 0.3 p.p. for inflation (chart 2).

According to the March forecasts of the European Commission, economic activity in the **EU** is expected to accelerate slightly in **1998** (2.8 per cent, which compares to 2.7 per cent in 1997), despite the less favourable international background following the Asian crisis (table 2). Domestic demand shall strengthen its contribution to growth, marking the end of a period where external conditions stood as the leading motor of growth. The lower interest rate levels and the maintenance of high confidence levels in Europe are expected to contribute to the acceleration of domestic demand in 1998. Inflation shall continue its downward trend in 1998, partly reflecting the fall in the prices for raw-materials and the moderate wage raises expected. In Germany, the acceleration of economic activity shall continue in 1998, although growth is expected to be lower than that previously projected, due not only to the lower contribution of net external demand, but also to the recession in the construction sector and the weakness of private consumption. In France, the strengthening of

Table 2

**ECONOMIC GROWTH**  
**EUROPEAN COMMISSION PROJECTIONS**  
**GDP**

Real rates of growth (percentage)

	1996	1997	1998	1999
EU .....	1.8	2.7	2.8	3.0
EU - 11.....	1.6	2.5	3.0	3.2
Germany.....	1.4	2.2	2.6	2.9
France .....	1.5	2.4	3.0	3.1
Italy .....	0.7	1.5	2.4	3.0
Spain .....	2.3	3.4	3.6	3.7
United Kingdom	2.3	3.5	1.9	2.2
Portugal .....	3.6	3.7	4.0	3.8
Belgium.....	1.5	2.7	2.8	3.0
Denmark.....	2.7	2.9	2.7	2.8
Greece .....	2.6	3.5	3.8	4.0
Ireland.....	8.6	10.0	8.7	8.8
Luxembourg...	3.0	4.1	4.4	4.7
Netherlands...	3.3	3.3	3.7	3.2
Austria .....	1.6	2.5	2.8	3.1
Finland .....	3.6	5.9	4.6	3.6
Sweden.....	1.3	1.8	2.6	2.8
USA.....	2.8	3.8	2.5	2.1
Japan.....	3.9	1.0	0.4	1.5

Note:

EU - 11 includes the countries integrating the euro area on 1 January 1999 (Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal and Finland).

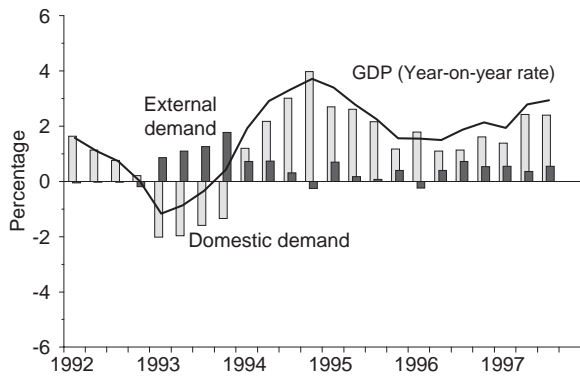
domestic demand recorded throughout 1997 is expected to proceed, contributing decisively to the economic growth forecast for 1998 (3.0 per cent). A significant slowdown of economic activity is expected for the United Kingdom, mainly due to the lower dynamism projected for domestic demand, partly reflecting the adjustment of monetary conditions.

After the acceleration recorded in 1997, economic activity in the **USA** is expected to slow-down to a more sustainable pace of growth. Forecasts point towards an adjustment in the stock accumulation process, a more negative contribution of external demand to growth, reflecting the appreciation of the dollar and the increase of net imports from Asia.

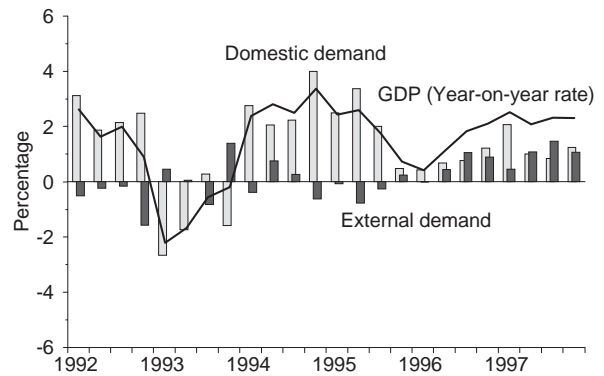
In **Japan**, forecasts indicate a virtual stagnation of economic activity in 1998, following the 1.0 per

Chart 1  
**ECONOMIC GROWTH IN THE EUROPEAN UNION**  
 Contributions to the growth of GDP

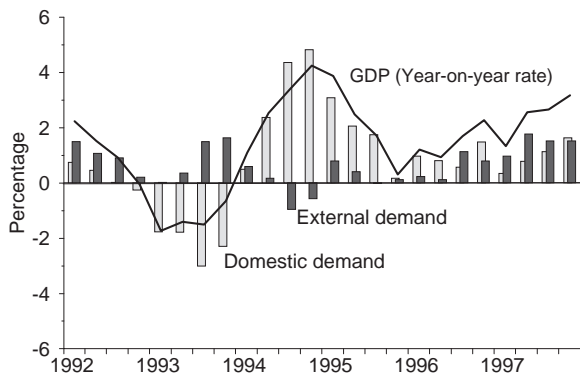
**European Union**



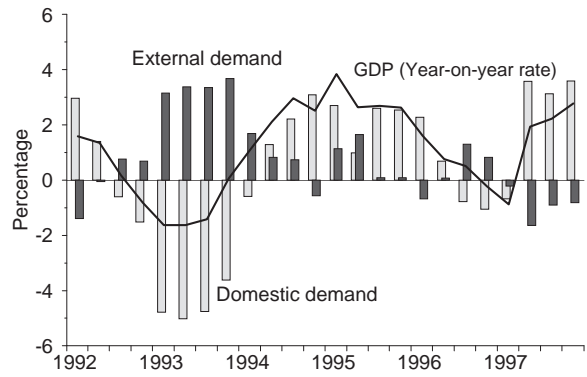
**Germany**



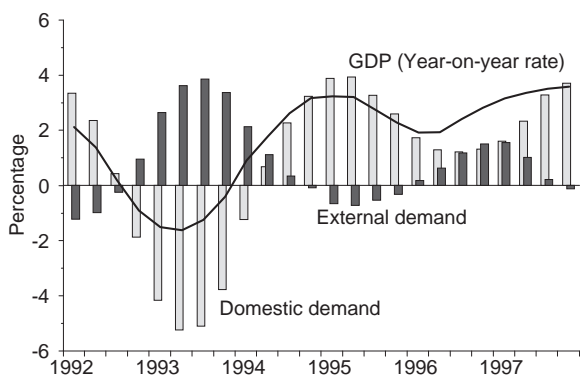
**France**



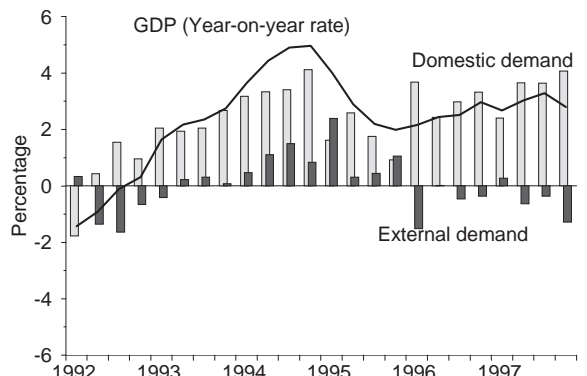
**Italy**



**Spain**

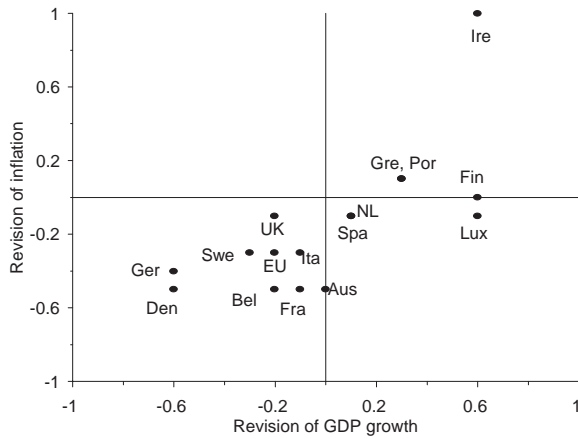


**United Kingdom**



Source: Datastream.

Chart 2  
**REVISION OF THE EUROPEAN COMMISSION  
 PROJECTIONS FOR GDP AND INFLATION  
 IN THE EU IN 1998<sup>(a)</sup>**  
 Percentage points



Source: European Commission.

Note:

(a) Differences between the October 1997 and the March 1998 forecasts for the growth of GDP and of CPI.

cent growth recorded in 1997. Exports are expected to decelerate, reflecting both the slowdown projected for the remaining Asian economies, and the greater competition in the international markets due to the gains of competitiveness of those countries. The behaviour of domestic demand, weaker than that previously expected (partly reflecting the worsening of the problems affecting the Japanese financial system) shall also have a negative impact on the behaviour of the Japanese economy in 1998.

### 3. BEHAVIOUR OF THE PORTUGUESE ECONOMY IN 1997

In 1997, the Portuguese economy grew by 4.0 per cent, in real terms, 0.4 p.p. more than in 1996. The pattern of growth of the Portuguese economy has been characterised, from the second half of 1996 onwards, by a very strong growth of domestic demand, namely as regards Gross Fixed Capital Formation, and by a negative contribution of net external demand to the growth of GDP.

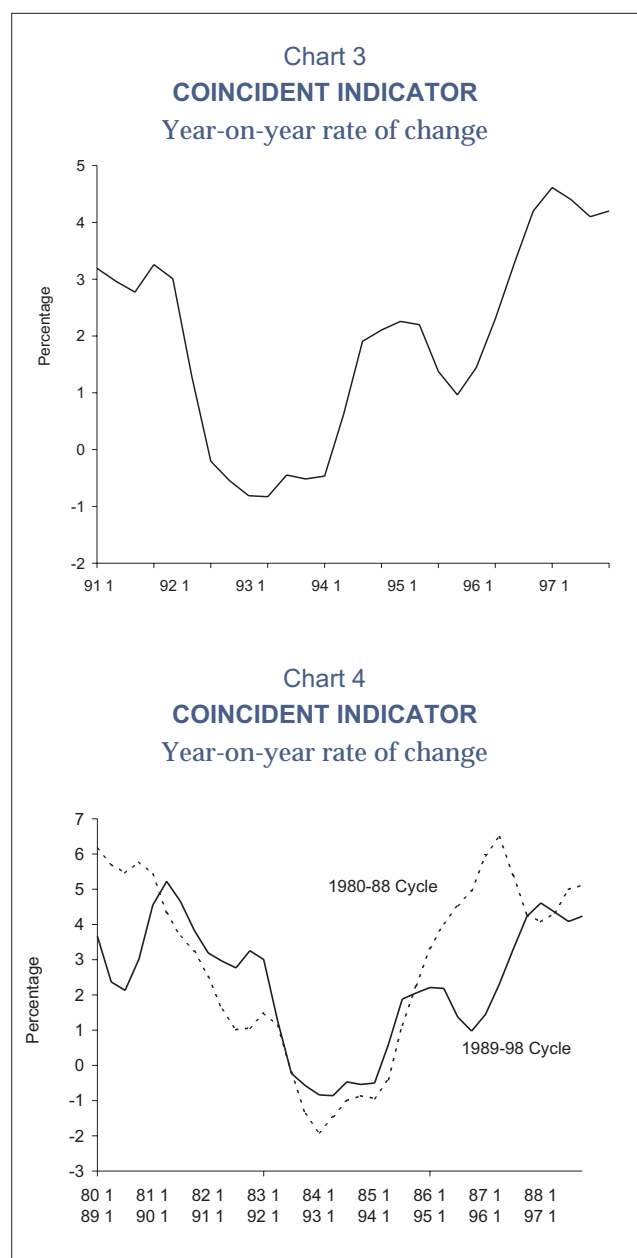
As a result, the growth of the Portuguese economy in 1997 stood above the upper level of the

forecast interval presented in the September *Economic Bulletin* (3.25-3.75 per cent). This revision chiefly reflects the growth of the contribution of domestic demand to the growth of GDP, by about +0.5 p.p., due to the stronger growth of all items of domestic demand: Gross Fixed Capital Formation and Public Consumption (by about 1.5 and 1.0 p.p., respectively), and Private Consumption (0.3 p.p.). In what concerns net external demand, despite merchandise exports having grown above the September forecast, the composition and the size of growth of domestic demand also led to a higher growth of imports. Hence, the contribution of net external demand to the growth of GDP (-1.4 per cent) remained virtually identical to the September forecast.

In the second half of 1997, domestic demand recorded a much lower growth than in the previous half-year. This behaviour reflected the decrease in the year-on-year rate of change of GFCF in construction in the second half-year, when compared to the first half. Nevertheless, the lower growth of this item was compatible with the maintenance of a high level of activity in the sector, and with a strong annual growth. The forecast for the intra-annual behaviour of domestic demand was a key element in the macroeconomic scenery presented by the Banco de Portugal in the September 1997 *Economic Bulletin*, which came to be confirmed.

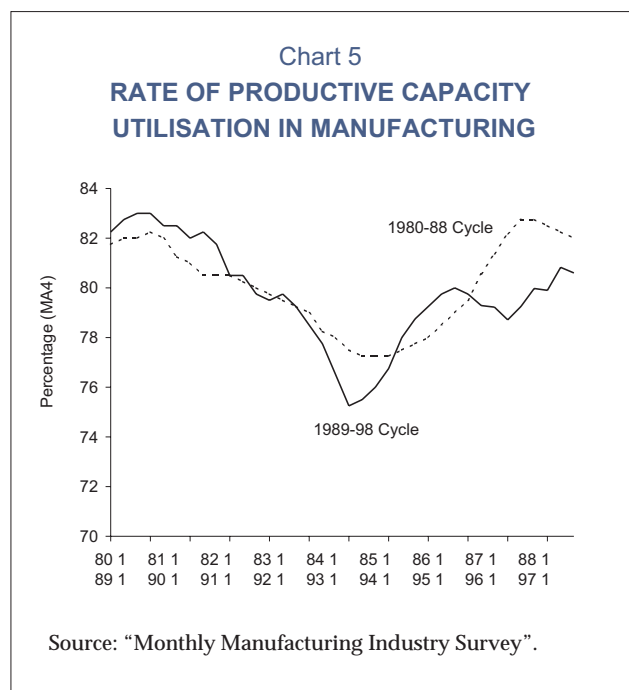
In 1997, however, overall economic activity did not exhibit a clear intra-annual pattern, as shown by the coincident indicator (chart 3). Nevertheless, the contribution of domestic demand to the growth of GDP decreased significantly in the second half of the year when compared to the previous half. This decrease was compensated by an increase in the contribution of net external demand. The growth of GDP in late 1997 stood above the September *Economic Bulletin* forecast, reflecting the growth of exports and of some items of domestic demand (namely of other GFCF items) above that expected.

The pattern of the current economic cycle in Portugal has not differed significantly from that recorded in most small open economies in the European Union. Indeed, at first economic recovery was driven by exports. Afterwards, the gradual improvement of expectations regarding the demand directed towards corporations, as well as



the continuous reduction in interest rates, induced a very significant growth of Gross Fixed Capital Formation in the private sector — which in Portugal was accompanied by a considerable contribution of the public infrastructure development programme. Private consumption exhibited a slower recovery. Nevertheless, despite having continued to grow below GDP, private consumption recorded in the last two years a pace of growth clearly above that of the European Union average, and above that of most Member-states.

The behaviour of the Portuguese economy throughout the current economic cycle has been similar to the previous one. This point is illustrated by the behaviour of the coincident indicator,



when comparing the current and the previous cycle (chart 4). However, it should be noted that economic recovery in the current cycle was not as marked, due to the slowdown of the European economy from mid-1995 onwards. Nevertheless, the strengthening of activity in the EU over the course of 1997 rebounded to the Portuguese economy, leading to a pace of growth comparable to that of the previous economic cycle. The significant growth of GFCF in 1996 and in 1997 is similar to that recorded in the previous cycle, which illustrates the greater volatility of this component vis-à-vis the variability of output <sup>(1)</sup>.

The productive factor utilisation has also increased, in line with the behaviour exhibited in the previous economic cycle. This behaviour is illustrated by the rate of productive capacity utilisation in manufacturing (chart 5). As in the past, economic recovery in Portugal transmitted to the labour market with some lag. The unemployment rate, which has presented a downward trend from the second quarter of 1996 onwards, reached 6.7 per cent in 1997 in annual average terms (7.3 per cent in 1996). This figure stands above the estimated natural rate of unemployment <sup>(2)</sup>. Total em-

(1) For an analysis of the stylised facts of economic cycles in Portugal see Dias, Mónica (1997), "Analysis of the cyclical behaviour of the Portuguese economy from 1953 to 1993", September *Economic Bulletin* of the Banco de Portugal.



ployment increased in 1996 and in 1997, while wage-earners, with an expectedly greater lag, only recovered throughout 1997.

Finally, it should be mentioned that the Banco de Portugal revised upwards its estimate for the Portuguese economic growth in 1996 (from 3.3 per cent in the 1996 Annual Report, to 3.6 per cent)<sup>(3)</sup>. Therefore, the current estimate of the Banco de Portugal for the behaviour of economic activity in Portugal indicates a clearly stronger growth than that disclosed in the September *Economic Bulletin*, automatically resulting in a faster narrowing of the output gap.

### 3.1 Demand

#### 3.1.1 Domestic demand

In 1997, domestic demand grew by 5.1 per cent in real terms, accelerating significantly in relation to the previous year (3.4 per cent). All items of domestic demand recorded higher growth rates than in 1996. The strong acceleration of GFCF should be singled out.

**Private consumption** of residents increased by 3.0 per cent in 1997 in real terms (2.8 per cent in 1996). The estimate of the Banco de Portugal for economic growth in 1997 stood at the upper limit of the forecast interval presented in the September *Economic Bulletin* ([2.5-3.0] per cent). The rate of growth of private consumption in both 1996 and 1997 stood clearly above that of most European Union economies (2.0 per cent for the EU average in 1996 and in 1997).

Several factors account for the relatively strong growth of private consumption in both 1996 and

1997. Disposable income of households excluding external transfers increased 3.0 per cent in real terms, strengthening the gains of the previous two years (2.1 and 2.6 per cent in 1995 and 1996, respectively). The growth of disposable income chiefly reflects a higher growth of real wages and faster gains in terms of job creation in Portugal than in most EU economies. In fact, for the first time since the 1993 recession, the number of wage-earners increased (by 1.4 per cent). Wages earned in the economy as a whole grew by 7.0 per cent, 0.9 p.p. more than in 1996.

The increase in real wages, the growth of wage-earners and the improvement of expectations regarding the labour market — in terms of job creation and wage raises — are estimated to have induced an increase in consumers' confidence levels, which supported the 3 per cent growth in private consumption.

The sustained reduction in inflation and the sharp fall in nominal interest rates, particularly in the last two years, contributed to the growth of private consumption. The reduction in nominal interest rates resulted in a decrease in households' liquidity constraints, reflecting the fact that in households' most usual indebtedness situations debt service should not exceed a given proportion of the each household's income. The fall in interest rates is estimated to have played a central role in the growth of private consumption in the last two years, which in fact distinguishes Portugal from most remaining EU economies (except for those recording similar interest rate falls). From December 1995 up to December 1997, the 181-day to 1-year interest rate on credit operations to individuals and the interest rate on time deposits fell by 7.4 and 4.0 p.p., respectively. As a result, the financing of consumption expenditure through credit grew strongly. Indeed, bank credit to individuals for purposes other than housing grew by 29.6 per cent in 1997 (22.8 per cent in 1996).

Several indicators illustrate the behaviour of private consumption in 1997. According to the Monthly Trade Survey, the balance of respondents referring to turnover and to activity appraisal in both retail and wholesale trade for consumption goods in 1997 exceeded the corresponding values in 1996. The appreciation of domestic demand for consumption goods in 1997 also stood above the

(2) For recent estimates of the natural unemployment rate see, for instance, Gaspar and Luz (1997), "Unemployment and Wages in Portugal", December *Economic Bulletin* of the Banco de Portugal, Marques and Botas (1997), "Estimation of the NAIRU for the Portuguese economy", Banco de Portugal WP 6-97, and Modesto (1997), "Measuring job mismatch and structural unemployment in Portugal: an empirical study using panel data", Working Paper no. 1, DGEP Ministério das Finanças.

(3) This revision reflects a higher growth of public consumption — according to the revision of data reported to the European Commission within the excessive deficit procedure — as well as the upward revision of the contribution of net external demand to the growth of GDP (by about 0.1 and 0.2 p.p., respectively).

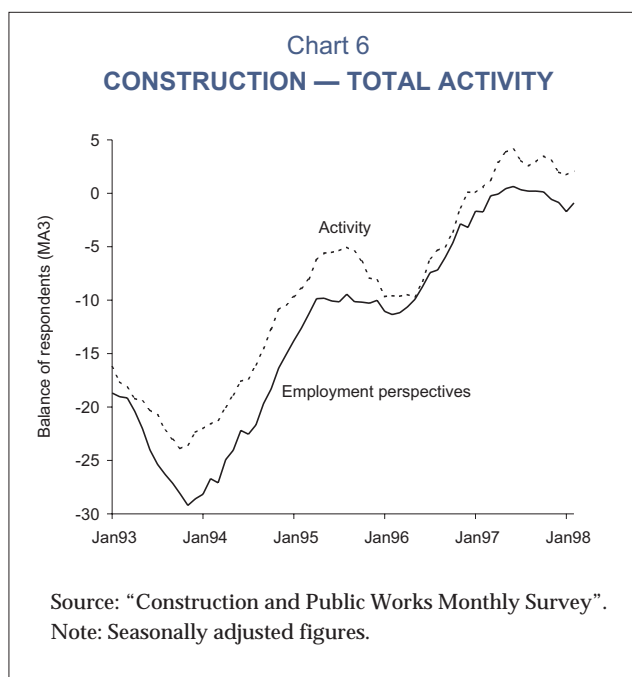
level recorded the previous year, according to the Monthly Manufacturing Industry Survey.

The purchase of durable goods exhibited a strong dynamism in 1997. Imports of electrical appliances increased by 9.7 per cent in real terms in the January-November period. The purchase of passenger vehicles continued to grow above total private consumption, despite recording a slow-down when compared to 1996, due to the very intense pace of growth in that year. The number of licences issued by the *Direcção-Geral de Viação* increased by 7.3 per cent in 1997 (17.4 per cent in 1996). Finally, it should be noted that the average quality of cars purchased increased from 1996 to 1997.

In 1997, consumption of services recorded a higher rate of growth than total consumption. This behaviour reflects the significant growth of expenditure in hotels and restaurants, and also expenditure in telecommunication services, in line with the generalisation of new products in this area.

According to the estimates prepared by the Banco de Portugal, **GFCF** grew by 12.9 per cent in real terms, accelerating significantly in relation to 1996 (7.7 per cent). Several factors contributed to this behaviour of investment — namely the improvement of entrepreneurs' appraisal on the behaviour of domestic demand and of external demand, the increase in the rates of productive capacity utilisation in manufacturing, the favourable international background as regards the prices of most industrial equipment, the maintenance of public investment at a high level, and the decrease in interest rates. Indeed, the fall in interest rates not only accounted for a reduction in the cost of capital utilisation, but also contributed to a reduction in financial costs, thus leading to an improvement of the financial situation of corporations and to a lower weight attributed to liquidity constraints.

Investment in construction accelerated strongly, growing by 12.0 per cent in 1997 (6.5 per cent in 1996). Many quantitative and qualitative indicators illustrate the dynamism of activity in the construction sector. Cement sales increased by 11.9 per cent in the year as a whole (6.6 per cent in 1996), while steel sales increased by 13.6 per cent (12.5 per cent in the previous year). According to the Construction and Public Works Monthly Sur-



vey, the appreciation of activity and expectations regarding employment in construction remained at extremely high levels (chart 6).

The strong growth of investment in construction resulted from the contribution of public investment — reflecting the accomplishment of infrastructure development programmes — as of households' investment in housing, induced by the continuing reduction in interest rates. Public investment grew by 12.9 per cent in 1997, in nominal terms (11.9 per cent in 1996). Bank credit to individuals for housing purchase recorded strong increases in the last two years (26.4 per cent in 1996 and 26.3 per cent in 1997). The decrease in interest rates allowed for an increase in the average value of loans, which was not accompanied by a corresponding increase in the debt service; for instance, note that between December 1995 and December 1997, the interest rate on credit to individuals over 5 years fell by 4.4 p.p.

Investment in transport material accelerated strongly in 1997 (24.7 per cent; which compares to 1.4 per cent in 1996). Sales of commercial vehicles over 4 ton. grew by 32.0 per cent (4.4 per cent in 1996). This behaviour is consistent with the dynamism of activity in the surface freight sector.

In 1997, investment in equipment increased significantly, as in the two previous years. The Industrial Production Index in the equipment goods industry excluding transport material grew by 6.6

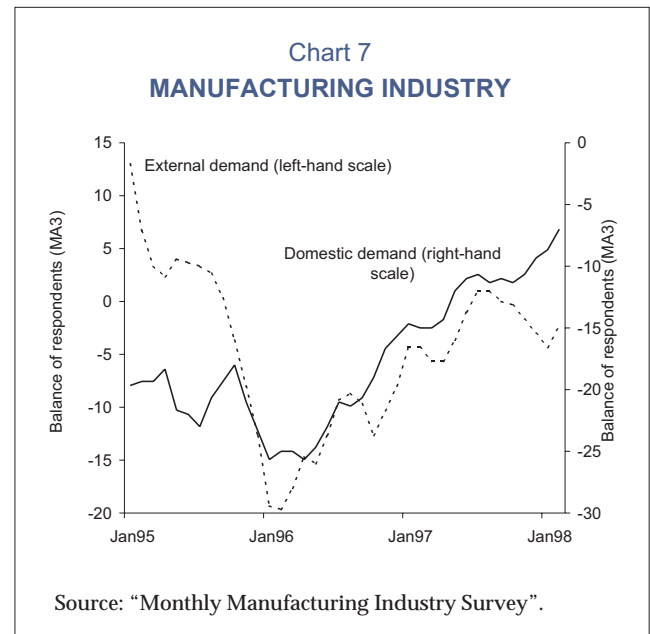
per cent (7.5 per cent in 1996), reflecting both the dynamism of domestic demand and the significant growths of exports. Imports of equipment goods excluding transport material grew by 17.2 per cent in real terms in the January-November period (13.2 per cent in 1996). The growth exhibited by investment in equipment induced a greater net borrowing requirement of corporations, which was partly fulfilled by bank credit. Credit to non-financial corporations for investment purposes increased by 24.4 per cent in 1997 (15.9 per cent in 1996).

### 3.1.2 Net external demand and Current Account Balance

In 1997, the contribution of net external demand to the growth of output amounted to -1.4 percentage points, after a virtually null contribution in 1996. Imports accelerated significantly, as a reaction to the strong growth of domestic demand. Exports maintained a significant growth, as an outcome of the strengthening of economic activity in our leading trade partners. It should be noted that, reflecting the acceleration of economic growth in the European Union in 1997 in comparison to the estimates available in September, Portuguese merchandise exports recorded a higher growth than the September *Economic Bulletin* forecast.

**Exports** of goods and services grew by 8.2 per cent in real terms (9.6 per cent in 1996). This slowdown reflected the behaviour of exports of transport material. The qualitative surveys to exporting corporations illustrate the pattern of acceleration of exports over the course of 1997 (chart 7). Indeed, to this acceleration contributed the exports of intermediate and equipment goods excluding transport material, reflecting the very high confidence level of manufacturing in the European Union. Exports of services grew by 4.4 per cent (1.0 per cent in 1996); here, the significant recovery of travels and tourism is worth being noted.

**Imports** of goods and services grew by 10.3 per cent in 1997 (7.8 in 1996). Imports of investment goods excluding transport material recorded an acceleration supported by the maintenance of high rates of growth of investment in equipment. Imports of intermediate goods exhibited a similar behaviour, in line with the acceleration of activity in



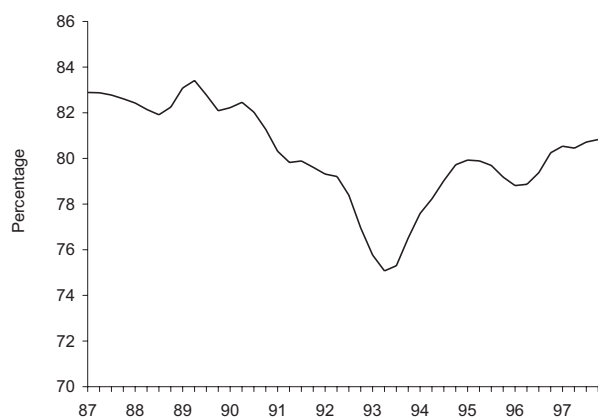
most industrial branches, and also consistently with the above referred behaviour of imports of consumption goods.

A slight gain in terms of trade was recorded in 1997: prices denominated in escudos of Portuguese exports and imports increased by 0.7 and 0.3 per cent, respectively, in annual average terms.

Merchandise exports grew by 9.5 per cent in volume terms, above that exhibited by external demand directed to Portuguese-produced goods, when assessed by the weighted real growth of merchandise imports in our leading trade partners. As a result, Portuguese exporters strengthened their market shares, continuing the trend recorded since 1992. In 1997, imports' penetration in the domestic market is estimated to have increased significantly, in both volume and nominal terms, benefiting from the dynamism of the components of demand with a strong imported content.

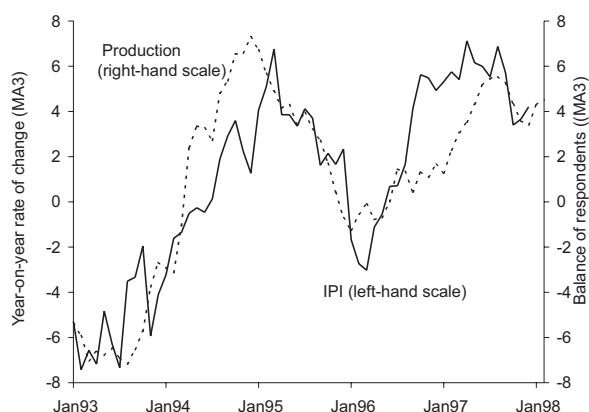
The current account, calculated on a transactions basis, recorded a deficit amounting to 1.8 per cent of GDP (1.4 per cent in 1996). The increase in the current account deficit was due to a higher deficit of the merchandise account in 1997. On the other hand, the surplus of the unrequited transfers account increased from 6.3 to 6.6 per cent of GDP, as a result of the growth in net transfers from the European Union and in emigrants' remittances. The services account balance remained virtually unchanged in 1997.

Chart 8  
RATE OF PRODUCTIVE CAPACITY  
UTILISATION  
Trend



Source: "Monthly Manufacturing Industry Survey".  
Note: Trend extracted using TRAMO/SEATS.

Chart 9  
TOTAL MANUFACTURING INDUSTRY

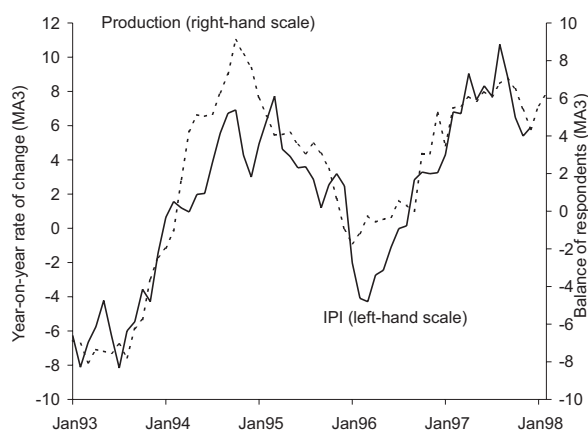


Source: "Industrial Production Index" and "Monthly Manufacturing Industry Survey".  
Note: Balance of respondents regarding the behaviour of production were seasonally adjusted and normalised as to have the mean and standard deviation of the year-on-year rate of change of IPI.

### 3.2 Supply

In 1997, the Portuguese economy continued to stand below its reference path, despite the fact that the growth rate of GDP has stood above potential growth. Economic activity accelerated in construction and in services, and continued to record a strong growth in industry. The acceleration of activity was accompanied by an increase in the utili-

Chart 10  
INTERMEDIATE GOODS INDUSTRY



Source: "Industrial Production Index" and "Monthly Manufacturing Industry Survey".  
Note: Balance of respondents regarding the behaviour of production were seasonally adjusted and normalised as to have the mean and standard deviation of the year-on-year rate of change of IPI.

sation of production factors; not only the unemployment rate decreased alongside with a growth of the rate of activity, but also productive capacity utilisation in industry and construction increased (chart 8).

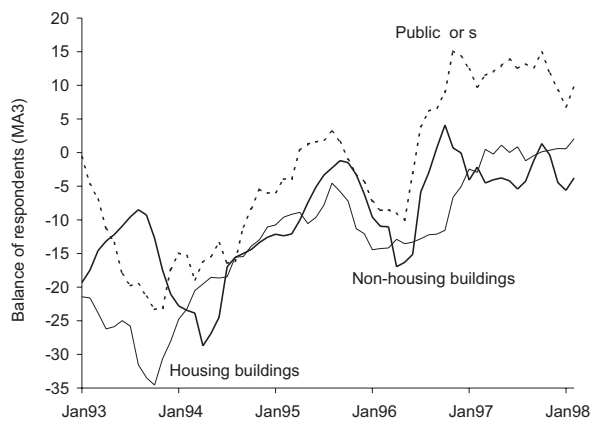
Output in most industrial branches accelerated, as a response to the expansion of both domestic and external demand (chart 7). This behaviour is illustrated by the acceleration in the Industrial Production Index (IPI) in **manufacturing industry**, which grew by 5.3 per cent (1.6 per cent in 1996; chart 9). Worth notice is the acceleration in the intermediate goods industries, where the IPI grew by 7.6 per cent (0.0 per cent in 1996; chart 10), while production in the investment goods industries excluding transport material continued recording a significant pace of growth (6.6 per cent, after 7.5 per cent in 1996). However, as mentioned, the expansion of industrial supply as a whole was similar to that exhibited in the previous year, since the automobile industry recorded a slowdown, after the high rate of growth recorded in 1996<sup>(4)</sup>.

Activity in the **construction** sector accelerated significantly in 1997, reflecting the dynamism of

(4) The weights of the IPI, which are fixed, do not reflect the present importance of the automobile industry in total industrial production.



Chart 11  
ACTIVITY IN CONSTRUCTION BROKEN-DOWN SECTORS



Source: "Construction and Public Works Monthly Survey".  
Note: Seasonally adjusted figures.

Chart 12  
ACTIVITY IN TRADE



Source: "Monthly Trade Survey".

activity in the public works and housing subsectors (chart 11). In the former, the trend of activity acceleration initiated in the second half of 1996, proceeded in the first half of 1997. In the second half-year, despite a lower growth in year-on-year terms, activity remained at a high level. In the housing subsector, the recovery of activity recorded in late 1996 was consolidated. Accompanying activity in the sector, also employment increased significantly.

Activity in the services sector recorded a higher growth in 1997 than in the previous year, being

worth notice the significant dynamism of the trade, hotels and restaurants subsector, and in the transports and communications subsector. According to the Monthly Trade Survey, activity and turnover appreciation recorded higher levels than in 1996, in both retail and wholesale trade (chart 12). Activity in the latter exhibited a significant recovery in 1997, partly due to the maintenance of a significant expansion in private consumption and to the dynamism of both production and foreign trade of intermediate goods. The behaviour of activity in the restaurants and hotels subsector reflects the above referred acceleration of real disposable income, and the strong recovery of tourism.

### 3.3 Labour market

The behaviour of economic activity led to a reduction in the **unemployment rate**. According to the Employment Survey of the *Instituto Nacional de Estatística*, the unemployment rate fell from 7.3 per cent in 1996 to 6.7 per cent in 1997, thus remaining above the estimated natural unemployment rate. This behaviour confirms the downward trend exhibited by the unemployment rate since the second half of 1996 (chart 13). In the fourth quarter of 1997, the unemployment rate amounted to 6.5 per cent.

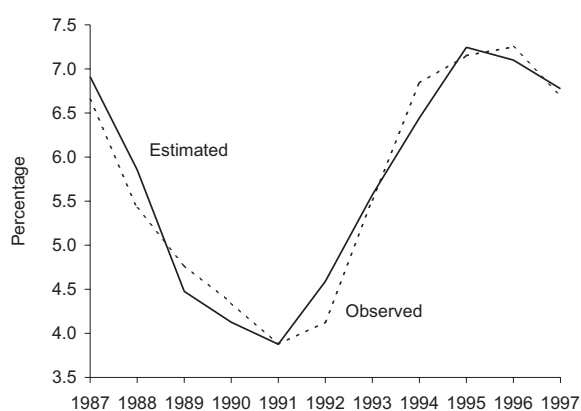
There is an already extensive econometric evidence of the fact that unemployment reacts to economic activity fluctuations in a fairly predictable and lagged manner. Indeed, the unemployment rate observed in Portugal is fairly well explained by a Okun relation (chart 13). In addition, it should be noted that econometric evidence allows concluding for the stability of this Okun law. This suggests that the Portuguese labour market has undergone no significant structural changes, unlike in other countries in the European Union.

Total **employment** grew by 1.9 per cent, which compares to 0.6 per cent in 1996. As referred wage-earners increased for the first time since the 1993 recession. According to the Unemployment Survey, wage-earners grew by 1.4 per cent (against a 0.4 per cent reduction in 1996).

In the job creation process, fixed-term contracts continued to play a dominant role. The number of fixed-term contracted workers increased by 15.7



Chart 13  
OBSERVED AND ESTIMATED  
UNEMPLOYMENT RATE



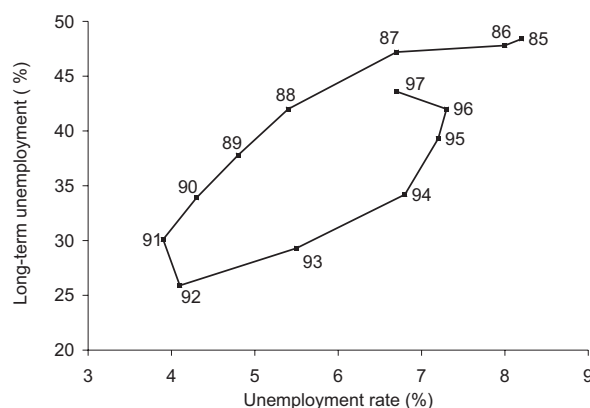
Source: "Employment Survey" and Banco de Portugal.  
Note: The estimated unemployment rate used an Okun Law, which relates the unemployment rate to the level of activity.

per cent in 1997 (12.1 per cent increase in 1996). In fact, given the rigidity of the legal framework of permanent contracting, fixed-term contracting becomes the major device by which the cyclical component of economic activity influences the amount of employment.

In 1997, unemployment fell by 5.8 per cent; this behaviour was common to the number of first-job seekers (10.1 per cent decrease) and to the number of job switchers (4.7 per cent). Although increasing in annual average terms, the percentage of long-term unemployment in total unemployment decreased from the third quarter onwards. In late 1997, this share stood 3.9 p.p. below the value recorded in the second quarter of the year. Indeed, this component of unemployment reacts to economic activity with a greater lag than total unemployment, and starts to reduce in a more advanced phase in the cycle (chart 14).

The change in wages implicit in collective agreements for the private sector amounted to 3.5 per cent in 1997 (4.4 per cent in 1996). However, the growth of compensations per employee (including social security contributions) for the economy as a whole surpassed that of contractual wages in 1997 as in 1996. Indeed, staff costs in the General Government increased strongly in 1997

Chart 14  
UNEMPLOYMENT RATE AND LONG-TERM  
UNEMPLOYMENT



Source: "Employment Survey".

(8.9 per cent in 1997 and 8.2 per cent in 1996). Furthermore, evidence suggests that some wage raises stood above the referred reference value; these were particularly important in sectors exhibiting greater rates of productive capacity utilisation (e.g., construction).

#### 4. PROSPECTS FOR 1998

The behaviour of the Portuguese economy in 1997 suggests a strong growth for 1998. Indeed, the lagged (and contemporary) effect of the reduction in interest rates on domestic demand will continue to play a key role. This effect shall be strengthened by the continuation of the job creation process, the growth of total wages, the maintenance of a strong growth of external demand directed towards Portuguese exports, the fulfilment of an intense programme of development of public infrastructure, and finally by the Lisbon International Exhibition. These developments are estimated to result in a growth of GDP within the 4.0 to 4.5 per cent interval in 1998. Growth is expected to exhibit a fairly regular intra-annual pattern in 1998.

Private consumption is expected to accelerate in 1998, growing between 3.0 and 3.75 per cent. Households' disposable income shall again present a significant growth in real terms, reflecting

the increase in real wages and the continuation of job creation, namely through the increase in the number of wage-earners. Households' consumption and investment decisions will continue to be encouraged by the decrease in interest rates, reflecting the usual lag in the adjustment to new borrowing conditions.

Investment is expected to continue exhibiting a strong growth in 1998, between 7.5 and 9.5 per cent. However, GFCF in transport material and in construction shall decelerate slightly, due to particularly high growths in 1997. Nevertheless, several other factors shall account for a strong growth of GFCF in 1998, in all its items and by institutional sector: the maintenance of favourable perspectives regarding the behaviour of domestic demand — namely in what concerns private consumption — and of external demand, the lagged effect of the decrease in interest rates on firms' and households' investment decisions, the continuation of the public infrastructure development programme, and the current financial situation of most firms.

In the first months of 1998, the appraisal of activity in construction did not change significantly from that of late 1997, which suggests that the level of activity in this sector shall remain high in 1998 (chart 6). According to the "Construction and Public Works Monthly Survey" of February, the balance of respondents on the order book in the buildings subsector reached historically high levels, chiefly reflecting the highly intense activity in housing. Also, the order book for the Public works subsector stands at very high levels, though slightly below the average values recorded in the second half of 1997. However, the development of road and railway infrastructure, as well as the completion of projects developed within the EXPO-98, shall ensure the maintenance of public investment at a very high level. Recall that the State Budget Law estimates a 7.4 per cent nominal growth for public investment in 1998.

Exports of goods and services are expected to continue growing steadily in 1998, between 9.0 and 11.0 per cent, reflecting the consolidation of recovery in some European economies, like France and Germany. The forecast of the Banco de Portugal also indicate the continuing of gains in market shares, as in previous years. Naturally, EXPO-98 will trigger a very strong growth of tourism receipts, contributing significantly to the growth of output and to a reduction in the current account deficit.

Imports are expected to grow between 8.0 and 10.0 per cent, reflecting the behaviour of the various items of overall demand. The current account balance is expected to stand within the -1.75 to -1.25 per cent interval.

In 1998, the unemployment rate shall again decrease, in line with the forecast behaviour for real activity. In annual average terms, the fall in the unemployment rate may reach 0.5 p.p.; by the end of 1998, unemployment shall stand close to its natural rate. In this context, eventual wage pressures constitute a risk factor to the sustainability of the fall in unemployment.

The behaviour of domestic demand directed to Portuguese exports and the strong growth of domestic demand create favourable conditions for the strengthening of the budgetary consolidation process. The achievement of results for public accounts excelling those projected in the State Budget Law — as has been recorded recently — could constitute a central factor in the maintenance of appropriate conditions to price stability, constituting at the same time an important step towards ensuring the objectives of the Stability and Growth Pact.

Written with the information available as on 31 March 1998.

## THE WAGE DISTRIBUTION IN PORTUGAL: 1982-1994\*

*José Mata\*\**  
*José A.F.Machado\*\*\**

### 1. INTRODUCTION

In the last decade, Portugal has devoted very substantial resources to modernise its industrial structure, both by subsidising investment in modern technologies and by creating training programmes. In addition, educational levels of labour force have been continuously increased, largely as a result of increases in the number of years of mandatory schooling, which led to a shift in the supply of labour towards more skilled workers.

It comes therefore natural that the impact of this effort on the structure of wages and wage inequality should be under scrutiny. Our goal is to know if, as in many other countries, inequality increased in Portugal in the 1980's; and if Portuguese data are consistent with the hypothesis that the eventual increase in wage inequality can be due to a shift in labour demand favouring high-skilled labour at the expense of low-skilled labour, primarily caused by changes in the technology.

This paper summarises the main findings of an analysis of the wage distribution and of its evolution in the 1980's and the first half of the 1990's, focusing on the role played in the process by human capital accumulation<sup>(1)</sup>.

Analysts of the determinants of wages have acknowledged the leading role of heterogeneity among both work places and individuals. As a consequence, for instance, the returns to education may vary across individuals with the same observed human capital. In our analysis, we use quantile regression techniques. Unlike the usual least squares (mean) regression, these techniques allow the study of the efforts of each of the covariates along the whole distribution. Therefore, our methodology allows us to account for this heterogeneity, and to extract useful information from it.

The paper is structured as follows: Section 2 describes briefly the samples employed and provides an overview of the evolution of the Portuguese labour market. Section 3 gives a non-technical introduction to the quantile regression methodology employed in the analysis. Regression results are presented and discussed in Section 4. Finally, Section 5 offers concluding remarks.

### 2. DATA AND MAIN FACTS

This paper analyses the relevance of covariates representing gender, human capital (as measured by education, experience and tenure), firm attributes (size and ownership status) and industry attributes in explaining wage distribution<sup>(2)</sup>.

\* The opinions of the paper represent the views of the authors, and are not necessarily those of the Banco de Portugal.

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(1) The study is more thoroughly reported in Working Paper no.2/98, "Earning Functions in Portugal 1982-1994: Evidence from Quantile Regressions", where the interested reader may find the methodological details, references and extensive results.

(2) Note that we analyse wages, and not total earnings. Wages include all salaries paid between March 1982 and September 1994. Nor payments in kind neither eventual annual bonus which were not paid over the referred months are included. The relative importance of these items is expected to be greater at the top of the wage distribution, and increasing over the period under review.

Table 1

## REAL GROWTH OF WAGES 1982-1994

Mean	2.8
Quantiles	
10	1.6
25	1.5
50	1.7
75	2.5
90	3.6

Table 2

## LABOUR FORCE ATTRIBUTES

	1982	1994
Sex (% of females) . . . . .	0.29	0.39
Years of schooling . . . . .	5.05	6.33
Schooling classes (% in each class)		
less than 4 years . . . . .	10	3
4 years . . . . .	59	45
6 years . . . . .	14	26
9 years . . . . .	15	28
14 years . . . . .	2	4
Experience . . . . .	23.84	22.70
Tenure . . . . .	8.50	7.79

The data employed were obtained from a survey (*Quadros de Pessoal*) conducted by the Portuguese Ministry of Employment, covering the work force of all firms employing paid labour in Portugal. We use data from 1982 and 1994, respectively the first and the last year for which information was available. For each year, we selected random samples of about 5,000 full-time wage earners employed by firms located in mainland Portugal.

Tables 1, 2 and 3 provide a brief description of the data, and document with clarity a number of relevant changes that have occurred in the labour market. Real wages increased significantly over the period. Indeed, the average wage increased by 2.8 per cent in annual average real terms. However, this wage increase was very unevenly distributed. While wages at the bottom of the distribution (first decile, first quartile and median) increased by about 1.5 per cent per year, the salaries at the third quartile and at the ninth decile increased by 2.5 and 3.6 per cent per year, respectively. Obviously, this pattern of growth led to an increase in the relative dispersion of the wage distribution. The increase in dispersion was particularly evident at the top of the distribution, where the differences between the ninth decile and the third quartile widened from 50 to 73 per cent, which contrasts with a virtual stability of the distance between the first quartile and the first decile.

The composition of the labour force also exhibited important changes in the period. Women represent an increasing proportion of the labour force, from about 30 per cent in 1982 up to 40 per cent in 1994. During this period, the education level of the

labour force also increased quite substantially, from an average of five years of schooling to an average of six, reflecting the increased years of mandatory schooling. This evolution is also visible in the distribution of the working population across the schooling classes. There is a marked increase in the percentage of workers with 6 years of education or more. For instance, individuals with 4 years of education or less, which accounted for almost 70 per cent of total working population in 1982, were no longer the majority in 1994.

"Experience" is defined as age minus the number of years of schooling minus 6 (the age of entrance in primary schooling). The evolution of this variable reflects the combined evolution of age and schooling. As the average age of individuals in the sample remain virtually constant around 35 years, experience displays a decrease over time. Unlike experience, the database contains direct information on tenure within a firm. The data shows that average tenure also decreased during this period. This evolution chiefly reflects the significant flows of entry and exit of firms experience during this period, leading to a reduction in the average age of firms, and hence in the average tenure.

Regarding labour demand, the data contains observation on the firm size (represented by the number of employees per firm), main activity and ownership status (whether the firm for which the individual works has a majority of state/private and domestic/foreign capital). The referred firm turnover is also associated to the decrease of average firm size. Table 3 indicates that foreign-owned

Table 3  
FIRM ATTRIBUTES

	1982	1994
Size (average of log of number of employees) .....	5.14	4.50
Foreign (% total) .....	0.06	0.07
State (% total) .....	0.12	0.09

firms increased their importance, while state-owned firms became less important over time.

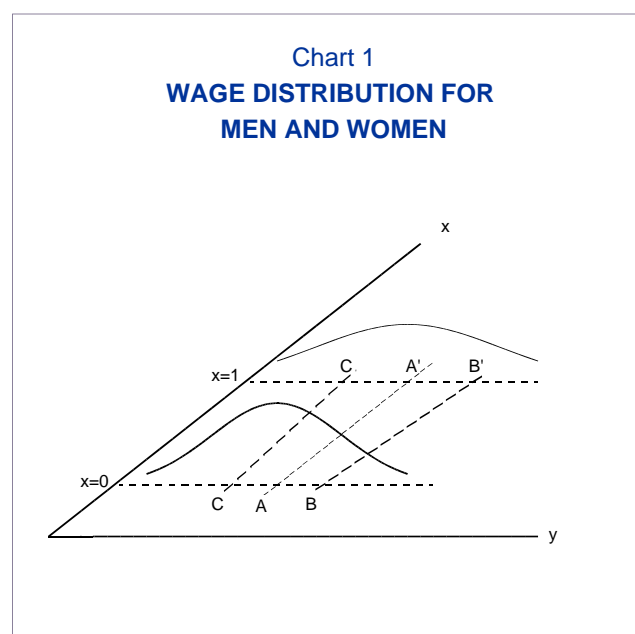
### 3. QUANTILE REGRESSION

Our econometric analysis uses quantile regression techniques. Whilst the interpretation of results requires previous knowledge of the methodology, this section gives a simple graphic illustration of the concept underlying quantile regression.

Consider the distribution of wages ( $y$ ) for men and women. In this context, we have a single regressor ( $x$ ), which can only take two values,  $0$  for women and  $1$  for men. A wage distribution is defined for each gender, as shows chart 1.

Point  $A$  represents the mean of  $y$  given  $x = 0$ ,  $E(y|x=0)$  and, analogously,  $A' = E(y|x=1)$ . Connecting these points one gets the (population) mean or least squares regression. The usual approach to earning functions is to estimate regressions of this form. This type of estimation is useful in that it measures the impact of gender on mean wage. Of course, these models do not imply that all the individuals of a given gender earn the same wage: the remaining variability (i.e., the deviations from the mean), however, is treated as nuisance and disregarded in the analysis.

Points  $B$  and  $B'$  represent the 75-th quantile of the distribution of  $y$  for men and women, respectively ( $B = Q_{75}(y|x=0)$  and  $B' = Q_{75}(y|x=1)$ ). For instance, 75 per cent of women earn less than the wage corresponding to  $B$ . Quite in the same way as done with the mean, one may connect  $B$  and  $B'$ , so we get a line representing the 75-th quantile of the conditional distribution of  $y$  for different values of  $x$  — that is, the 75-th quantile regression. Of



course, the same can be done for other quantiles yielding a whole set of quantile regressions. These are functions of  $x$  of the type  $Q_p(y|x)$  for  $p$  in  $(0,1)$  (in chart 1  $CC'$  stands for  $(Q_{25}(y|x))$ ). As chart 1 shows, the different regressions do not necessarily convey the same information on the way covariates ( $x$ ) impact the variable analysed ( $y$ ) — which means regression lines are not necessarily parallel. On average, men can be paid 13 per cent more than women, at the same time a man in the 25-th quantile of the men's wage distribution only earns 10 per cent more than a woman in the same place of women's wage distribution. Just in the same way, the wage spread between gender may reach 16 per cent when measured at the 75-th quantile of each distribution. Therefore, wage differences between men and women can be proportionally greater at the top of the distributions. Unlike a simple mean regression, the quantile regression conveys this information.

## 4. RESULTS

### 4.1 Wage determinants

This section discusses the impact of some of the covariates presented in section 2 upon the probability distribution of the log of hourly wages. We will present both the quantile regressions and some global characterisation of the wage distributions and their evolution over time.



Table 4

QUANTIL REGRESSION - SEX

	Average		Quantiles			
	10	25	50	75	90	
1982	-14.546	-10.679	-10.434	-13.191	-15.846	-19.909
1994	-15.614	-8.629	-11.926	-14.321	-16.844	-17.183

Tables 4 and 5 exhibit the estimated coefficients of covariates “sex” and “education” at different points of the distribution of the log of wages. To allow a comparison with the effects upon the mean, the tables also present the OLS estimates <sup>(3)</sup>.

Sex

The first column in table 4 shows that, on average, women make 15 per cent less than otherwise comparable men (i.e., with the same human capital and employed at the same firm) and that this figure has experienced a slight increase from 1982 to 1994. The information retrieved from the remaining columns confirm that, *ceteris paribus*, the distribution of women's wages is clearly to the left of men's (all the coefficients are negative). It also indicates that the estimate of an average 15 per cent pay penalty is not an accurate description of the differences between the wage distributions for men and women. In fact, in 1994 the first decile of women's wages is only 9 per cent lower than the corresponding decile of men's wages, but the median is already 14 per cent lower and, at the 9-th decile, the difference reaches 17 per cent. The fact that wage differentials are wider at the top than at

(3) Although estimates for these two variables are the only presented, our regressions included all regressors referred in section 2, plus 26 industry dummies. We focus on the variables for which coefficients varied the most from 1982 to 1994. All estimates were obtained from linear specifications of the quantile regression,

$$Qp(y|x) = \alpha(p) + \sum_{j=1}^k x_j \beta_j(p), p \in (0,1)$$

where  $x_j$  denote the covariates and  $\beta$  represent the corresponding coefficients, which are quantile-specific. Detailed results are presented in the Working Paper version.

Quadro 5

RETURNS TO ONE ADDITIONAL YEAR OF SCHOOLING

Education	Average		Quantiles			
	10	25	50	75	90	
Years						
1982						
4	1.282	0.447	1.081	1.752	2.552	1.854
6	7.056	5.129	6.235	6.318	7.895	8.773
9	9.152	8.721	8.056	7.808	8.827	9.688
14	8.763	6.308	8.857	10.123	10.062	9.144
1994						
4	0.418	0.315	1.161	1.336	1.907	-0.662
6	5.066	2.188	3.391	4.786	5.758	8.013
9	8.239	4.54	5.443	7.409	9.826	12.359
14	11.254	7.449	10.251	11.986	12.863	13.845

the bottom of wage distribution translates into men having a relatively more dispersed wage distribution than women. Although the same qualitative results also hold for 1982, some quantitative changes have occurred over the 12 years period under scrutiny. Indeed, while sex differentials increased (though slightly) for individuals earning wages at the middle of the distribution, they are smaller for the top and the bottom of the pay scale.

All “human capital” covariates — years of schooling, tenure and experience — have positive returns at every point of the wage distribution. Table 5 presents the results for education.

Education

The results indicate a clear change in the wage distribution. The return to an additional year of education observed in 1982 was basically independent of the educational class (except for the 4-year class). However, return is clearly an increasing function of schooling. Moreover, schooling has an evident positive impact on the wage dispersion in 1994.

The returns of having just the “primary education” have dramatically decreased from 1982 to 1994 at all quantiles. Moreover, at the bottom of the formal education scale, the number of years in school does not have much bearing on the reasons why an individual has a relatively high pay job.

Apparently, the return from having 9 years of schooling has declined somewhat on the left tail but has increased at the 75-th and 90-th quantiles. Finally, the returns of holding a university degree (14 years of schooling) are the only ones which increased at all quantiles from 1982 to 1994.

One may conclude that returns to education are not necessarily positive: it makes virtually no difference to have no formal education or just 4 or even 6 years of schooling, at least for those individuals which are at the top of the wage distribution. Only after a certain degree does education pay off. When it does, education is more valued for high-paid jobs.

### Experience and tenure

We now briefly discuss the results for experience and tenure. It is very clear that the effect of either variable is positive over the entire wage distribution. In 1982 the returns to experience are roughly constant all over the distribution, but in 1994 they are higher for the highest quantiles. Tenure, on the other hand, exhibits both in 1982 and 1994 approximately constant returns on the mid-part and left tail of the wage distribution but with a significant reduction at the top quantiles. Tenure is thus more valued at relatively low-paid jobs.

### Firm effects

Our regressions also include covariates to control for employers' heterogeneity, namely as regards size and ownership status. Larger firms pay more to workers with the same attributes. Notably in 1982, larger firms tend to have a larger wage spread.

The impact of the covariates reflecting the type of firm ownership — “state” and “foreign” — is quite diverse. State ownership is much more relevant at the lower tail of the wage distribution: relatively low-paid workers earn more in state-owned firms, but the impact of this attribute dies out as one moves along the wage distribution and is statistically insignificant for higher wages. Therefore, state ownership tends to compress the wage spread, even controlling for workers' observed characteristics. On the contrary, the presence of foreign capital not only shifts the whole distribu-

tion to the right — hence increasing wages at all levels — but increases proportionately more relatively high-paid jobs.

### 4.2 The wage distribution

We are now in a good position to analyse the conditional wage distribution. It should be stressed that the conditional distribution refers to individuals with the average observed attributes, employed in an “average” firm — thus contrasting with the distribution analysed in section 2, which provided an estimate for the marginal wage distribution.

The estimates in the first column of table 6 will be obtained using the 1982 regression coefficient and the 1982 regressions sample averages. Analogously, the second column presents estimates evaluated at the 1994 averages and coefficients. The last column presents the estimates obtained using the coefficients from the 1994 regressions but the 1982 average values of the covariates. The estimates in the first two columns refer to the distribution of wages observed in each year, in samples of individuals that are identical with respect to the attributes considered in the models. The estimates in the last column attempt to provide a counterfactual depiction of what would be the 1994 wage distribution if the amounts of human capital, firm size and other covariates would have remained constant at their 1982 average value<sup>(4)</sup>.

Comparison of the two last columns in table 6 enables to disentangle two types of factor that may have caused the changes in the conditional wage distribution: changes in the average level of the covariates and changes in the coefficients associated to these inputs. For instance, consider the change in the average amount of human capital on one side, and the changes in the returns to this capital on the other. What comes out very clearly from

(4) Analytically, the first column yields the estimates for  $Qp(y_{82}|\bar{x}_{82})$  — obtained using the  $\beta$  coefficients estimated with 1982 data and the regressors estimated on the 1982 sample average (see footnote 1). The second column gives the estimates for  $Qp(y_{94}|\bar{x}_{94})$  — using the 1994  $\beta$  coefficients and the 1994 regressors sample averages. In the third column we estimated  $Qp(y_{94}|\bar{x}_{82})$  — obtained using the  $\beta$  coefficients estimated with 1994 data and the regressors estimated on the 1982 sample average.

Table 6  
**THE CONDITIONAL WAGE  
 DISTRIBUTION**

	1982	1994	1994 At 1982 covariates
Dispersion			
$\log(q90)-\log(q10)$ .....	0.73	0.82	0.75
$\log(q75)-\log(q25)$ .....	0.36	0.40	0.37

this exercise is that both changes contribute towards increasing inequality. However, the overall contribution of changes in returns (or more generally, in the coefficients) is relatively modest, as compared with changes in the average quantity of inputs. Indeed, the inequality indices in table 6 clearly reveal that most of the estimated change in the wage inequality was due to changes in the distribution of the workers' attributes, rather than to an increase inequality within workers with the same attributes.

## 5. CONCLUSION

This paper analysed the wage distribution for Portugal and its evolution from 1982 to 1994. The role of education in this evolution was given particular evidence. Results show that the returns of having just the "primary education" have dramatically decreased over the 12 years under scrutiny at

all quantiles, and are no longer significant in 1994. On the other end of the educational spectrum, the incremental returns of having a university degree have increased at every point of the wage distribution, but with a much sharper rise for the top quantiles. Education is proportionally more valued for better (high-paid) jobs.

The observed increase in returns to education goes alongside with an increase in the average level of education of the working population. Unlike in the USA, for instance, where the increase in returns to may have been induced by a reduction in the number of college graduates, in Portugal we had an increase in returns to university education, despite the remarkable increase in the number of college graduates. What this necessarily suggests is a significant shift in labour demand towards more skilled workers, which probably reflect changes in the underlying technology.

Wage dispersion increased over the period under scrutiny. Results suggest that the bulk of wage inequality was due to changes in the distribution of the workers' attributes, rather than to changes in the returns to those characteristics. Take education for example. As seen, and notwithstanding an overall positive impact on wages, education is relatively more valued at the upper quantiles of the distribution, therefore increasing wage dispersion. The outstanding increase in the average educational level of the labour force is, therefore, estimated to have contributed to the increase in wage inequality observed from 1982 to 1994.

## DEBT RELIEF IN DEVELOPING COUNTRIES

### The HIPC Initiative\*

*Luís Saramago\*\**

*Fernando Martins\*\**

#### 1. INTRODUCTION

Formally announced in October 1996 as the leading instrument for external debt relief of the poorer and most heavily indebted developing countries, the HIPC Initiative<sup>(1)</sup> is about to record its first successful case. External debt of Uganda is expected to reach sustainable levels in April 1998, due to the direct and indirect contribution of international financial institutions and several donor countries. Among these we find Portugal, chiefly involved as an important partner and a leading creditor of Portuguese-speaking African countries. Excepting Cape Verde, which presents a reasonably sustainable external debt, all of these countries are indeed potentially eligible to the HIPC Initiative, Mozambique's currently standing as the most advanced process.

This paper starts by placing the Initiative in the context of efforts drawn by the international community towards solving the "debt crisis" which affected developing countries in the early 1980's (section 2). We then follow to outline the HIPC Initiative, designed to meet the needs of those coun-

tries that despite the recovery of most leading debtors throughout the 1990's, remain troubled with the debt burden (section 3). Lastly, we discuss the best strategy in dealing with excessive debt problems, illustrating the macroeconomic standing and the implications of alternative strategies (section 4).

#### 2. THE BUILDING-UP TO THE "DEBT CRISIS", ITS DEVELOPMENT AND SOLUTIONS

The so-called "external debt crisis" of developing countries is usually considered to have started when Mexico failed to meet its external debt-service obligations, in August 1982. Rapidly spread throughout the developing world, this crisis reached proportions of a widespread systemic threat, changing substantially the way of facing sovereign risk.

Behind this process were ultimately inadequate domestic options — namely imprudent indebtedness strategies and poor macroeconomic management. Such options resulted in weaknesses that became obvious with the adverse developments of the external environment. Indeed, a combination of several significant factors contributed to that outcome: rising international interest rates, in a context of disinflationary efforts pursued by many industrial countries; a deterioration in the terms of trade which affected most developing countries, and in particular exporters of non-oil commodities; an economic slowdown in several industrial

\* The opinions expressed in the paper represent the views of the authors, not necessarily those of the Banco de Portugal.

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(1) The HIPC Initiative is destined to the Heavily Indebted Poor Countries, comprising 32 countries with levels of GDP per capita lower than USD 695 and NPV of debt over 220 per cent of exports or over 80 per cent of GDP, plus nine other countries receiving concessional treatment by the Paris Club (or eligible to such a treatment).

countries, which affected exports of debtor countries, thus limiting the latter's debt-servicing capacity; and the continuous appreciation of the US dollar — the reference currency in most loan contracts.

The exceptional magnitude of this problem led the international financial community to tailor specific mechanisms to overcome it, developed in a concerted way so as to minimise the possibility of free riding. Following an initial period when private creditors demanded the strict compliance with debt servicing — which resulted in cumulative delays — the crisis was then faced essentially as a liquidity problem, emerging the so-called “**short leash approach**”.

This approach was characterised by the introduction in debtor countries of adjustment programs supported by the IMF and the World Bank, through which these institutions supplied financing subject to certain rules of macroeconomic conditionality. Compliance with such rules, monitored on a regular basis, would be a prior condition for disbursements to take place — phased in time — aiming at re-establishing an equilibrium, which would ultimately build debt-servicing capacity.

As a counterpart, countries would benefit from the so-called “catalytic effect” — i.e., the availability of creditors (notably commercial banks) to accept not only the consolidation of debt service through reschedulings and/or roll-overs, but also their availability to put forward further financing. At first implemented for short periods (comprising debt service within one or two years), these operations soon proved insufficient. As a result, in mid-1984 the multi-year rescheduling agreements (**MYRA**) were introduced. These instruments allowed for an extension of the consolidation periods (i.e., the time intervals along which debt service falls due) for three to five additional years.

Despite longer consolidation periods, delays continued accumulating substantially, requiring new approaches to the problem. In late 1985, the **Baker Plan** (after the US Treasury Secretary) was introduced, preconizing the enlargement of reforms to be adopted by debtor countries — as to strengthen their growth prospects — alongside a substantial concession of new financing, both private and official. However, the reluctance of pri-

vate creditors to meet these requirements proved crucial in limiting this scheme's viability — since the problem formerly seen as a liquidity one was increasingly being treated as a solvency crisis (as evidenced by the growing discounts required by debt traded in the secondary market).

Faced with the absence of serious alternatives, many creditors opted for the development of other less institutional and more market-oriented solutions. Among these, debt buybacks (repurchase agreements with discounts in the secondary market) and debt-equity swaps — frequently associated to privatisation programs in the debtor countries — should be singled out.

The idea that a solvency crisis was at stake became widespread, leading to a new approach to the debt problem. In 1989, the **Brady Plan** (after the successor of James Baker at the US government) had as its key innovation the possibility of reducing the debt stock (cumulative to other alternatives) in the context of a menu of options submitted to private creditors — a market approach which adjusted to the preferences of the latter. Encompassing several specific instruments, the available options consisted of three major areas: debt service rescheduling, new financing in more favourable conditions, and stock reduction. The latter turned out to be predominant, leading to an average cut of 45 per cent off net present value (NPV).

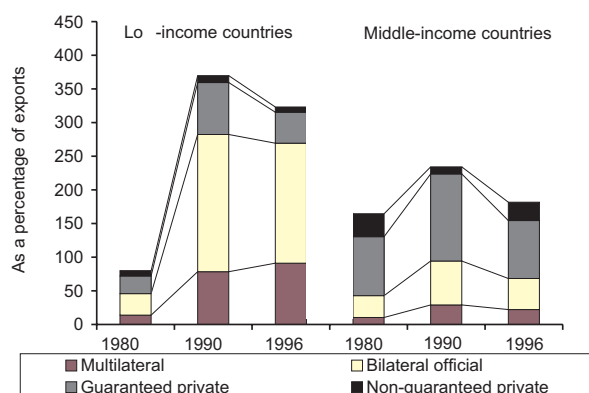
The Brady Plan culminated a period when the international financial community was mainly concerned with solving the major and more systemic component of the debt crisis — the indebtedness of middle-income countries vis-à-vis commercial banks (85 per cent of developing countries' total debt).

These middle-income countries benefited from macroeconomic reforms and from debt-relief mechanisms made available by the Plan; as a result, in the early 1990's most of them recorded an outstanding recovery, clearly illustrated by their gradual return to the international markets (see non-guaranteed private debt in Chart 1).

However, the debt burden remained excessively high in many other developing countries — particularly the low-income ones from **Sub-Saharan Africa**, which posted a different debt structure (the official component stands frequently



Chart 1  
EXTERNAL DEBT  
Severely indebted countries



Source: World Debt Tables.

above 80 per cent of the total — see Chart 1). Structurally weaker — featuring narrow production basis, low-skilled human capital, excessive natural growth rates, among others — countries included among this second group ultimately got to see their special situation acknowledged. Hence, as the Brady Plan produced increasingly evident results, a set of instruments specifically tailored to deal with low-income countries' debt got to be developed. Among these, one should single out the **Debt Reduction Facility**, a World Bank initiative created in 1989 to sustain these countries' private debt repurchase (a significant item of total debt, despite its low share — see Chart 1). Combining World Bank with bilateral grants, this facility reduced in about 85 per cent total private debt in more than one dozen low-income countries, allowing for an 87 per cent discount in average terms.

As regards official debt, low-income countries were granted special support virtually since the beginning of the crisis, through instruments such as the channelling of new concessional loans (both bilateral and multilateral) and the forgiveness of a substantial part of debt due to official development assistance (ODA). However, its specificity only gained true visibility in the late 1980's, when a number of **Paris Club** initiatives resulted in progressively higher debt relief<sup>(2)</sup>.

Debt relief was provided on standard terms, periodically reviewed whenever instruments be-

came ineffective as countries' debt situation needed more far-reaching concessions. The first significant progress in this direction took place in June 1987, when repayment and grace periods were extended (the **Venice Terms**). About one year later, within the framework of the **Toronto Terms**, creditors for the first time agreed to reduce eligible non-ODA debt service — one of the three rescheduling options made available. The other two consisted of more concessional interest rates and exceptionally longer repayment periods, aiming to reduce by up to a third the NPV of eligible debt service falling due within the consolidation period. However, the **Toronto Terms** also proved ineffective, since debtors remained insolvent. This resulted in the application of the **London Terms** (or Enhanced Toronto Terms) in December 1991, whose major innovation consisted of widening the reduction of debt service of eligible non-ODA debt, thenceforth by up to one half of its total NPV.

The persistence of debtors' difficulties in meeting their liabilities (even on the basis of the London Terms) and creditors' willingness to increase the level of concessionality led to the introduction of the **Naples Terms** in 1994. These extended the reduction of non-ODA debt service up to 67 per cent, in NPV terms. In addition, the Terms foresaw the possibility of expanding this relief, considering total eligible stock, which goes beyond a mere rescheduling of flows falling due throughout the consolidation period (following an idea introduced by the London Terms, at the time with no practical expression). The latter option would be limited by the evidence of a good track record by debtor countries, for a minimum period of three years, as regards the implementation of IMF-supported structural adjustment programs — aiming to provide countries with a means of abandoning, once and for all, the cyclic process of rescheduling.

(2) This organisation comprises the leading bilateral official creditors, who join efforts towards a concerted action, channelling assistance to debtor countries willing to adopt adjustment programs supported by the IMF and the World Bank.

### THE NAPLES TERMS — KEY ELEMENTS

**Scope.** Official bilateral debt (credit provided or guaranteed by the State), contracted up to a determined date ( “pre-cut-off date debt”).

**Eligibility.** Decided by creditors on a case-by-case basis, considering debtor countries’ income and indebtedness levels.

**Concessional.** Most countries receive a reduction in non-ODA debt up to 67 per cent in net present value (NPV) terms.

**Options.** i) debt reduction option through repayment over 23 years with 6 years’ grace; i.i.) debt service reduction option through concessional interest rates (with repayment over 33 years); iii) greater grace and repayment periods (20 and 40 years, respectively), but no debt NPV reduction. In case of ODA debt, repayment periods are widened to 40 years, with 16 years’ grace, on interest rates at least as concessional as the original ones.

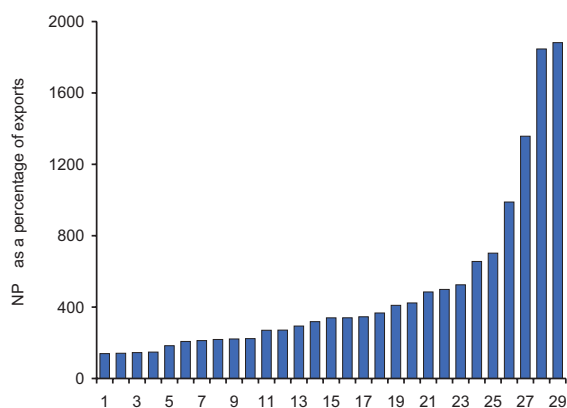
**Types of operations.** i) flow reschedulings: change of the profile of debt service on eligible debt falling due during the consolidation period (generally in line with the period of the IMF adjustment program); ii) Stock-of-debt operations: for countries with a satisfactory track record with respect to both performance under IMF arrangements and payments under previous rescheduling agreements (the entire eligible stock can be cut off up to 67 per cent of NPV).

### 3. THE HIPC INITIATIVE

In the early 1990’s, the level of debt relief made possible by the mechanisms provided by the international community to debtor countries granted most of the latter with means to overcome satisfactorily their liquidity and solvency constraints. However, to many other countries it became obvious that the size of their debt burden (see chart 2) in relation to their structural weakness hindered an adequate management of debt service, even with full use of all debt relief mechanisms and with sound macroeconomic policies.

Acknowledging the difficulties experienced by the heavily indebted poor countries, IMF and the World Bank staffs have been developing since 1994 efforts focused on evaluating the level of sustainability of these countries’ debts, and proposing alternative strategies whenever the available ones proved insufficient. The concept of **debt sustainability**, central in such analyses, stands for a situation in which debtor countries are able to fully meet their current and future debt service, without resorting to further rescheduling or forgiveness, and without unduly compromising economic growth prospects.

Chart 2  
EXTERNAL DEBT OF THE HIPC  
1995



Note: Only 29 countries for which data are available were included.

Source: Boote and Thugge (1996).

In practice, debt sustainability is assessed through certain key indicators, defining a time horizon (five, ten or more years) within which the main macroeconomic variables are projected, and then confronted with the debt reimbursement pro-

file. Therefore, on the basis of empirical research and on a thorough methodological discussion, debt was considered to be unsustainable whenever:

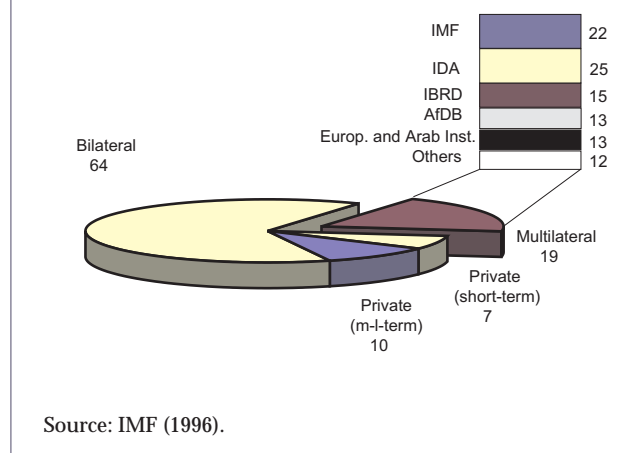
- i) the net present value of the debt-to-exports ratio stands above a given target value within the range of 200 to 250 per cent<sup>(3)</sup>;
- ii) or, even with the previous ratio standing below 200 per cent, the net present value of the debt-to-public receipts ratio stands above the 280 per cent threshold, provided that the exports-to-GDP ratio scores over 40 per cent (thus indicating a relatively open economy) and the public receipts-to-GDP ratio is over 20 per cent (indicating a minimum level of tax imposition).

Following those analyses, built on the referred methodology<sup>(4)</sup>, these institutions concluded that the existing mechanisms would indeed prove insufficient to ensure debt sustainability in several of the countries considered. As a result, a new mechanism was proposed — the **HIPC Initiative** — which came to be officially endorsed at the IMF and World Bank Annual Meetings in September 1996. This Initiative is based upon **six guiding principles**: i) ensuring overall debt sustainability in each country, therefore providing a final solution to the problem; ii) debt relief would be envisaged only after the debtor country had shown a good track record implementing macroeconomic adjustment programs; iii) new measures should build, as much as possible, on existing mechanisms; iv) ensure the co-ordinated and equitable participation of all creditors in additional action; v) preserve the financial integrity and the preferred creditor status of multilateral institutions;

(3) For each country a specific value would be set (within the referred interval), according to certain vulnerability factors — such as the concentration and volatility of exports, external aid dependence or the amount of reserves, among others.

(4) Note that an important share of these countries' debt presents concessional features (interest rates below market values), hence the respective nominal value undervalues its importance in comparison to countries' repayment capacity. Therefore, the NPV of debt-to-exports ratio provides a better indicator of effective debt burden.

Chart 3  
HIPC-BREAKDOWN OF DEBT



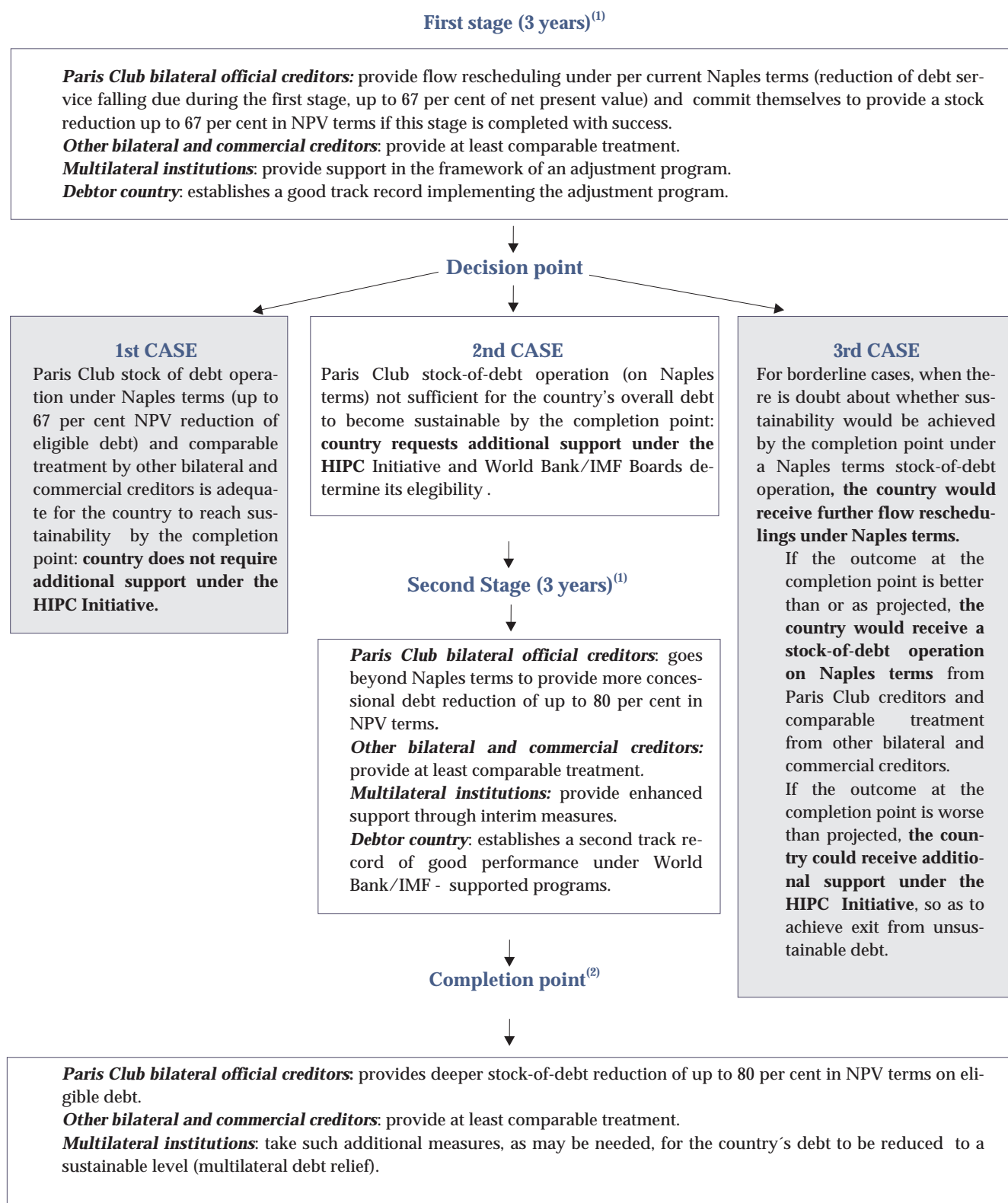
vi) new external financing for the countries concerned should take place on concessional terms.

Based upon these principles, the HIPC Initiative was set up (see diagram 1) for countries following **four conditions**: being eligible to financing from the International Development Association and from the Enhanced Structural Adjustment Facility<sup>(5)</sup>; having adopted a structural adjustment program (if countries had not adhered to any yet) within the two first years after the Initiative's formal approval; establishing a good track record in the implementation of those programs, under the terms of diagram 1; presenting evidence of debt unsustainability, even after totally benefiting from traditional debt relief mechanisms, as assessed according to the analyses conducted by IMF/World Bank staffs, and evaluated by their respective Boards<sup>(6)</sup>. Although aid provided within the Initiative is crucial to the economic viability of potential beneficiaries (see chart 2), the amounts involved — which correspond to the required debt reduction — do not exceed USD 7.4 billion (at 1996 prices).

(5) These are: the World Bank agency specialised in supplying loans under particularly favourable conditions (International Development Association, IDA) and the financial instrument created by the IMF to meet the specific needs of low-income countries (Enhanced Structural Adjustment Facility, ESAF).

(6) In the context of these analyses — presented at the Decision Point — specific reference values for the NPV of debt-to-exports ratios to be respected by each country at the Completion Point would also be defined (see Diagram 1).

Diagram 1 —HIPC INITIATIVE



## Notes:

(1) The referred deadlines may be shortened on a case-by case basis.

(2) Several alternatives are under discussion, as regards burden sharing among creditors, both for an 80 per cent reduction of NPV, and to go beyond that, when needed to achieve debt sustainability.

One of the particularly innovative aspects of the Initiative is that debtor countries can also benefit, though indirectly, from multilateral debt relief (about one fifth of total debt, see chart 3) — through the creation of instruments which will allow for the repayment of multilateral debt service at the Completion Point. The World Bank would provide assistance mainly via the HIPC Trust Fund, supported with the Bank's own funds and the participation of other interested countries; the IMF would provide assistance through “special ESAF operations” — notably grants or concessional loans. Still as regards the latter, resources necessary to sustain its participation in the Initiative are expected to be ensured mainly through bilateral contributions — jointly required for this purpose and to support the ESAF reform<sup>(7)</sup>.

Since the formal approval of the Initiative in September 1996, several candidates have been analysed on a case-by-case basis — namely countries presenting a strong track record under adjustment programs. In the process, four countries have already been selected. All of them have benefited from substantial reductions in the length of both stages: Uganda (Decision Point in April 1997 and Completion Point in April 1998), Bolivia (September 1997 and September 1998), Burkina Faso (September 1997 and April 2000) and Guyana (December 1997 and December 1998), the latter having been the first country to be considered under the fiscal criteria. Among the remainder cases under most advanced consideration, Mozambique is worth being singled out — this country has displayed a good track record as regards adjustment efforts, but its particularly high relative level of debt has turned out to be a major obstacle. Indeed, Mozambique's debt will still be unsustainable at the projected Completion Point, in case relief

granted does not go beyond the 80 per cent threshold. Bilateral and multilateral creditors are currently discussing the possibility of sharing the remaining burden.

#### 4. MACROECONOMIC IMPACT, DEBT OVERHANG AND INCENTIVE MATCHING

The proportions reached by the “debt crisis” in most developing countries in the early 1980's — namely its repercussion over the international financial system and the size of its implications over the debtor countries — triggered a boost in the scientific community's interest on the subject, in parallel to political initiatives. In this context, a particularly crucial analysis is that of the impact produced by an excessive amount of external debt on debtor countries' economic performance (i.e., to what extent excessive debt accounts for a weaker pace of growth and a slower introduction of reforms). Among the various ways by which such impact is passed through, four mechanisms are usually singled out (see for instance IMF (1996)): the crowding out of investment by debt service, the limitation of access to international financial markets, additional uncertainty, and the so-called “debt overhang”.

As regards the first, the need to meet debt service obligations in a context of scarce resources has a negative impact on the levels of contemporary investment. Indeed, the higher the debt service, the lesser resources are available to current investment financing, with current consumption held constant — a **crowding out effect** identified by Cohen (1993). This factor is particularly significant in the case of the Initiative's potential beneficiaries, given their high needs for investment, due to the size of their structural weaknesses.

A second aspect deals with the consequences resulting from the difficult access to the international financial markets whenever accumulated debt reaches excessive levels — raising doubts about countries' capacity to meet future debt service. Under these circumstances, the international markets would not be willing to provide new financing (other than the rescheduling of existing debt, to a large extent involuntary), a phenomenon

(7) This reform mainly consists of ensuring the continuity of ESAF in a self-sustaining way (i.e., indefinite operation without resorting to additional financial support), which will be viable from 2004-05 onwards. Since the resources of present ESAF are expected to be exhausted by 1999-2000, continuing its operations during the interim period might be ensured through the creation of an “interim ESAF”. As in 1994, when the IMF decided to extend the original ESAF (short of financial resources by then), a call to contribute has been directed to the Portuguese authorities — whom have already indicated their availability (in principle) to meet that request.



usually known as **credit rationing** (Borensztein, 1990). This corresponds to a situation in which real domestic interest rates are higher than international ones, hence constraining foreign direct investment. Unlike the previous situation, this aspect is less binding as regards the heavily indebted poor countries, since most of these probably would still have great difficulty in attracting a significant amount of foreign capital in the short-medium run, even if the debt problem were not as pressing.

Equally important is the overall **increase of uncertainty in the economy**, due to excessive debt — which brings about instability, jeopardising an efficient allocation of resources. In addition to the elements of greater or lower uncertainty linked to the type of debt relief strategy adopted (see below), the eventual incapacity to fully meet debt relief obligations may have two direct implications. First, such incapacity provides a factor of uncertainty as regards the amount of domestic resources which will come to be affected to that purpose; second, because this debt is mostly official, doubts may arise concerning the possible resort to higher taxation in order to meet those liabilities — a particularly pressing setting in heavily indebted poor countries.

Finally, the fourth main negative effect of debt in this context, frequently highlighted when the best debt relief strategy is under discussion, is the so-called **debt overhang impact** — indicating a situation in which the debt burden is such that future service is an increasing function of the level of economic activity (i.e., reimbursement expectations increase as growth intensifies). Under such circumstances, debt appears as an implicit tax, working as a mechanism discouraging current investment (and any other initiative oriented to promoting growth). The size of debt and the need for investment faced by heavily indebted poor countries suggest that this is indeed a key factor in such cases.

When a given country's debt burden becomes excessively high, to the point where the possibility of debt repayment in the agreed conditions is at stake, agents involved are left with three options (IMF, 1996): one passive strategy, letting arrears accumulate, and two active strategies — refinancing existing debts (to ensure its service), or reduc-

ing the existing liabilities through debt stock or debt service relief.

Since two types of agents are basically involved in these situations — debtors and creditors — the optimal strategy consists in maximising joint utility, through a set of adequate incentives. As regards creditors (usually supposed to take the initiative), separate consideration of their interests leads to a refinancing strategy, even in the presence of debt overhang — i.e., even if creditors admit that the face value of their credits is higher than the present value of resources which can be allocated to pay future service.

This concept can be illustrated through an example (Krugman, 1988), built on the following assumption: two periods are considered (1 and 2); in the first a debt ( $D$ ) is inherited, and supposed to be repaid in that same period; the debtor country is willing to meet its debt with its own funds, which amount to a known value ( $x_1$ ), complemented with a loan ( $L$ , with  $L = D - x_1$ ), to be repaid in period 2; this repayment is to be made transferring own funds which can take one of two possible amounts, depending on whether the economic situation evolves favourably ( $x_{2G}$ ) or not ( $x_{2B}$ ); probabilities  $p$  and  $(1 - p)$  are associated to these two states, respectively; total reimbursement is only possible in the first case.

$L$  is provided whenever the solvency condition is met:

$$[px_{2G} + (1-p)x_{2B}](1+i)^{-1} > L \quad (1),$$

(where  $i$  stands for the opportunity cost of capital to creditors), which is the case when the present value of expected repayment exceeds the value of the loan. This being the case, the country will be able to meet its financial obligations, therefore being solvent. It should be noted that (1) can also be interpreted as a sufficient condition to the disbursement of the necessary financing, as becomes clear with the following alternative formulation:

$$r > i_L = [px_{2G} + (1-p)x_{2B}]L^{-1} - 1 > i \quad (1'),$$

where  $r$  is the maximum admissible rate — so that  $L(1+r) = x_{2G}$ , where creditors receive total transferable resources — and  $i_L$  is the rate at which  $L$  is contracted, with  $i_L = i_L(p)$  and  $i_L' > 0$ , since  $L$  is di-

rectly proportional to the expectations regarding the debtor's future repayment capacity. In particular,  $i_L > i$  defines a higher opportunity of investment than market conditions, so any risk-neutral creditor should be willing to supply  $L$ , independently of already being a creditor as regards the referred country.

However, (1) is only a sufficient (not a necessary) condition to the availability of financing. If this condition is not fulfilled, the debtor country will not necessarily face a liquidity crisis. Indeed, a default situation would thereby result, which would not be in the **original creditors'** interest — since in this case effective repayment would be lower than potential repayment. Consequently, creditors would continue to be willing to refinance even if the country were not solvent. In fact, one can easily admit that the present value of resources that creditors expect to receive in case of default takes value  $Z$ , lower than potential repayment, such that:

$$Z < x_1 + [px_{2C} + (1-p)x_{2B}] / (1+i) < D \quad (2)$$

Note that this strategy, which is optimal to creditors, may not always determine ex-post losses to the latter, since it allows for the possibility of full reimbursement. In addition, this option only concerns initial creditors, since no other creditor would be willing to participate in such an operation, with debtors being considered insolvent from the start. Finally, initial creditors will only be interested in opting for this solution in the context of a concerted action, since each creditor taken individually would rather not provide new financing, letting others creditors carry the risk burden — this is the **free riding problem** (identified by Cline (1983), among others) which clearly reflects the public good quality of this strategy.

Therefore, even in the presence of a potential loss, initial creditors would always have an incentive to supply new financing, as a way to preserve the value of their loans. Consequently, it seems that the second admissible active strategy (debt reduction) would always be disregarded by creditors, who would prefer refinancing. However, this finding will not hold if incentives to debtors are introduced in the analysis. Indeed, a debtors' potential repayment is not independent of the

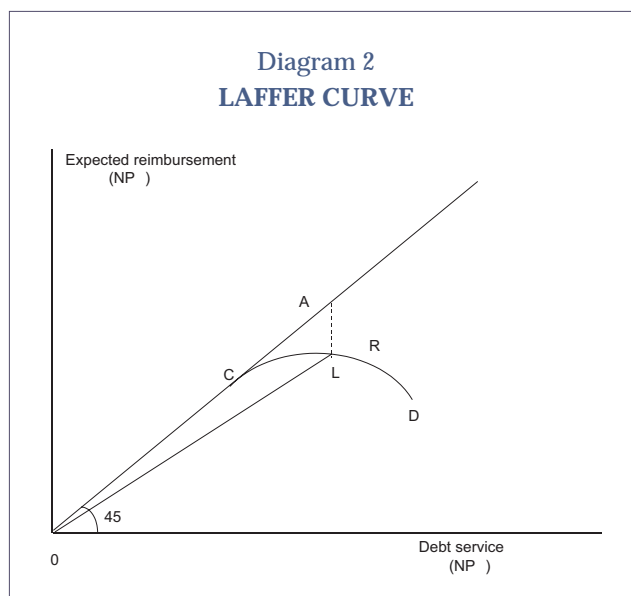
amount of debt — it depends on the effort of adjustment the country has to carry out so as to increase its ability to generate resources in the future. If the maximum amount of the latter (which corresponds to an adjustment effort pulled to the maximum supportable limit) stood below the debt burden, a debt overhang situation would arise. Under these circumstances, all benefits would be appropriated by creditors, debtors being left with no incentive to undertake the required adjustment.

Using the same example above described, consider an extreme situation, in which the value of resources potentially transferred in period 2 depends solely on the adjustment effort of debtors (Sachs, 1986). Here,  $p$  is no longer exogenous, being an increasing function of the adjustment effort  $A: p = h(A)$ , with  $h' > 0$ . In this setting, the optimal rate for creditors,  $i_L$ , will also be an increasing function of  $A: i_L = g(A)$ , with  $g' > 0$ .

However, when the interest rate is determined under these circumstances — where creditors are the residual claimants of the adjustment effort — debtors hold no incentive to adopt adjustment measures, for these could reduce their future reimbursement capacity. Consequently, creditors may be willing to accept an interest rate lower than  $i_L$ . An equilibrium rate  $i^*$  would therefore be defined — low enough to incentive debtors to adopt optimal adjustment. If we compare expected reimbursement using  $i^*$  and  $i_L$ , we note that the reduction in the interest rate — corresponding to a reduction in the NPV of debt — leads to an increase in the market value of debt. We finally conclude that the **joint consideration of incentives to debtors and creditors** may lead to a preference for a strategy of debt reduction, whenever debt is excessive (debt overhang).

This phenomenon can be illustrated by means of a diagram (see Krugman, 1989). Diagram 2 plots a relationship between the NPV of expected debt service (y-axis) and the NPV of liabilities (x-axis). For small levels of debt, debtor countries are expected to fully meet debt service (segment OC). However, as the debt burden increases, the probability of default becomes greater (curve CD). Hence, the slope of any segment like OL (for instance) stands for the shadow price of debt in the secondary market, being AL the respective discount.

Diagram 2  
LAFFER CURVE



Since debt relief attenuates the distortion on investment caused by the implicit tax, the probability of the remaining debt being reimbursed rises. If this effect is strong enough, debt relief will work as a “positive sum game”, also benefiting creditors (apart from debtors) — through an increase in expected redemption. This would be a situation in which the debtor country is in the “wrong side” (i.e., in the downward part) of curve CD, since debt relief would not increase expected reimbursement otherwise, and creditors would therefore no longer benefit from it<sup>(8)</sup>. Curve CD is actually quite similar to the **Laffer Curve** used in public finance: just as a cut in the tax rate can increase tax receipts, so can debt relief increase expected reimbursement.

In addition to the above-described rationale, built on the debt overhang theory, other reasons can justify the preference for a debt reduction strategy — the most relevant consisting of the reduction in uncertainty<sup>(9)</sup>. Not only is uncertainty one of the main distortions resulting from excessive debt accumulation, as referred above — it

(8) Note that any point over curve CD has implicit a discount in the secondary market, implying that the mere existence of this discount is not sufficient for creditors to benefit from the option of debt reduction.

(9) A recent IMF paper (Carlson, Husain and Zimmerman (1997)) suggests another innovative justification for debt reduction. The authors sustain that reduction could already be implicit in financing contracts, in the form of a risk premium, to accommodate adverse occurrences out of the control of both parts.

tends to aggravate when a refinancing strategy is chosen. Indeed, refinancing is commonly provided in a gradual basis, and subject to conditionality, so that payments depend on the adjustment effort, to a great extent a function of exogenous factors.

Finally, a usual criticism towards active strategies against “debt crisis” situations is the possibility of moral hazard. Indeed, debtors may believe that if their situation does not improve, further aid shall be granted — hence debtors will have no incentive to increase their capacity for future reimbursements<sup>(10)</sup>. To minimise this risk, refinancing strategies usually include a conditionality element (i.e., new credit is paid gradually and conditional on a good track record in adopting macroeconomic adjustment programs). This relative drawback of debt reduction strategies may, however, be mitigated if the continuous and successful implementation of these programs is imposed as a pre-condition — as in the case of the HIPC Initiative.

## 5. CONCLUSION

The contrast between the recovery process undergone by middle-income debtor countries and the difficulties still experienced by low-income countries marked the development of strategies aiming to overcome the “debt crisis”. In this context, an assessment of the two relevant options — reduction or refinancing — tended to favour the former, in such cases where debt clearly yields significant adverse effects on economic performance.

It is precisely the measurement of this debt overhang phenomenon what the HIPC Initiative aims to do by means of its debt sustainability analyses. If these indicate that resources available in the future are insufficient to meet debt service, even when the existing relief mechanisms are fully used, the HIPC Initiative prescribes a substantial

(10) In addition to this type of moral hazard, which is specific to the heavily indebted countries (such as the potential beneficiaries of the Initiative), another type of moral hazard — more frequently discussed and independent of the initial level of debt is worth being mentioned: the incentive to indebtedness resulting from the idea that creditors will be available to provide the necessary aid in case of unfavourable evolution. According to this concept, debt relief mechanisms would tend to increase the probability of forthcoming crisis.

reduction of debt service. However, it should be noted that the eventual success of the Initiative in removing debt as an important obstacle to economic development is not a sufficient condition to attain this end — both the continuation of external capital inflows and the maintenance of adjustment efforts by debtor countries are also required.

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