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# *Foreword by the Governor*

## ECONOMIC OUTLOOK AND THE NEW FISCAL ADJUSTMENT CYCLE

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**1.** As in previous years, the December issue of the Economic Bulletin presents the outlook for the Portuguese economy over the next two years. It was prepared within the scope of the Eurosystem forecast exercise that took place in October and November. We have nonetheless updated some of the assumptions and incorporated latest data on economic developments. Another constraint behind projections is that the institutional framework requires that the approved and announced fiscal policy be considered as final. In addition, the effects of projected economic growth can only be reflected on some of the fiscal variables and, in some of the less specified aspects or in aspects in which historical experience justifies it, some particular estimates must be included. However, if it will be deemed necessary to adopt a more demanding fiscal policy, as it seems inevitable, the next two years will be more difficult than suggested by the outlook published today. This is reflected in the analysis of the risks surrounding the central scenario presented at the end of the main text.

Forecasts point to economic growth of 1.1% in 2004, 1.6% in 2005 and 2% in 2006. Figures for 2004 and for the current year implied a slight downward revision of growth presented in the latest Bulletin of the Bank. As regards 2004, the reasons behind it are related to higher estimates for imports and with a less favourable evaluation of exports. These revisions reflect also a change in the intra-annual profile of growth, with a sharp slowdown from the second to the third quarter.

Last year, economic developments reflected the discontinuance of the adjustment process of the economic agents' equilibrium. Domestic demand has increased unexpectedly whereas the savings rate declined. In addition, the external sector had a more negative contribution as a result of an anomalous increase in imports. This has contributed to the substantial deterioration of the external trade imbalance, also affected by a loss in terms of trade due to the increase in oil prices. As I have often stressed, Portugal, in its quality as member of a monetary union, does not face a financial problem in terms of the balance of payments. Rather, it is the indebtedness level of economic agents, including the State, that constitutes an active economic restriction. The indebtedness of households, companies and the State increased further, although it should be noted that the change in the household indebtedness ratio is probably due to an increase in the number of indebted households, instead of an upturn in the average indebtedness level of each household. In turn, due attention should be paid to the fact that these developments were not followed by an increase in the indebtedness of Portuguese banks, particularly in the interbank markets. On the contrary, the latter decline sharply vis-à-vis 2003. This trend is largely explained by growing credit securitisation that brings down the balance and financial requirements of banks, by recourse to securities issues with longer maturities and by the increase in the system's own funds.

The behaviour of domestic demand will have to resume a more moderate growth pattern, given the fiscal restraints of domestic economic agents. The savings rate of households must resume a level close to that observed in 2003. Growth envisaged for 2005 and 2006 is thus based on the assumption of strong growth of external demand for the Portuguese economy and, as a result, of exports. International forecasts, including Eurosystem's, point to significant growth of world trade, accounting for projec-

tions pointing to an acceleration of exports from 6.8 per cent in 2004 to 7.5 per cent in 2005 and to 8.6 per cent in 2006. This acceleration will only be made possible if competitiveness in Portuguese economy does not deteriorate, which implies a small increase in unit labour costs in the private sector, through a moderate increase in wages, and the return of productivity to positive growth rates, after three years of a virtual nil annual average change. The figures mentioned for exports imply new gains in market share, which are partly the result of the development expected for exports in the vehicles sector.

Turning to inflation, projections point to a slight decline in 2005 and 2006 to 2.1 and 2.0 per cent respectively. However, this trend depends on the actual occurrence of the technical assumption suggesting that euro exchange rates will be maintained at the current levels, as well as on international oil price cuts in the course of 2005 and 2006, in line with the trend implied in the respective futures market. On the other hand, I would also like to stress that inflation forecasts only take into account changes in indirect taxation included in the State Budget for 2005 and the trend in prices determined by administrative procedures, according to a growth pattern similar to that recorded in recent years.

**2.** The international and domestic situation poses some risks that may change the central scenario presented and lead to lower economic growth in the short term. Some of the risks under review consist in the possibility of higher changes in interest or exchange rates or lower international growth. There is still the possibility that gains in market share may be short of forecasts, disregarding also the effects of the recent full liberalisation of trading in textile products. At the domestic level, however, one of the major risks in released forecasts is associated with the more restrictive fiscal measures taken in response to the need to insure a more significant deficit reduction. Note, however, that the fiscal problem in 2005 is all the more complex, because our forecasts of lower growth than that projected in the State Budget imply higher deficit, and due to the fact that extraordinary receipts are increasingly more difficult to obtain. Excluding 2002, when measures of actual fiscal consolidation were taken, the type of temporary receipts used in 2003 and 2004 do not change the economic juncture, because they do not affect economic agents' income. That type of measures may legitimately be used for formal compliance with the Stability Pact, but should be excluded in the analysis of the economic effects of the Budget on the economy, as happens in Banco de Portugal's publications. In addition, these measures may compromise future budgets. For instance, future fiscal credit securitisation will merely have as a result the advance receipt of taxes pertaining to future budgets, and the transfer of pension funds will create new future responsibilities whenever the assets transferred are not reinvested in assets with the same income.

On the other hand, the use of extraordinary receipts has helped to create the illusion that the fiscal problem was to be solved or that it would eventually be solved over time, without further effective measures. However, when excluding extraordinary measures, deficits from 2003 to 2005 point to values at around 5 per cent of GDP. It is therefore surprising that anyone might think it would be possible to keep obtaining temporary receipts to an amount above 2 per cent of GDP every year (approximately € 3 billion). Events in 2004 on this subject clearly reveal that this is increasingly difficult. The time has come to face the truth in terms of the effective decline in the fiscal deficit over the forthcoming two-year horizon.

Naturally, it would not be realistic to expect that it would be possible to narrow the deficit by more than 2 per cent of GDP in just one year. Recourse to some extraordinary receipts will therefore continue to be legitimate, if these will gradually be significantly reduced and used within the context of a programme intended to solve the fiscal problem over the three forthcoming years. This implies that, in the course of the present year, new effective measures will be taken intended to increase receipts and contain expenditure. This programme is simultaneously difficult and inexorable.

It is important to note that a scenario of further fiscal consolidation does not imply a drastic revision of previous forecasts. We should not fuel exaggerated pessimism since, in spite of actual

difficulties, the problems faced by the country can be solved. Fiscal adjustments, per se, will not lead us to a new recession. The forecasts presented today imply positive growth of employment and disposable income, against a background in which, in contrast to other previous recessive episodes, recovery must rely chiefly on private activity and on the buoyancy of exports. It should be stressed that, if mechanically excluding consumption and public investment variables, projections imply that activity in the business sector, namely private, will grow by approximately 0.6 percentage points more than the economy as a whole. There is, in fact, room for above national average growth in the private sector, if companies manage to take advantage of productive capacity and of buoyant external demand. In particular, employment and real wages are expected to increase in the private sector, the latter in line with the trend of productivity, in order not to put external competitiveness at risk. The economic agents' expectations must be based on the credible conviction that there will be positive, albeit moderate, economic growth, and that there will be a definite horizon permitting to overcome the fiscal problem.

Obviously, tightened fiscal policy will have some immediate negative impact on economy growth, but such adjustment is crucial to sustain future growth. It cannot be denied that, in the short run, a higher deficit has expansionary effects, as the decline in public savings is not offset by an increase private savings, which results in a rise in domestic expenditure. However, if in such situation total savings would decline, it might give rise to either a fall in investment or an increase in external debt. In both cases, it implies a decline in future wealth and, possibly, higher growth prospects in the long run. Therefore, to our best interest, high public deficits should not be allowed to persist for long. In turn, it will be necessary to resume the anti-cyclical function to be performed by fiscal policy in a country that is member of a monetary union. This can only be achieved after a more balanced position has been attained. Finally, the growing weight of pension fund transfers and the prospects of future ageing populations require a solid fiscal situation that makes it possible to face without fears the preservation of the main aspects of our social security system.

**3.** Therefore, there will be no healthy economic growth without the financial stability provided by lower fiscal deficit and contained public debt-to-GDB ratio. However, we cannot forget that the major problem of Portuguese economy lies in the need to increase the growth rate of potential product vis-à-vis the challenges of globalisation and of the enlargement of the European Union.

We have lost competitiveness during the 1990's because innovation has not been sufficient and because unit labour costs have increased vis-à-vis our trading partners. Those costs depend on the behaviour of wages, but also on the trend of productivity. We should require corporations to make further efforts with a view to increasing productivity, against a background in which participation in the euro provides considerable favourable opportunities: low financing costs and open access to a large exchange rate risk-free market. It is up to the companies to take full advantage of such factors.

Clearly, it is necessary to improve also a number of public policies, chiefly those identified in a dialogue with the private sector, that may contribute to improve the general investment climate: reduce bureaucracy costs, lower energy and communication prices, better invest in staff training and correct the deficiencies of the legal system. Without a strong reforming shock that might change behaviours and overcome business interests in place, we will be condemned to a long period of mediocre economic growth, diverging from the rest of Europe. In the present situation, we may perchance hope that this shock may reflect the conviction of Jean Monnet, one of the founders of European Union: "People only accept change when they are faced with necessity, and only recognize necessity when a crisis is upon them".

Lisbon, 6 January 2005

# *Economic policy and situation*

## OUTLOOK FOR THE PORTUGUESE ECONOMY: 2005-2006

### 1. INTRODUCTION

The projections for the Portuguese economy included in this article correspond to an updated version of those prepared by the Banco de Portugal within the Eurosystem Autumn 2004 forecast exercise. This latter exercise, whose projections for the euro area were published by the European Central Bank (ECB) in early December[1], was based on information up to mid-November. The projections that are published here for Portugal take on board the available economic indicators up to mid-December and, in addition, include the direct effects on the Portuguese economy of updated technical assumptions for oil prices, interest rates and exchange rates.

In comparison with the 2004 scenario included in the September 2004 issue of the Economic Bulletin, consumption and imports were revised slightly upwards and the assessment of exports is less favourable (Chart 1). All in all, these revisions almost fully offset themselves, only leading to a marginal downward revision of the annual GDP growth rate. However, the intra-annual profile that was being considered was re-evaluated. There is now the possibility that a deceleration of GDP in year-on-year terms took place in the second half of the year, when compared with the first, reflecting the marked slowdown from the second to the third quarters (see Box "Intra-annual growth profile of the Portuguese economy in 2004").

As mentioned in the September 2004 issue of the Economic Bulletin, the composition of expenditure in 2004 is significantly different from that projected in late Spring (Chart 1), with stronger growth in domestic demand, particularly private consumption and imports. The strong expansion of

(1) And also published in the December 2004 issue of the *ECB Monthly Bulletin*.

Table 1

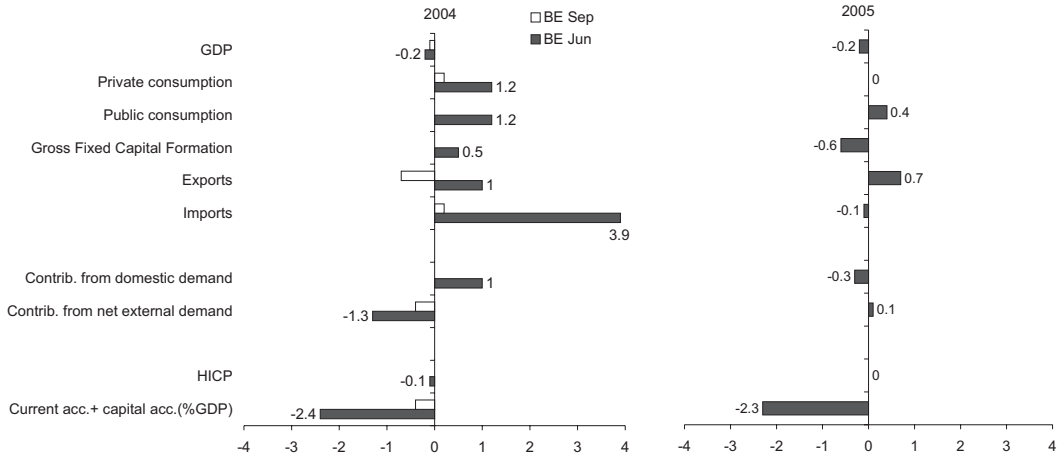
**PROJECTIONS OF THE BANCO DE PORTUGAL**

Percentage change

| | 2003 | Current projections | | | Memo: midpoints of the projection intervals | | |
|---|---|---|---|---|---|---|---|
| | | | | | BE/Sep 04 | BE/Jun 04 | |
| | | 2004 | 2005 | 2006 | 2004 | 2004 | 2005 |
| Private consumption | -0.7 | 2.2 | 1.5 | 2.2 | 2 | 1 | 1 ½ |
| Public consumption | 0.5 | 0.6 | 0.0 | -0.1 | 0.6 | -0.6 | -0.4 |
| Gross fixed capital formation | -9.6 | 1.8 | 1.7 | 3.3 | 1 ¾ | 1 ¼ | 2 ¼ |
| Domestic demand | -2.5 | 1.9 | 1.2 | 2.0 | 1 ¾ | 1 | 1 ½ |
| Exports | 4.1 | 6.8 | 7.5 | 8.6 | 7 ½ | 5 ¾ | 6 ¾ |
| Overall demand | -1.0 | 3.0 | 2.6 | 3.6 | 3 | 2 | 2 ¾ |
| Imports | -0.5 | 8.2 | 5.2 | 7.5 | 8 | 4 ¼ | 5 ¼ |
| GDP | -1.3 | 1.1 | 1.6 | 2.0 | 1 ¼ | 1 ¼ | 1 ¾ |
| Current account + Capital account(% GDP) | -3.6 | -5.4 | -5.3 | -5.4 | -5 | -3 | -3 |
| Harmonized Index of Consumer Prices | 3.3 | 2.5 | 2.1 | 2.0 | 2.5 | 2.6 | 2.1 |

Note: Projections corresponding to the central scenario are shown for each variable (considered to be the most likely value of that variable, depending on the set of assumptions in question). As described in section 4 of this present article, probability distributions assigned to the possible values of the variable may be asymmetrical. Therefore, the probability of observing a value below central scenario may be different from the probability of observing a value above central scenario. .

Chart 1
**DIFFERENCE AGAINST THE CENTRAL SCENARIOS OF THE JUNE AND SEPTEMBER PROJECTIONS**
In percentage points




the latter and the deterioration of the terms of trade (due, in part, to higher oil prices), implied a deterioration in the joint deficit of the current plus capital account balance, from 3.6 per cent of GDP in 2003 to 5.4 per cent of GDP in 2004. Another less favourable economic development in 2004 was the behaviour of the household saving rate, which decreased by 0.7 percentage points (p.p.).

After the 1.1 per cent expansion in 2004, the current projections point to some GDP acceleration, to 1.6 per cent in 2005 (1¾ per cent in the June 2004 issue of the Economic Bulletin), and to 2.0 per cent in 2006. The projected profile of the economic recovery for 2005 and 2006 is based on the assumption of continued strong growth of external demand for the Portuguese economy over the forecast horizon and, as a result, of exports. Domestic demand is expected to grow moderately, with the possibility of even decelerating in 2005, reversing the expressive increase in private consumption and imports in 2004. In general, past-accumulated imbalances do not seem to allow for a more buoyant recovery of both private expenditure, particularly related to housing acquisition, and general government expenditure.

The Portuguese economy is projected to resume in 2005 a more sustainable path, and, as a reflex, the current projections include a recovery in the household saving rate to a level close to that observed in 2003 and a stabilization of the joint deficit of the current and capital accounts in 2005 and 2006. A clear recovery of this last indicator is not being projected because the positive contribution coming from the moderation of domestic demand and continued buoyancy of external demand will probably be countered by the adverse effects arising from the high oil price level and by the projected decline in transfers from the European Union, within the Third Community Support Framework.

In terms of inflation, the Banco de Portugal projections point to a slight decline in the annual average rate of change of the Harmonised Index of Consumer Prices (HICP) in 2005 and 2006 (to 2.1 and 2.0 per cent, respectively, which compares with 2.5 per cent growth in 2004). However, this behaviour is highly dependent on the materialization of the assumptions for the euro exchange rate, which is currently highly appreciated, and for oil prices, which are assumed to decline in 2005 and 2006, in line with the implied path of the futures market for this commodity. The inflation projection is also based on the assumption of no further changes in indirect taxes, besides those already included in the State Budget for 2005, and on the assumption that prices highly conditioned by administrative regulations will change in accordance with the behaviour recorded in recent years.

As for HICP excluding energy goods, the current projections also envisage a decline in the annual average rate of change from 2.3 per cent in 2004 to 2.0 per cent in 2005, though followed by an acceleration to around 2.2 per cent in 2006. This trend reflects domestic and external factors, espe-

cially the growth in imports prices of non-energy goods, in a context in which the effects associated with the recent appreciation of the euro exchange rate will gradually fade.

## 2. ASSUMPTIONS UNDERLYING PROJECTIONS

As usual, using the available information up to mid-December, the short-term interest rate (three-month money market rates) and the euro exchange rates are assumed to remain unchanged throughout the forecast horizon, while the assumptions regarding international commodity prices, in particular oil prices, were based on expectations implied by futures markets. In addition, account is taken of the evolution of external demand relevant for Portugal, resulting from the aggregation of a set of common assumptions concerning the development of economies outside the euro area and from the projections for the euro area economies submitted by each national central bank, within the Eurosystem Autumn forecast exercise.

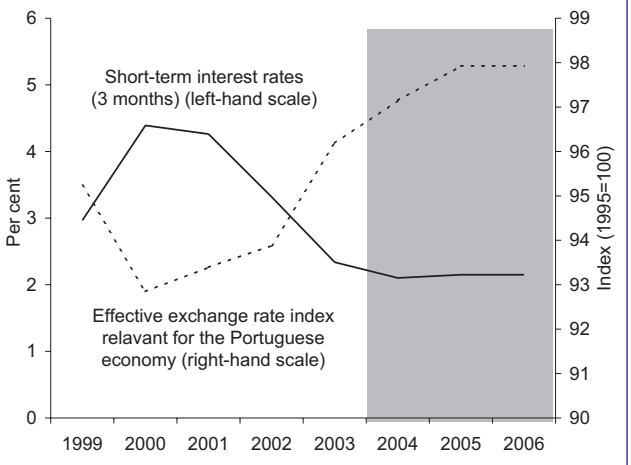
Another set of specific assumptions was also considered for Portugal, among which special emphasis should be given to the Portuguese public finances variables, including only those fiscal measures sufficiently specified.

### 2.1. Interest rates, exchange rates and international prices

As for short-term interest rates, the technical assumption used in the projection exercise corresponds to maintaining these rates over the next two years, at the very low levels recorded in 2004. With regard to exchange rates, the technical assumption implies, mechanically and on annual average terms, an appreciation of the euro in 2005, reflecting its strengthening in 2004, both in effective terms and vis-à-vis the US dollar (Chart 2).

The trend of short-term interest rates and exchange rates observed in the recent past has created favourable monetary conditions for the evolution of economic activity and for a decline in inflation (for a quantitative analysis, see box "Assessment of monetary conditions in the Portuguese economy"). Long-term interest rates are assumed to follow the trend implied by the financial markets, and this delivers a slight upward profile over the projection horizon, although remaining below the values recorded in 2002[(2)].

Chart 2
**INTEREST RATES AND EXCHANGE RATES**




### 2.2. International prices

The assumption for oil prices, based on the futures market for this commodity, comprises a downward path in 2005 and 2006. In the case of non-oil commodity prices, the futures market anticipates a strong deceleration in international prices in 2005, which is expected to be partially reversed in 2006.

Growth in nominal wages per employee in the euro area is, in turn, likely to maintain a moderate pace, while productivity is expected to grow strongly, albeit decelerating slightly from 2004. As a consequence, unit labour costs are projected to remain relatively contained in 2005 and 2006.

Against this background, the Eurosystem projections point to a gradual decrease in the inflation rate for euro area countries as a whole, with HICP growth rate standing within a range of 2.1 to 2.3 per cent in 2004, 1.5 to 2.5 per cent in 2005 and 1.0 to 2.2 per cent in 2006.

(2) Long-term interest rates play a limited role in the projection exercise for Portugal. Short-term interest rates are more relevant for the transmission of monetary policy, since they play the role of reference rates for most bank interest rates to credit and deposits.

### 2.3. Economic activity abroad and external demand

The Eurosystem projection exercise is based on a set of assumptions for growth of output and of imports of goods and services in a group of economies outside the euro area. This common external environment is used in the preparation of projections for countries belonging to the Eurosystem, subsequently ensuring consistency of goods and services trade flows among the countries within the euro area. It should be mentioned that, although the assumptions for interest rates and exchange rates have been updated up to mid December, the projections included in this article have not taken on board the effects (necessarily limited) of this updated information on the external demand for Portugal and this assumption remains that of the Eurosystem exercise.

The assumptions for countries outside the euro area suggest a GDP growth rate at around 4.5 per cent in 2005-2006, approximately 1 percentage point below the projected figure for 2004. This deceleration in economic growth leads to lower growth in demand for imported goods and services over the projection horizon, which is particularly marked in the United States, the United Kingdom and Japan.

In spite of this unfavourable international juncture, GDP growth rate in the euro area is expected to remain relatively stable in 2005 vis-à-vis 2004 (projection intervals of 1.6 to 2.0 per cent in 2004 and 1.4 to 2.4 per cent in 2005), and to accelerate subsequently in 2006 (1.7 to 2.7 per cent). Behind this projection is an acceleration in domestic demand, in particular of private consumption, associated with a recovery of the confidence levels of economic agents, against a background of continued historically low interest rates. This pattern economic activity is likely to determine the maintenance of the growth rate for imports of goods and services in the euro area at around 6.5 per cent both in 2005 and 2006.

Considering the common assumptions for the economies outside the euro area and chiefly the projections for the economies within the euro area, external demand relevant for Portugal is expected to maintain in 2005 and 2006 the strong pace of growth of around 7 per cent estimated for 2004.

### 2.4. Specific assumptions for Portugal

In addition to the assumptions related to the international environment of the Portuguese economy, the projection exercise, as mentioned earlier, also includes a set of assumptions for the evolution of Portuguese public finances.

In particular, the projections for public consumption take into account the available data on the evolution of the number of civil servants in 2004 and consider a slight decline in that number during the projection horizon. This decrease is possible through a partial replacement of civil servants who retire and explains the nil volume growth of public consumption assumed for 2005 and 2006. As regards public investment, the current projections consider a decrease in its volume as a result of the likely decline of transfers from the European Union, in the context of the Third Community Support Framework, which will more than offset the expected recovery of public investment not co-financed by the European Union. Given the current uncertainties, the scenario does not include either a re-classification of entities as belonging or not to the General Government sector (as, for instance, the transformation of *Instituto de Estradas de Portugal* into a public corporation), or proceeds from extraordinary sales (or long-term rentals) of real state in any year of the projection horizon (including 2004). Thus, the rates of change in public investment are not affected by this type of operations or re-classifications, which do not modify, however, the projected overall investment[3]. Turning to the behaviour of consumer prices subject to administrative regulations, the current projections point to an evolution that is in general close to the one observed in previous years. As an exception, it

(3) According to the national accounting rules, the receipts from sales of real estate belonging to the General Government reduce the Gross Fixed Capital Formation (GFCF) of this sector and increase the GFCF in the sectors of the buyers. For instance, if sales had been implemented in 2004, in the amount initially foreseen by the Government, and assuming no sales in 2005, the rates of change of the General Government GFCG would have been negatively and positively affected in 2004 and in 2005, respectively, by more than 20 percentage points. In turn, the possible re-classification of *Instituto de Estradas de Portugal* as a public corporation, in the context of national accounts, would lead to a decrease in the General Government GFCF (and to an increase in capital transfers of this sector), offset by an increase in the GFCF of the corporate sector.

is worth noting that the State Budget for 2005 envisages a sharp increase in tobacco tax, which will take place in the first quarter of 2005, leading to a rise in tobacco prices.

## 3. THE PORTUGUESE ECONOMY: 2004-2006

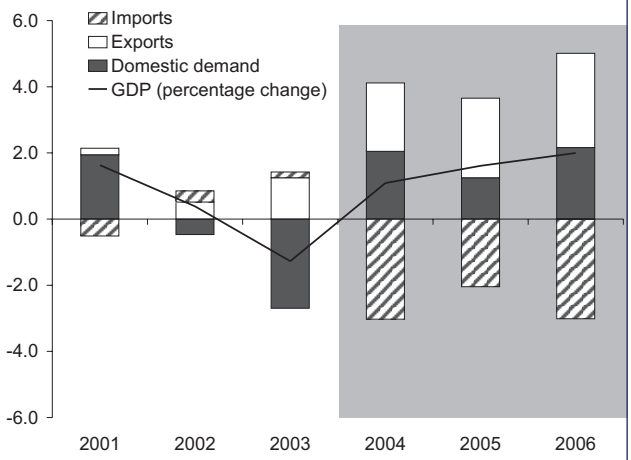
### 3.1. Economic Activity

After having decreased in 2003, GDP seems to have grown by approximately 1.1 per cent in 2004 (Table 1). This growth reflected the strong expansion of private domestic demand, which has led, as a consequence, to an increase in the net external borrowing requirements of the Portuguese economy and a decrease in the household saving rate. Therefore, the gradual adjustment process of the imbalances in the Portuguese economy was interrupted in 2004. However, the available data indicate that this evolution may have been partly related to temporary factors that will not persist in 2005 and 2006, thus allowing for the stabilisation of the net external borrowing requirements of the economy and the recovery of the saving rate to the levels close those observed in 2003.

The central scenario of the current projections points to a GDP growth rate of 1.6 per cent in 2005 and 2.0 per cent in 2006. Exports, private consumption and investment will probably be the expenditure components with the highest contribution to the recovery of economic activity (Chart 3). However, the recovery is expected to be moderate, chiefly due to: (i) the financial situation of households, whose indebtedness level and debt service burden will contain the continued recourse to credit to the same extent observed in the recent past, in particular for housing acquisition; and (ii) the public sector budget constraints and, especially, the need to comply with the objectives of fiscal consolidation.

The contribution of these factors to the moderate recovery of economic activity that is being projected is made clearer by the comparison of the current upturn period with the recovery period that followed the 1993 recession (Chart 4). Contrary to the developments occurred one decade ago, the recovery implicit in the current projections incorporates a negative contribution of public investment and a virtually nil contribution of public consumption and housing investment to GDP

Chart 3
**BREAKDOWN OF GDP GROWTH**
Contributions to year-on-year rate of change in percentage points




growth. This reflects, in general, the above-mentioned restrictions, which do not allow the final public expenditures in consumption and investment and household expenditures (in particular for housing acquisition) to have a similar contribution to GDP growth as those recorded after the 1993 recession. For the same reason, the negative growth differential vis-à-vis the euro area is projected to remain negative in 2005 and 2006, although the amplitude of such a differential is expected to narrow gradually (Chart 5).

### 3.2. Private consumption, disposable income and household savings

The available data indicate that private consumption increased by approximately 2.2 per cent in 2004, after a 0.7 per cent fall in 2003. The increase in private consumption, which exceeded the growth rate in households' real disposable income, has led to an approximate 0.7 percentage points decrease in the respective saving rate in 2004. A number of temporary factors that are not expected to occur in 2005 and 2006 have partially influenced that behaviour(4).

(4) For a more detailed analysis of the determinants and specific factors that explain the abnormal high growth rate of consumption in 2004, as well as of data supporting the estimated figure, see the September 2004 issue of the *Economic Bulletin*.

Chart 4
**BREAKDOWN OF GDP DURING AND AFTER THE 1993 AND 2003 RECESSIONS**
Contributions to GDP growth, in percentage points

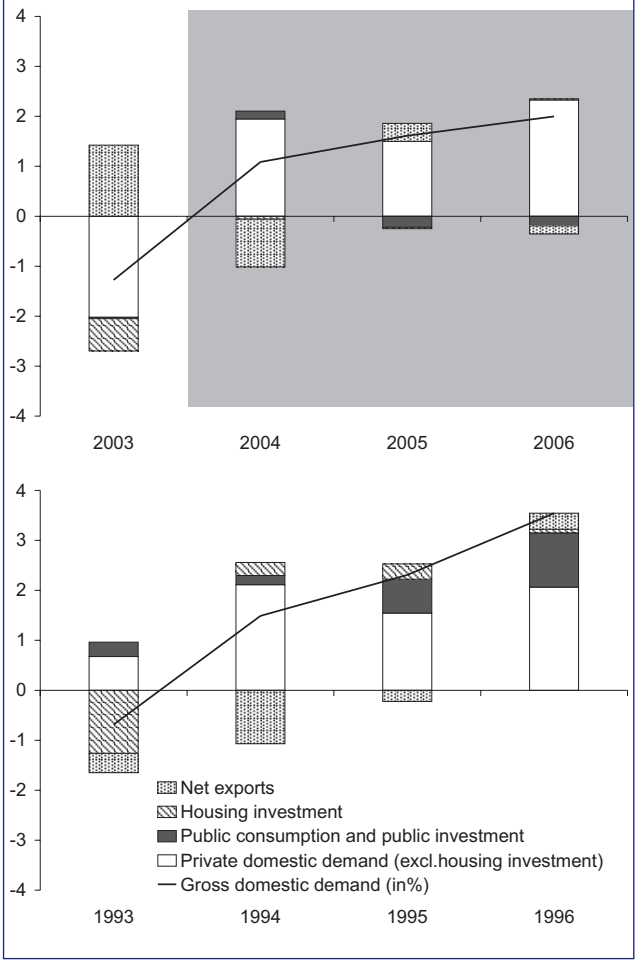
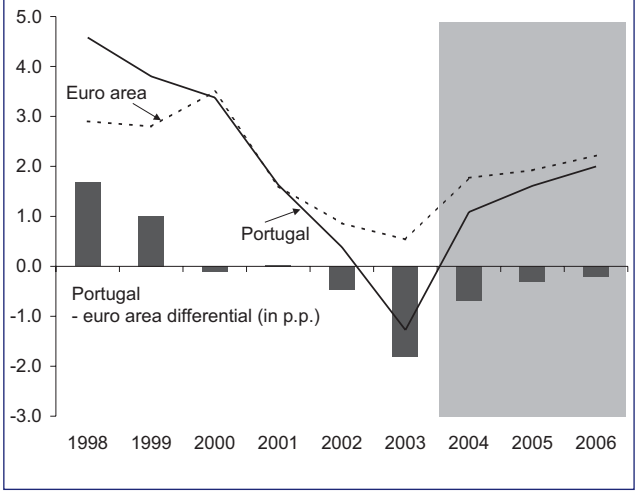



Chart 5
**GROSS DOMESTIC PRODUCT**
Growth rate in volume




The central scenario of current projections points to a moderate acceleration of households' real disposable income over the forecasting horizon, largely explained by the impact of the recovery in economic activity, through its effects on employment, labour compensation and on corporate and property income. The acceleration of real disposable income also incorporates the ending of the partial wage freeze for civil servants and the changes in income tax included in the State Budget for 2005 (admitting that around half of the impact of the tax reductions will be seen in 2005 through the reduction of the withholding amounts).

According to current projections, growth in private consumption in 2005 is expected to stand at around 1.5 per cent, thus allowing the household saving rate to recover to a level close to that observed in 2003. Private consumption is expected to grow in 2006 in line with real disposable income, with the saving rate remaining virtually unchanged (Chart 6).

### 3.3. Gross fixed capital formation

Gross fixed capital formation (GFCF) is expected to recover moderately along the projection horizon. After the significant negative growth rates recorded in 2002 and 2003 (an accumulated decrease of approximately 15 per cent in real terms), and a mild recovery in 2004 (1.8 per cent) GFCF is expected to stabilize in 2005 (1.7 per cent increase) accelerating to 3.3 per cent in 2006. The moderate recovery envisaged for GFCF after the 2003 recession is based on a combination of very distinct contributions of its different components: a favourable trend in business investment, a decline in public investment[(5)] and a virtually nil contribution from housing investment (Chart 7).

The projected path for business investment in this phase of recovery in economic activity is in line with the fact that corporations tend to take advantage of expansion periods in the economy both to expand their productive capacity and to pick up investment projects that had been postponed dur-

(5) Re-classifications of public entities as belonging or not to the General Government sector or proceeds from extraordinary sales (or long-term rentals) of real estate are not considered. See section 2.4 in this article.

Chart 6
**CONSUMPTION, REAL DISPOSABLE INCOME AND SAVING RATE**

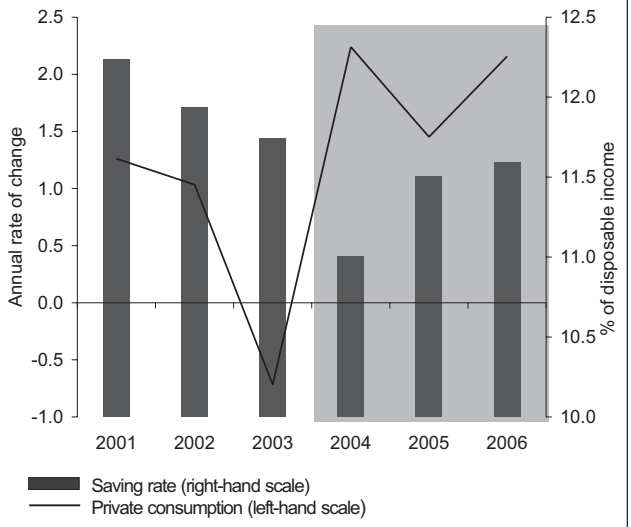
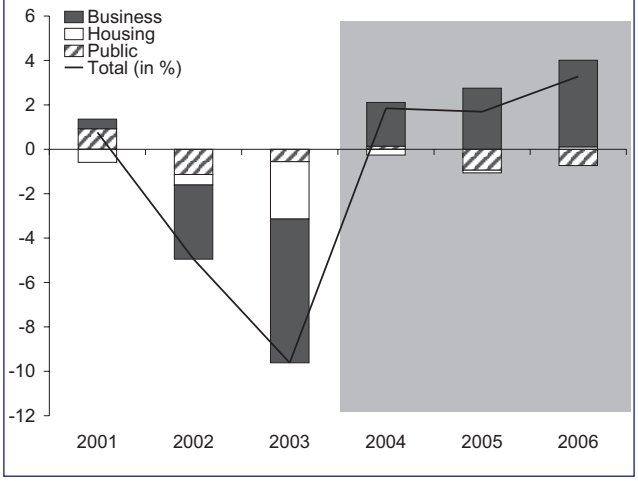



Chart 7
**BREAKDOWN INVESTMENT GROWTH**
Contributions to the annual rate of change




ing the downturn. The accelerator effect is expected to lead to significantly higher growth in business investment than in overall economic activity in 2005 and in 2006. However, the ongoing budget restrictions faced by the public sector will probably not allow public investment to play a more buoyant role. Likewise, the high indebtedness of households and the need to meet debt service commitments will restrain a more significant contribution of housing investment to GFCF growth.

Comparing the behaviour of GFCF components during and after the recession periods that occurred in 1993 and 2003 makes it possible to distinguish the elements inhibiting a faster recovery of investment in the current stage (Chart 8). In both recessive episodes, business investment plays a dominant role in the recovery of GFCF. However, public investment and household investment had non-negligible contributions in the aftermath of the 1993 recession, which is not expected to occur in the current economic cycle, due to above-mentioned financial restraints.

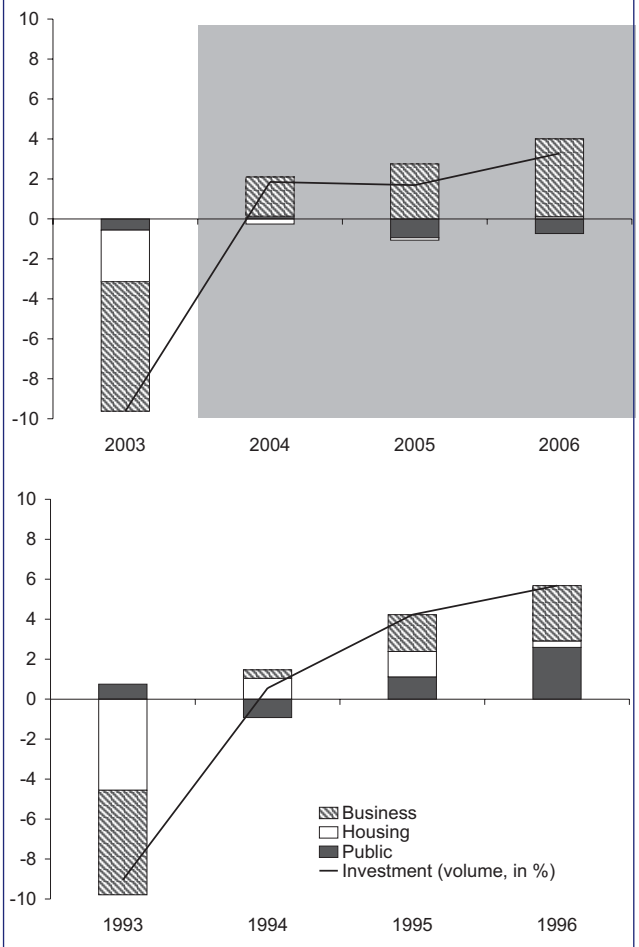
### 3.4. Exports and imports

The projected growth in exports of goods and services over the forecast horizon are determined mainly by the developments assumed for the external demand relevant for the Portuguese economy. These developments, based on the common assumptions of the Eurosystem exercise, envisage a stabilisation of the average annual growth rate of the volume of imports of the Portugal's major trading partners at around 7 per cent.

The strong growth of external demand relevant for the Portuguese economy underlies the fact that exports of goods and services will be the most buoyant component of overall demand both in 2005 and in 2006. According to the central scenario, the current projections point to an acceleration in exports from 6.8 per cent in 2004 to 7.5 and 8.6 per cent in 2005 and 2006, respectively. This acceleration in exports will only materialize if competitiveness conditions of the Portuguese economy do not deteriorate. This implies a small increase in unit labour costs in the private sector, through moderate growth in wages and through productivity growth rates resuming positive figures, after three years of sluggish developments (a virtually nil average annual change in the period 2001-2003).

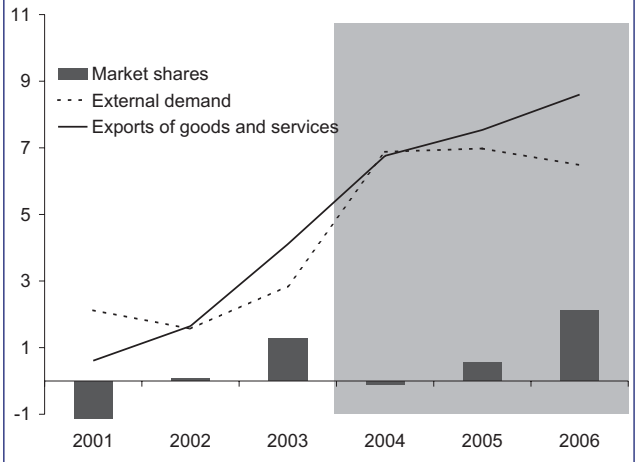
It should be mentioned that the gains in market shares that are being projected reflect both the maintenance of favourable competitiveness conditions and the incorporation of some specific effects (Chart 9). In particular, the significant gain in market shares comprised in the projection for exports in 2006 largely relies on the expected developments in exports in the car manufacturing industry, with a start on the production of a new model in one of its major plants.

Chart 8
**BREAKDOWN OF INVESTMENT DURING AND AFTER THE 1993 AND 2003 RECESSIONS**
Contributions to the GDP growth, in percentage points




As to imports of goods and services, the projected developments reflect the expansion in the components of overall demand weighted by their import contents. However, given that the rate of growth of import volumes estimated for 2004 is unusually high, in comparison to the evolution of overall demand, part of these imports were considered to be related to temporary factors. This is illustrated in Chart 10, which justifies the envisaged partial reversal of this anomalous behaviour in 2005 and 2006, which will probably translate into growth rates slightly below the recent average ratio of import volumes to overall demand weighted by their respective import contents (in the period 1997– 2004).

Chart 9
**EXPORTS, EXTERNAL DEMAND AND MARKET SHARES**
Annual rates of change




### 3.5. Current and capital accounts

According to the Banco de Portugal estimates for 2004, the external borrowing requirements of the Portuguese economy, measured by the joint deficit of the current plus capital account, are expected to have increased from 3.6 per cent of GDP in 2003 to approximately 5.4 per cent. This deterioration reflects both a loss in the terms of trade related to oil price increases to historically high levels and the above mentioned unusually high import growth.

According to the central scenario, the joint deficit of the current plus capital accounts is expected to stabilise in 2005 and 2006 around the value estimated for 2004 (Chart 11). These developments encompass a reduction in the deficit of the goods and services account, which is offset by the expected deterioration in the income account balance, and the current and capital transfers account, the latter as a result of a decrease in public transfers from the European Union within the Third Community Support Framework. The size of improvement in the goods and services account is not expected to be sufficient to reduce the joint deficit of the current plus capital account since the positive contributions associated with the moderation of internal demand and the sustained buoyant external demand are foreseen to be partially offset by the adverse effects of the high level of oil prices and the recent appreciation of the euro.

Chart 10
**IMPORTS AND OVERALL DEMAND WEIGHTED BY IMPORT CONTENTS**
Annual rate of change (1997-2006)

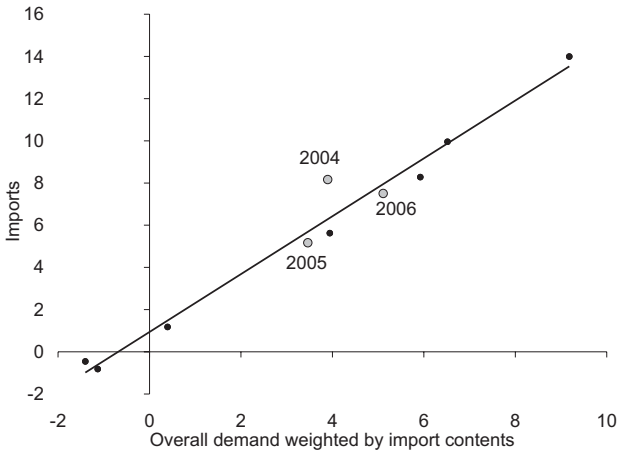
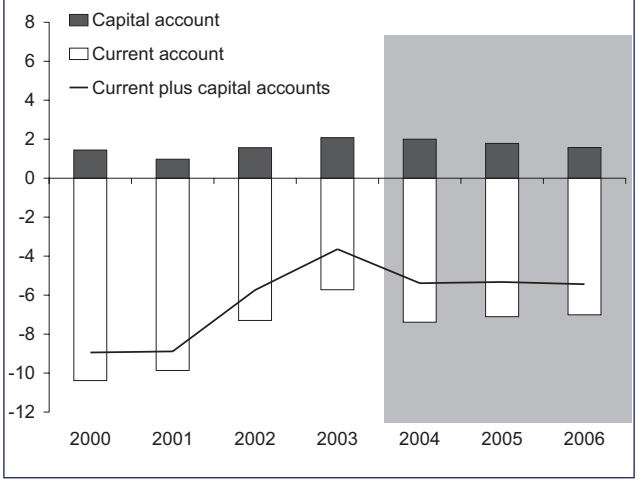



Chart 11
**CURRENT AND CAPITAL ACCOUNTS**
In percentage of GDP




### 3.6. Employment and wages

After a fall of 0.7 per cent in 2003, the central scenario of the current projections envisages a growth in employment of 0.4 per cent in 2004 and an acceleration in 2005 and 2006. This evolution comprises a slight reduction in employment in the public sector, more than offset by the growth in employment in the private sector. The latter is expected to evolve in line with the recovery of GDP in that sector (Chart 12), benefiting also from the moderate growth in compensation per employee over the projection horizon.

Compensation per employee is estimated to have increased by 3.7 per cent in the private sector in 2004, as against the 3.2 per cent in the whole economy (excluding government transfers to *Caixa Geral de Aposentações*), reflecting the partial freeze on the wage scales of civil servants. In 2005 and 2006, compensation per employee should take into account the reduction in the inflation rate and the developments in productivity.

### 3.7. Inflation

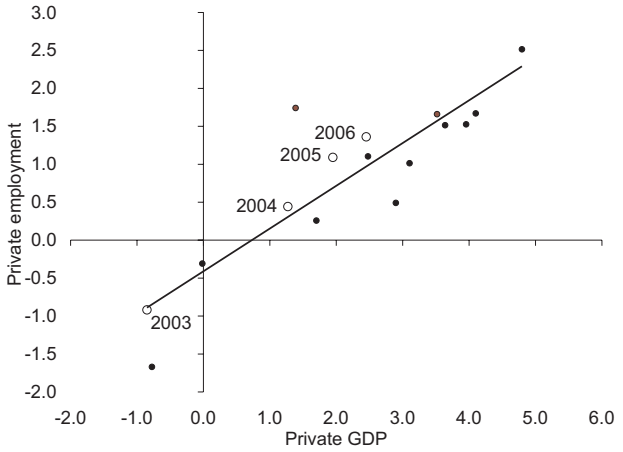
The central scenario of the current Banco de Portugal projections foresees a slight decline in the average annual inflation rate in 2005 and 2006. After the reduction in the annual average growth rate of the HICP, from 3.3 per cent in 2003 to 2.5 per cent in 2004, a further decline to 2.1 and 2.0 per cent is expected in 2005 and 2006 respectively. Compared with the projected developments for the euro area in the Eurosystem Autumn 2004 forecast exercise, inflation in Portugal should maintain a positive differential (Chart 13).

The moderate recovery in economic activity, with the output gap remaining negative, should not give rise to significant inflationary pressures over the projection horizon. In addition, the favourable impact of the recent appreciation of the euro exchange rate is expected to fully fade out only towards the end of the forecast horizon. Import prices are also expected to decelerate, and this encompasses the gradual reduction in energy import prices, in line with the projected developments for oil prices and the continuation of the euro exchange rate at the levels observed in mid December[6].

The reduction in the inflation rate in 2005 will probably be influenced by the favourable dynamics of the recent developments in several subclasses of consumer prices, notably unprocessed food, which decelerated strongly in the course of 2004, and non-energy industrial goods, which recorded historically low year-on-year rates of change in the second half of 2004. In the same direction, reference should also be made to the reversal of the ef-

(6) On the effects of the exchange rates on developments in inflation in Portugal, see the box entitled: "Assessment of monetary conditions in the Portuguese economy".

Chart 12
**PRIVATE EMPLOYMENT VS PRIVATE GDP[a]**
Annual rate of change (1991-2006)




Note:
(a) Private sector GDP corresponds to GDP excluding consumption and investment of the public sector. Employment in the private sector was derived by excluding the number of public sector employees from total employment in the economy.

Chart 13
**INFLATION**
Annual average rate of change

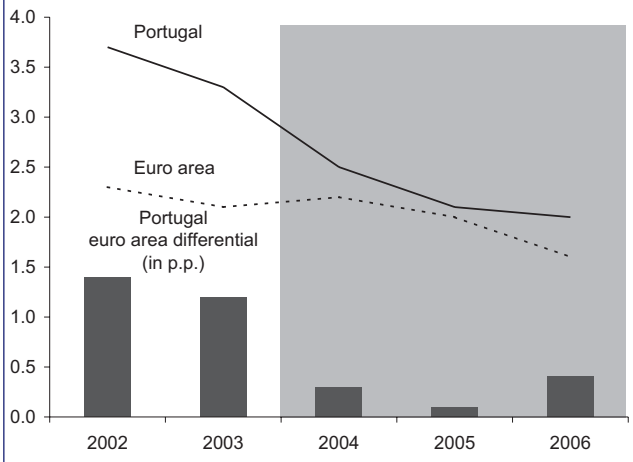
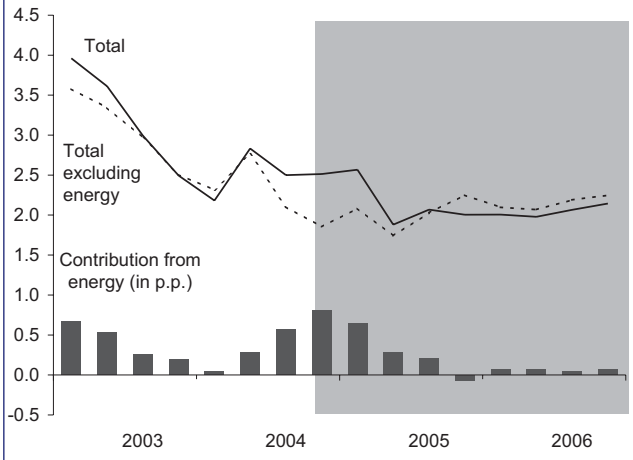



Chart 14
**INFLATION AND CONTRIBUTION FROM ENERGY GOODS**
Year-on-year rates of change




fects observed in mid 2004 associated with the organisation of the European Football Championship, specifically in prices of some services more sensitive to demand from non-residents. The contribution of energy prices to the year-on-year rate of change in the HICP is likely to decrease in the course of 2005, and be virtually zero from the end of that year onwards (Chart 14). This scenario is strongly conditioned by the downward trend of oil prices in international markets assumed in the exercise.

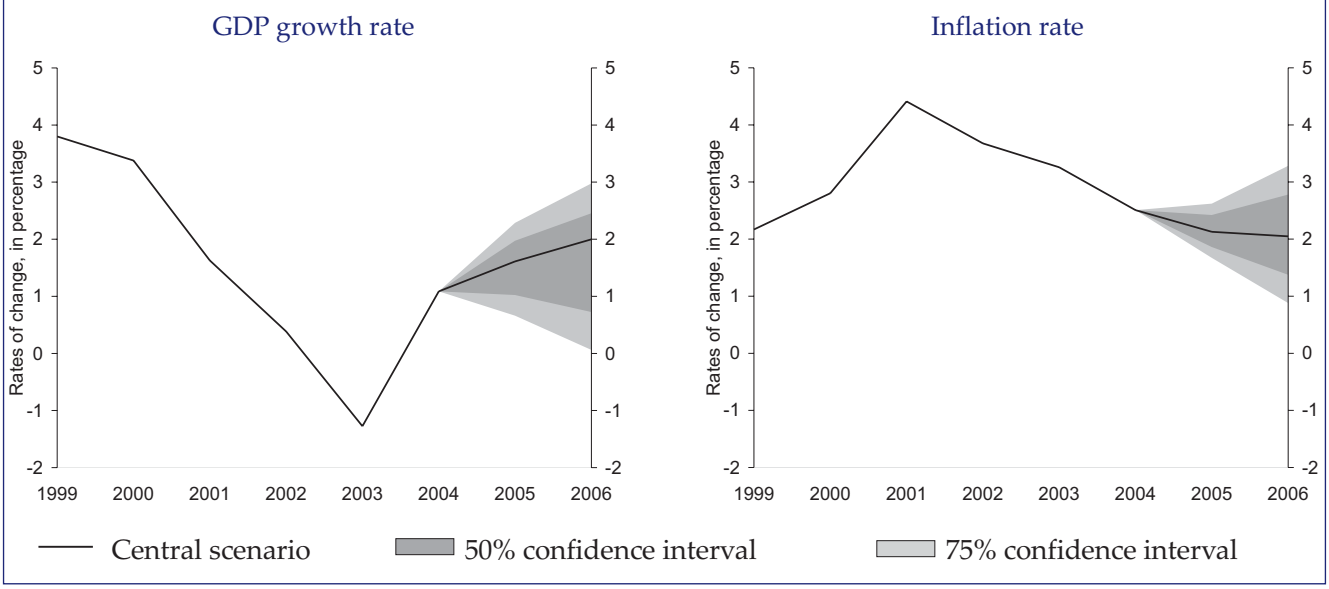
As regards HICP excluding energy goods, the current projections foresee an acceleration in the year-on-year growth rate from the second half of 2005 onwards, stabilising at around 2.2 per cent in the course of 2006 (roughly 0.1 percentage points below the annual average growth estimated for 2004). This partly reflects the projected acceleration in import prices of non energy goods in 2006, in line with the assumptions regarding the increase in non-energy commodity prices and the gradual fading out of the effects associated with the appreciation of the euro and the moderate acceleration envisaged in nominal wages.

## 4. UNCERTAINTY AND RISK ANALYSIS

This section presents a quantified analysis of uncertainty and risks[7] underlying the projections reported in this Economic Bulletin. This analysis takes into account the projection errors made in

(7) For technical details of the procedure, see A. Novo and M. Pinheiro, "Uncertainty and Risk Analysis of Macroeconomic Forecasts", published in December 2003 in the Banco de Portugal Working Paper series nr. 19. A more simplified explanation of this procedure is presented in P. Esteves and A. Novo, "Uncertainty and risk analysis: an application to the projections for the Portuguese economy in 2004", published in the December 2003 issue of the Economic Bulletin.

Chart 15
**PROJECTION INTERVALS**




similar exercises conducted in the past and considers two types of subjective risk factors defined for the projection horizon: those concerning the conditioning variables of the exercise and affecting indirectly the endogenous variables; and those affecting directly the endogenous variables through the residual of their respective equations.

In the current projection exercise, four risk factors on the conditioning variables were considered: (i) a gradual rise in short-term interest rates, in line with expectations prevailing in the futures markets; (ii) a less buoyant evolution of external demand relevant for the Portuguese economy; (iii) an appreciation of the effective exchange rate index relevant for the Portuguese economy; (iv) a weaker than assumed growth in public consumption. In terms of risks with a direct impact on the endogenous variables, the following are considered: (i) the possibility of a slower growth in private consumption in 2006; and (ii) an upward risk on inflation, reflecting a stronger than assumed increase in consumer prices subject to administrative procedures.

Overall, these six factors correspond to a downward risk assessment for developments in economic activity, through a probability above 50 per cent of GDP growth standing below the value projected in the central scenario (60 and 65 per cent in 2005 and 2006 respectively). With regard to inflation, the risk assessment is more balanced. Nevertheless, it points towards a higher probability of inflation records above the central scenario than below. Chart 15 illustrates this risk assessment.

### 4.1. Risk factors

The first risk factor considered is related to developments in short-term interest rates. As mentioned above, the Eurosystem projection exercise considers the technical assumption that short-term interest rates will remain unchanged over the entire projection horizon. In turn, expectations implied by futures markets point to a gradual rise in interest rates over the projection horizon, totalling around 0.8 p.p. up to December 2006 (Chart 16), indicating a probability above 50 per cent that interest rates will stand above the technical assumption considered in the central scenario.

The second risk factor is related to the assumption that the pace of growth of the external markets relevant for the Portuguese exports will remain close to the level observed in 2004 (at around 7 per cent). This assumption is a crucial element for the acceleration in the economic activity of the Portuguese economy currently projected for 2005 and 2006. However, the possibility that a start will be made on the adjustment process of some international imbalances, such as the deficits of the US external accounts and public accounts, as well as the risk of recent oil price increases producing more

Chart 16
**MONEY MARKET INTEREST RATES (3 MONTHS)**
In percentage points

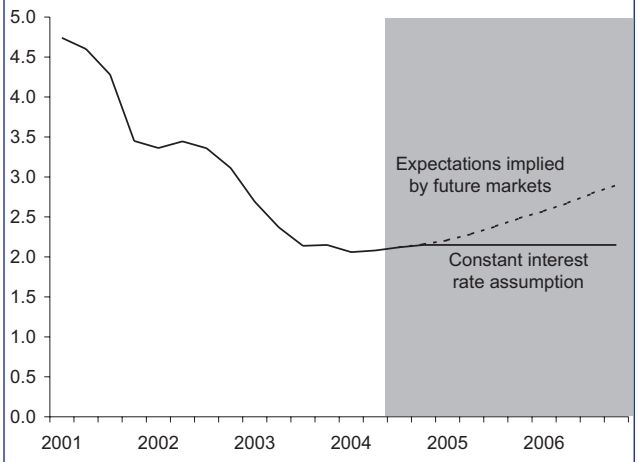
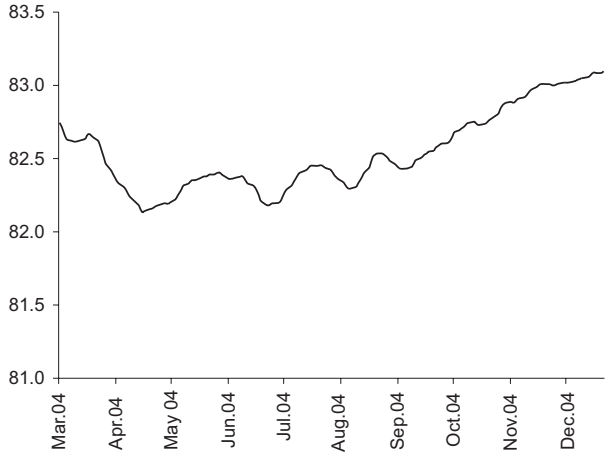
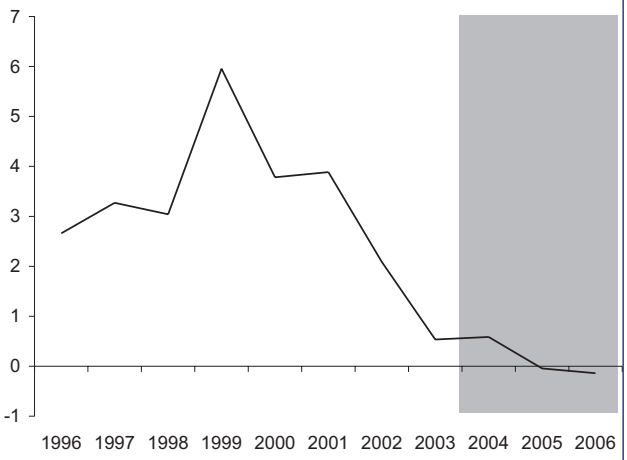



Chart 17
**EFFECTIVE EXCHANGE RATE INDEX FOR PORTUGAL**
Basis 1987 = 100




Note: The series uses as basis the average exchange rates recorded in 1987, and an increase/decrease in the value of the index corresponds to an appreciation/depreciation.

Chart 18
**PUBLIC CONSUMPTION**
Growth rate in volume




negative effects on the international economic activity than those currently projected, may jeopardise the expected growth in the external demand relevant for the Portuguese economy.

The third risk factor lies in the possibility of a continued appreciation of the euro exchange rate (Chart 17), associated, for instance, with the adjustment process of the above-mentioned international imbalances. The appreciation of the euro exchange rate, which, albeit implying a relatively limited appreciation of the effective exchange rate index relevant for Portugal, will definitely have effects on the competitiveness of the euro area economy and, this will be reflected in a lower external demand relevant for Portuguese economy.

The fourth risk factor relates to the projected developments in public consumption. Despite the virtually nil growth assumed for public consumption, which is at odds with the developments observed in recent years (Chart 18), consideration must be given to the possibility of this variable recording a decrease in real terms over the projection horizon, reflecting a higher effort in public expenditure restraint in the context of a reinforcement of the budgetary consolidation process.

The fifth risk factor regards the developments in private consumption, combining two specific factors. On the one hand, it considers the possibility that the reversal of the significant growth in private consumption in 2004 would be more gradual than anticipated in the central scenario of the current projection. This risk is suggested by recent conjunctural information, which points to a continued strong growth in private consumption expenditure at the end of 2004. The materialisation of this risk would give rise to a higher growth in private consumption in 2005. On the other hand, the necessary budgetary consolidation effort may imply a more moderate evolution of real disposable

Table 2

**SUBJECTIVE PROBABILITIES OF RISK FACTORS[a]**

In percentage

| | 2005 | 2006 |
|---|---|---|
| Conditioning variables: | | |
| External demand | 60 | 60 |
| Exchange rate | 60 | 60 |
| Public consumption | 55 | 55 |
| Endogenous variables: | | |
| Private consumption | 50 | 55 |
| HICP | 40 | 40 |

Note:
(a) Probability of the annual growth rate of each variable associated with risk factors standing below the rate considered in the central scenario.

households' income, for instance due to an increase of taxes on households.

Finally, the sixth risk factor is also related with the necessary and unavoidable budgetary consolidation effort. On the one hand, there is the possibility of an increase in indirect taxation and its transmission to consumer prices. On the other hand, it contemplates the possibility that some consumer prices subject to administrative procedures would increase more than anticipated in the current projection exercise.

### 4.2. Quantification of risk factors

Table 2 summarises the quantification of the current risk assessment based on the definition of subjective probabilities for each risk factor mentioned above. Short-term interest rates were considered to evolve in such a way that their expected value would coincide with expectations implied by futures markets.

The main results are presented in Table 3. Regarding economic activity, the balance of risks points clearly to a probability above 50 per cent that GDP growth should stand below the projection presented in Table 1, both in 2005 and in 2006. This assessment reflects the fact that all risk factors considered translate into a downside risk on economic activity: (i) the possibility that the external environment would be more unfavourable than considered (lower external demand and more appreciated exchange rate); (ii) the effects stemming from an increase in interest rates in line with expectations implied by futures markets; (iii) a higher budgetary consolidation effort (through public expenditure restraint and a more moderate growth of real disposable households' income).

Table 3

**PROBABILITY OF A LOWER VALUE THAN OF THE CENTRAL SCENARIO**

In percentage

| | 2005 | 2006 |
|---|---|---|
| Private consumption | 58 | 67 |
| GFCF | 56 | 54 |
| Exports | 60 | 59 |
| Imports | 58 | 64 |
| GDP | 60 | 65 |
| HICP | 45 | 42 |

With regard to inflation, the risks assessment translates into a probability above 50 per cent that inflation rate is likely to stand above the central scenario projection. The risk of higher consumer price growth due to an increase in indirect taxation or in consumer prices subject to administrative procedures is only partially offset by the effects associated to a possible slower recovery of economic activity and to an appreciation of the exchange rate.

## 5. CONCLUSIONS

The current Banco de Portugal projections for the Portuguese economy for 2005 and 2006 envisage a moderate recovery in economic activity. In 2005 and 2006, the Portuguese economy is likely to return to a more balanced growth pattern than the one estimated for 2004. Domestic demand will continue to play an eminent role in the economic recovery, but private consumption is expected to grow so as to allow for a recovery in the household saving rate from the decline recorded in 2004. In addition, both continued strong export growth and import growth, the latter more in line with overall demand weighted by imported contents, following the impressive increase in 2004, should allow for a higher contribution from external trade to GDP growth and favour the stabilisation of the net external borrowing requirements of the Portuguese economy, in spite of the high levels of oil prices.

However, reference should be made to a set of risks pointing to a more than 50 per cent probabil-

ity of GDP growth standing below the central scenario both in 2005 and in 2006. The unavoidability of additional budgetary consolidation efforts will provoke a slower recovery in overall economic activity in the short and medium term. Moreover, in the event that some international imbalances start to adjust, this might lead to a slower recovery of the European economy and to an appreciation of the euro, translating into a less favourable international juncture for exports growth. If these risks materialise, a rise in short term interest rates of the magnitude currently expected by markets would be most unlikely; if not, however, the risk of rising short-term interest rates would become particularly relevant, considering the growing level of indebtedness of Portuguese households and the indexation of most bank interest rates to short term money market rates.

The central scenario of the current projections points to a slight decrease in the inflation rate over the projection horizon. In the main, this reflects a moderate growth in wages and import prices, mostly due to the assumption of oil price declines and the continuation of the euro exchange rate at the levels observed in mid-December. However, the inflation projection does not consider any changes in indirect taxation besides those included in the State Budget for 2005 and assumes that consumer prices subject to administrative regulations will grow in line with developments observed in the past. The risk of this assumption leading to an underestimate of the inflation rate in the projection horizon is partially offset by the possibility of both a lower growth in economic activity than projected in the central scenario and an additional appreciation of the euro exchange rate. Thus, the overall risk assessment for inflation points to a more than 50 per cent probability of an outcome above the central scenario projection.

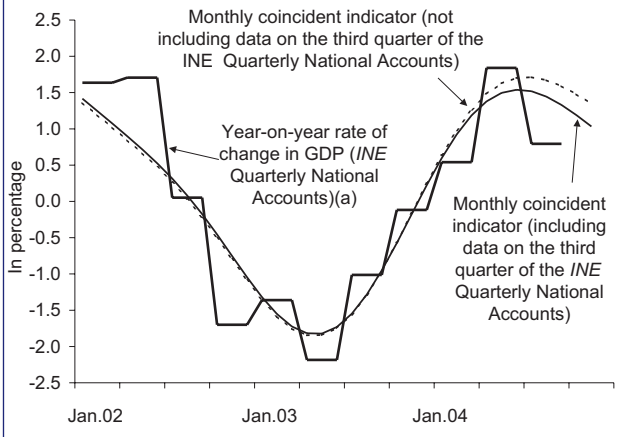
## Box 1
## INTRA-ANNUAL GROWTH PROFILE OF THE PORTUGUESE ECONOMY IN 2004

*After five consecutive quarters of negative real year-on-year changes, economic activity in Portugal has recorded positive year-on-year rates of change since the first quarter of 2004. The upturn in economic activity was not uniform in the course of the year and was positively influenced by temporary factors over the second quarter. The subsequent unwinding of these factors seems to have led to a deceleration in economic activity in the second half of the year. According to the conjunctural information released after the end of the Eurosystem projection exercise, this deceleration profile was more marked than expected. Despite explaining a small downward revision of the average growth rate estimated for 2004 vis-à-vis the central scenario published in the September issue of the Economic Bulletin, this revision contributed to explain the projection of a moderate recovery of economic activity in 2005 (from 1.1 per cent to 1.6 per cent), due to the dynamic effects associated with a slower growth at the end of the year and to the expected correction of the base effects associated with the strong growth in the second quarter of 2004.*

*According to data published by the Instituto Nacional de Estatística (INE) (National Statistical Office), year-on-year real GDP growth stood at 0.5 per cent in the first quarter of the year, followed by a sharp acceleration in the second quarter (1.8 per cent) and a significant slowdown in the third quarter (0.8 per cent). This marked acceleration/deceleration profile of economic activity may have resulted from anomalous and temporary factors favouring growth in the economy in the second quarter of 2004. Stress should be laid on the base effect triggered by the strong fall in real GDP in the corresponding quarter of 2003 (-2.2 per cent), the organisation of international events in Portugal in the second quarter of 2004, specifically the European Football Championship, and the higher number of working days during this quarter, compared with the same period in 2003.*

*The above-mentioned intra-annual profile was broadly based across the main expenditure components. Private consumption accelerated significantly in the second quarter (from 1.7 per cent to 2.9 per cent) and slowed down somewhat in the third quarter (to 2.1 per cent). Gross Fixed Capital Formation, after recording a virtually nil real change in the first quarter, grew moderately in the second and third quarters of the year (3.1 per cent and 1.6 per cent respectively). It should also be mentioned that exports of goods and services increased considerably in the second quarter (year-on-year real growth of 8.9 per cent in this quarter compares with year-on-year growth rates at around 5 per cent in the first and third quarters).*

Chart 1.1
**YEAR-ON-YEAR RATE OF CHANGE OF GDP (*INE* QUARTERLY NATIONAL ACCOUNTS) AND MONTHLY COINCIDENT INDICATOR OF THE BANCO DE PORTUGAL**



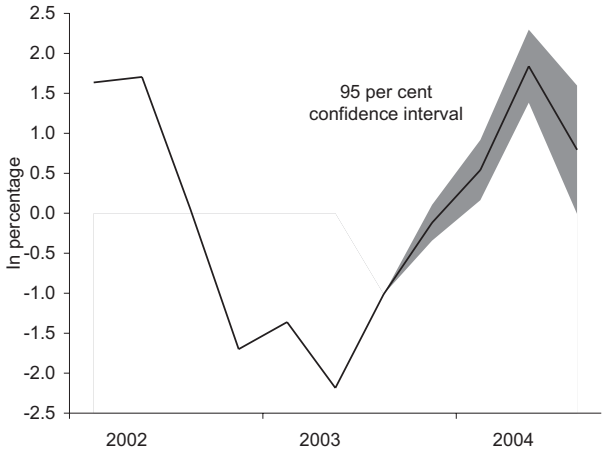

Note:
(a) In this chart, for the three months of each quarter, the correspondent quarterly value of the year-on-year rate of change was used.

*Chart 1.1 compares the year-on-year developments in GDP of the INE Quarterly National Accounts with the coincident indicator of Banco de Portugal. The deceleration profile estimated for the second half of 2004 is corroborated by the monthly coincident indicator for the year-on-year developments in economic activity calculated by Banco de Portugal. Given that this indicator was designed to capture the underlying trend of developments in activity, it presents a smoother profile than that of the year-on-year rate of change in GDP in real terms (which is naturally more erratic). The coincident indicator clearly points to a deceleration of economic activity in the second half of the year, even before the inclusion of data from the Quarterly National Accounts for the*

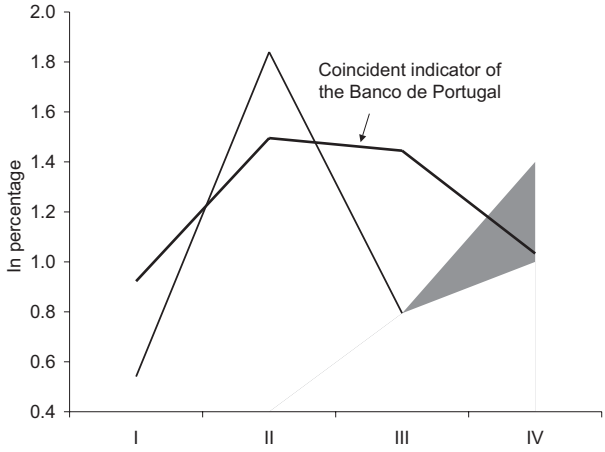
Chart 1.2

**YEAR-ON-YEAR RATE OF CHANGE OF GDP (*INE* QUARTERLY NATIONAL ACCOUNTS)**

*INE* Quarterly National Accounts preliminary data revisions




Fourth quarter of the *INE* Quarterly National Accounts implied in the current scenario for 2004




*third quarter. This profile becomes more marked with the incorporation of these data, made available at early December 2004.*

*It is possible to evaluate the intra-annual profile implicit in the current scenario for 2004 using the Quarterly National Accounts. However, the results must be read cautiously since, apart from the methodological differences between Quarterly Accounts and Annual National Accounts estimates, these quarterly figures are subject to revisions – Chart 1.2 considers a range of possible outcomes at a 95 per cent confidence level, taking into consideration the revisions observed in the past from the introduction of the European System of Accounts ESA95[(1)]. Assuming that the Quarterly National Accounts figures for the first three quarters of 2004 were not revised, the current projection is consistent with a real GDP growth rate in the range from 1.0 to 1.4 per cent in the fourth quarter of 2004. This range contains the November outcome of the Banco de Portugal coincident indicator.*

*(1) See the article "The Quarterly National Accounts in Real Time" by Catarina José, published in this issue of the Economic Bulletin.*

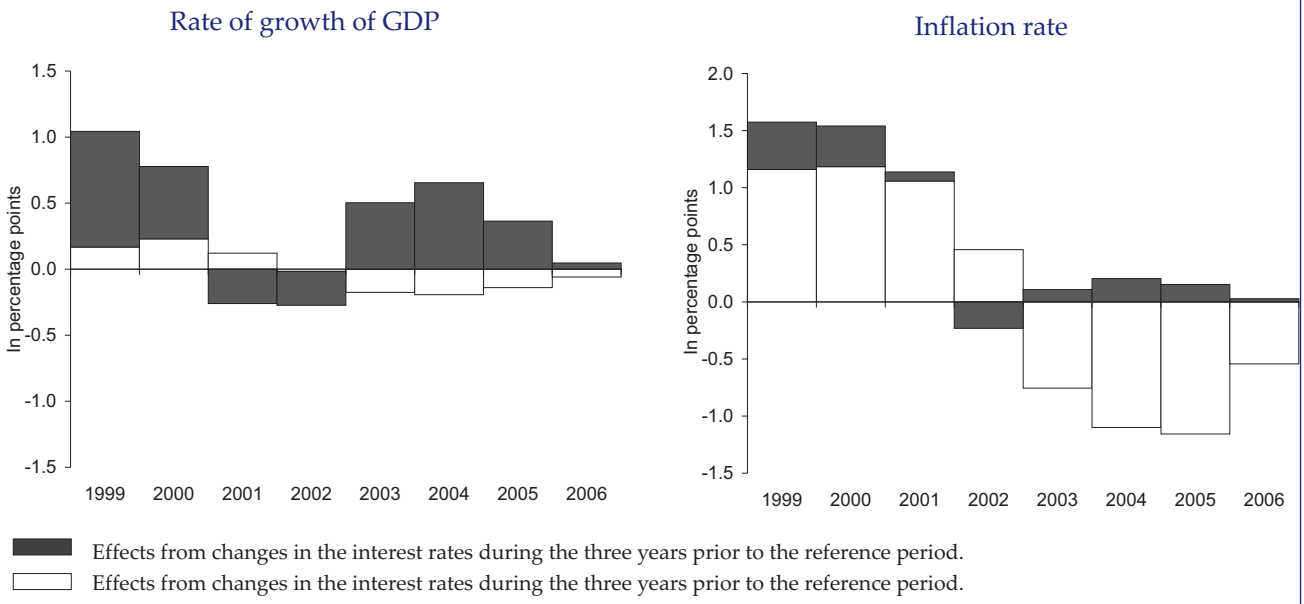
**Box 2**

## ASSESSMENT OF MONETARY CONDITIONS IN THE PORTUGUESE ECONOMY

*The Monetary Conditions Indicator( ) makes it possible to quantify the contribution from monetary conditions, notably from the interest rate and the exchange rate, to developments in economic activity and inflation in Portugal, taking as counter factual a situation where the interest rate and the effective exchange rate index would remain fixed at the level observed three years prior to the year under review (for example, for 2004 the counter-factual corresponds to keeping the interest rate and the exchange rate at the levels observed for 2001).*

*According to this indicator, monetary conditions have favoured GDP growth in 2004 by around ½ percentage point (Chart 2.1), reflecting mainly the impact of the decline in interest rates of around 2 percentage points that occurred between 2001 and 2004. This contribution decreased over the projection horizon, reflecting the unwinding of the effect stemming from the decline in interest rates on the stimulus to economic activity. Thus, the contribution from monetary conditions in 2005 should be of ¼ percentage points and their contribution to the output growth in 2006 should remain virtually nil, as the decline in the interest rate is likely be offset by the negative impact of the exchange rate appreciation envisaged for the same period.*

Chart 2.1
**CONTRIBUTION FROM THE MONETARY CONDITIONS**




*With regard to inflation, this indicator shows that monetary conditions have contributed to a lower growth in prices over the projection horizon, notably in 2004 and 2005, with an estimated contribution of 1 percentage point to the average annual inflation rate. This contribution mainly reflects an appreciation of around 4 per cent of the effective exchange rate index relevant for the Portuguese economy in the three years prior to the years under review. In 2006 the contribution from monetary conditions will benefit the inflation rate by ½ percentage point, reflecting the unwinding of the effects stemming from the recent appreciation of the euro exchange rate.*

(1) *For technical details on this procedure, see Esteves P. (2003), "Monetary Conditions Index for Portugal", Economic Bulletin, Banco de Portugal, June 2003.*

# *Articles*

# THE EU FISCAL RULES: SOME GUIDELINES FOR REFORM*

*João Amador***
*Jorge Correia da Cunha****

## 1. INTRODUCTION

The recent developments in European Union (EU) public finances and in its multilateral surveillance framework have been adverse. On the one hand, the budget deficits have increased in most member-states, exceeding the 3 per cent of GDP threshold in some cases. Such deterioration is only partially explained by adverse cyclical developments and it appears more pronounced when the effects of temporary measures are excluded. The occurrence of statistical problems and the subsequent revision of the fiscal data reported by some member-states is also a reason for concern. On the other hand, the existing fiscal framework has proved unable to impose sanctions on countries that do not comply with the recommendations to bring the excessive deficit situation to an end. The decision of the European Court of Justice of 13 July 2004, acknowledged that the Council had the authority to ultimately decide on the imposition of sanctions, but it also clarified that its decisions must always be based on the Commission's recommendations, thus revealing a deadlock in the decision process.

Several authors have been putting forward proposals for a substantial reform of the European budgetary surveillance framework, ranging from the introduction of a golden-rule to the creation of independent fiscal supervision authorities. In many cases, the implementation of such proposals is not feasible because it would represent another change in the EU legal setting just after the signature of the Treaty that establishes a Constitution for Europe. Meanwhile, proposals are being advanced by the European Commission, which has the role of initiating legislation at the EU level, and by some member-states, all of them currently under discussion.

In this paper some guidelines for the reform of the EU fiscal framework are suggested. Overall, they are close to the ones stemming from the Commission's proposals, but with differences in emphasis. The underlying rationale is based on the assumption that the corrective arm of the budgetary fiscal framework will not be fully operative. It is therefore necessary to foster the Commission's ability to assess national fiscal policies, to enhance the statistical framework of the compilation of fiscal data, leading to higher transparency, and to reinforce peer-pressure in the Economic and Financial Committee (EFC) and the Ecofin Council as well as market and public opinion scrutiny of governments' fiscal policies. These proposals are based on the past experience of the EU fiscal framework and take into consideration the existing institutional constraints.

The paper is organized as follows. After this introduction, Section 2 briefly reviews the negotiation process and the set of rules approved before the outset of the European Monetary Union (EMU) and assesses the past performance of the fiscal framework. Section 3 discusses the institutional constraints and the limits to reform. Section

* The views expressed in this paper are those of the authors and do not necessarily coincide with those of Banco de Portugal. All errors and omissions are the sole responsibility of the authors. We would like to thank Maximiano Pinheiro for comments and suggestions.
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*** Banco de Portugal – Economics and Research Department.

4 presents the guidelines for reform in detail. Section 5 summarizes the conclusions of the paper.

## 2. THE EU FISCAL RULES

### 2.1 The negotiation process and the final set of rules

The European fiscal framework is a key element in the working of the EMU. The underlying rationale for the existence of fiscal rules is based on the notion that the lack of fiscal discipline puts pressure on prices and this requires, other things being equal, the European Central Bank (ECB) to increase interest rates. Therefore, low-deficit countries would face a cost resulting from the behaviour of countries running high deficits. In addition, in the absence of fiscal rules, pressures would increase on the ECB to accommodate inflationary tensions, as a way to deflate the real value of debt. However, in a context where the ECB is fully independent and price stability oriented, such problem should not exist.

Another argument for the existence of fiscal rules in the EMU relates to the need to avoid fiscal crisis, which would be costly to all member-states. In fact, although the EMU fully eliminates exchange rate risk (facilitating the financing of national fiscal deficits), it simultaneously rules out the possibility of monetary financing of the deficit or the erosion of the real value of public debt through high inflation. The exchange rate risk associated to the national public debt is therefore replaced by a credit risk. The event of a serious fiscal crisis in one member-state, leading ultimately to a default, would pose a dilemma for the EU. If the default materialized, there would probably occur a crisis in the common financial market, and the costs of this would be shared by all the participants in the EMU. In fact, the transmission of such crisis is more likely the more integrated are the financial markets and it is particularly important when public debt plays the role of a stable and low-risk asset in portfolios. Alternatively, if the EU authorities decided to totally or partially "bail out" the member-state facing the fiscal crisis, there would exist costs related with lower credibility and moral hazard. In fact, there would be fewer incentives to fiscal discipline, as countries would anticipate not bearing the full costs of a fiscal crisis.

Taking into consideration these theoretical arguments, the Maastricht Treaty included a set of articles that establish the basis of the European fiscal framework. Article 101 of the Treaty states that the and the national central banks are prohibited from granting credit or acquiring directly public debt. Article 102 states the prohibition of privileged access to financial institutions of the entities that compose the general government. Article 103 exempts the EU and member-states from being liable or assuming the commitments of the general government of a given member-state (the no bail out rule). Finally, Article 104 refers directly to the "excessive deficit procedure", stating what is considered an excessive deficit and mentioning the existence of reference values for the deficit and the debt ratio (Art. 104-2). It also describes the procedures to be followed in order to decide that an excessive deficit exists in a given member-state (Art. 104-3 to 104-6) and defines the steps associated with the correction of the excessive deficit and the measures to be taken in case of non-compliance (Art. 104-7 to 104-11). Then it sets down the procedure for the abrogation of the decision on the existence of an excessive deficit (Art. 104-12) and establishes the voting procedure together with the imposition on the Council to vote on recommendations from the Commission (Art. 104-13). Finally, the protocol on the excessive deficit procedure mentioned in Article 104-14 and annexed to the Treaty sets the reference values for the deficit at 3 per cent of GDP and the debt ratio at 60 per cent. In addition, Council regulation no. 3605/93 of 22 November 1993 defines the deficit as the general government net borrowing as defined in the European System of Accounts (ESA) and debt as meaning total gross debt at nominal value outstanding at the end of the year and consolidated between and within the sectors of general government.

The EU fiscal framework set out in the Treaty was incomplete and presented some inconsistencies. The content of the penalties to be imposed on non-complying countries and the specification of what were considered exceptional circumstances, under which countries could surpass the reference values, were vague. Firstly, under Article 104, the exceptions to the reference values comprise situations where the figure for the deficit is declining substantially and approaching the reference value

or a deficit in excess of the latter is regarded as exceptional and temporary. As for the debt ratio, a violation of the reference value is accepted if it is declining substantially and approaching the reference value at a satisfactory pace. Secondly, concerning sanctions, Article 104 mentions that if a member-state fails to comply with the recommendations to put an end to the excessive deficit, the Council can impose a non-interest bearing deposit and, if necessary, decide on fines of an "'appropriate size". According to Article 104, the size of the penalties is to be settled by the Council. There are also some inconsistencies in the decision-making process established in Article 104. Firstly, the decision on the existence of an excessive deficit in a member-state is taken by the Council, preceded by an assessment and a recommendation elaborated by the Commission, which should take into account the country's medium-term economic and budgetary perspectives. Indeed, the actions to be taken by the Commission and the Council regarding a decision on the existence of an excessive deficit are not automatic. In addition, as has been made clear by the recent decision by the European Court of Justice, the Council holds the ultimate authority to impose sanctions, but its decisions must always be based on Commission's recommendations. This can lead to a deadlock in the decision process when the opinions of the two bodies are divergent. Moreover, the non-automatism of the sanctioning process compromises the intertemporal consistency of the budgetary rule. In fact, in the event of a "failure to repent", the Council may feel tempted not to apply sanctions to the member-state concerned, especially if one of the big countries of the EU is at stake. Since the deterrent component associated to the fiscal rules can only be effective if they are perceived as credible, it is clear that the recent developments regarding the excessive deficits in France and Germany have undermined the fiscal framework.

As the outset of the third stage of the EMU approached, a thorough discussion on how the European fiscal framework could be supplemented was launched. In particular, the German authorities argued that a long-term stable community would have to be established if the German public was to be won over to the implementation of the monetary union. Therefore, although not implying additional criteria for the accession to the monetary union, member-states should make additional commitments so as to ensure a sound fiscal policy in Stage three. The initial rationale was based on the idea that it was necessary to avoid putting an excessive burden on the ECB, which bore alone the responsibility to guarantee price stability. In addition, a more stringent budgetary framework would give a strong signal to the other economic agents, in general, and to the financial markets, in particular, on the commitment of the monetary union to stability.

The German proposals, backed by the Federal Minister of Finance, Mr. Waigel, comprised essentially two points[1]. Firstly, the reference value of 3 per cent for the budget deficit as a percentage of GDP should be a ceiling not to be exceeded at any point of the economic cycle. Consequently, countries were expected to follow a medium-term objective for the deficit of 1 per cent of GDP. Exceptions to this objective could only be made in extreme cases and with the approval of two thirds of the countries participating in the monetary union. In addition, the public debt ratio should decline below the reference value of 60 per cent in order to increase the room for manoeuvre in the conduct of fiscal policy. Secondly, proposals for the establishment of an "early-warning mechanism" and for the automatic imposition of sanctions were put forward. In particular, a non-complying member-state would be required to make a non-interest bearing deposit equivalent to 0.25 per cent of its GDP for each whole percentage point in excess of the reference value. The "stability deposit" would be repaid when the country put an end to the excessive deficit, but it would be converted into a fine after two years of non-compliance. Thirdly, the member-states participating in the third stage of the EMU would form a European Stability Council within the Ecofin Council, which would decide on the violation and enforcement of the budgetary rules.

The general ideas underlying these proposals were well accepted by most member-states. The Commission, which holds the right to initiate legislation, developed its own work on these proposals and presented a document entitled "Towards a

(1) For more details on the Waigel proposal entitled " A Stability Pact for Europe' (November 1995) and on the negotiation process, see Brunila et all (2001).

Stability Pact". It argued that a budget in balance or in surplus was a medium-term objective preferable to the 1 per cent of GDP figure referred in the initial German proposal. This opinion was based on an analysis of the semi-elasticities of the national fiscal deficits to cyclical developments. Nevertheless, the Commission argued that, given the different starting points, the medium-term objectives should be adjusted to the specific situation of each country. In addition, the Commission remarked that, according to the Treaty, the decision to apply sanctions to a member-state was assigned to the Council. Therefore, the proposal to turn sanctions automatic required an amendment to the Treaty, which should be avoided, as it would open the door to other changes demanded by different countries. Finally, the Commission considered that the Stability Pact would require closer coordination and monitoring of the national fiscal developments. Therefore, it proposed the yearly presentation of "stability programmes" to be discussed and approved by the Council, specifying the medium-term budgetary targets. Such programmes would bring into the monetary union the successful experience of the "convergence programmes".

Although the document of the Commission was well received, the German authorities did not accept the idea of differentiating budgetary targets according to the countries' specific circumstances and pointed out the importance of implementing automatic sanctions in order to ensure the credibility of the European fiscal framework.

At this point in the negotiating process, other important issues such as the quantification of sanctions and the definition of exceptional circumstances were not settled. At the beginning of December 1996, the Ecofin Council reached a compromise, setting the fine for countries that did not comply with the Council's notice under Article 104-9 at a fixed amount of 0.2 per cent of GDP plus a variable component of 0.1 per cent of GDP for every percentage point in excess of the reference value. The total fine should not exceed 0.5 per cent of GDP. The remaining questions were settled in the Dublin European Council on 12 and 13 December 1996. It was agreed that, apart from the occurrence of events beyond the countries' control, a budget deficit would be regarded as exceptional if a decline in real GDP of at least 2 per cent occurred. In the case of a GDP decline between 0.75 and 2 per cent, the Council would make its own evaluation on a discretionary basis. Finally, the debate on the automatism of the sanctions proved very difficult and it jeopardised the reaching of a general agreement. In the end, it was adopted a draft formula that stated that the Council's decisions regarding the imposition of sanctions would, "as a rule", follow the Commission's recommendations. This was seen as a quasi-automatic mechanism, with relatively tight deadlines for the different steps of the excessive deficit procedure and a presumption of sanctioning in its latter stages.

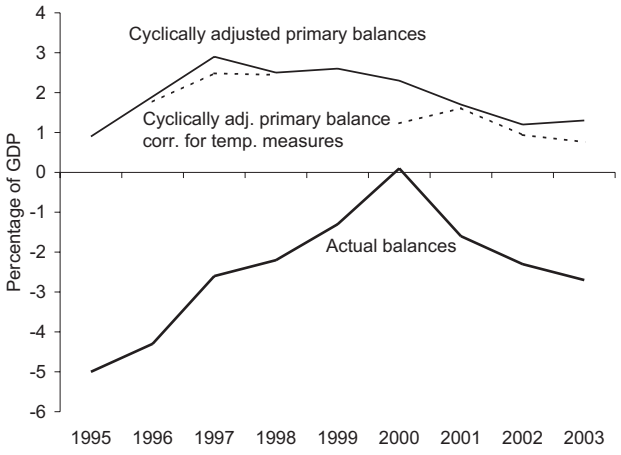
With minor changes, the texts negotiated led to the adoption of the SGP, which took the form of two Regulations and a Council Resolution. Overall, the final text maintained the medium-term objective of a budgetary situation close to balance or in surplus, established the early warning mechanism and set down the assessment of stability programmes to be produced yearly by member-states participating in the third stage of the EMU. Finally, although the amount of the sanctions was clearly defined, their automatic implementation was dropped. On this vital issue it was considered that the SGP included a strong presumption on expected actions to be taken in the event of excessive deficit situations. As recent developments confirm, the absence of automatic sanctions diminishes the credibility of the European fiscal framework and increases the probability of occurrence of deficits higher than the reference value.

### 2.2 Fiscal developments in the euro area and the performance of the fiscal framework

After the considerable efforts towards fiscal consolidation[2] that took place until 1997, aiming at the fulfilment of the Maastricht fiscal convergence criteria, the euro area fiscal position continued to improve until 1999 (see Chart 1). In 1999, the first year of the third stage of the EMU, the fiscal performance was better than anticipated mainly due to developments which enhanced tax receipts, such as a friendly composition of growth, which relied essentially on domestic demand and

(2) Fiscal consolidation is evaluated in terms of the change in the cyclically adjusted primary balance, corrected for the effect of temporary measures - the primary underlying deficit.

Chart 1
**ACTUAL BALANCES, CICLICALLY ADJUSTED PRIMARY BALANCES AND TEMPORARY MEASURES IN THE EURO AREA**




Source: European Commission. For 1996-98 temporary measures referred in the EMI Convergence Report of 1998 are excluded. For the 1995 and 1999 data not available.

on-going tax reforms that led to unexpected tax receipts in several member-states. In its forecast for 2000, included in the report "Public Finances in the EMU - 2000", following the spirit of the SGP, the European Commission called for further consolidation efforts in order to move member-states closer to balance. Nevertheless, the fiscal outcome was quite different, partly due to the leeway created by sizeable temporary measures. The cyclically adjusted primary balance, corrected for the effect of the sale of UMTS licences (amounting to 1.1 per cent of GDP in 2000) stood at 1.2 per cent of GDP. The implementation of tax reductions in some member-states that were not accompanied by offsetting reforms on the expenditure side contributed to this result. In 2001, the cyclically adjusted primary balance reached 1.7 per cent of GDP. Amidst rising concerns over the path of the European fiscal position, the Ecofin Council endorsed a revised Code of Conduct which also took into account the experience of the first three years of implementation of the SGP. The changes introduced to the previous version of the document[3] consisted in clustering the submission and examination of stability and convergence programmes, improving the quality and comparability of programme contents and presentation, clarifying the definition of the medium-term budget target and the use of cyclically adjusted balances and extending the coverage of programmes to include information on the quality and sustainability of public finances. In 2002, the euro area fiscal position worsened, with the cyclically adjusted primary balance corrected for the effect of temporary measures decreasing by 0.7 p.p. of GDP to 0.9 per cent of GDP. In 2003 the fiscal position deteriorated for the second year in a row, though only slightly. Indeed, the cyclically adjusted primary balance corrected for the effect of temporary measures declined by 0.1 p.p. of GDP. The impact of temporary measures increased from 0.3 per cent of GDP, in 2002, to 0.5 per cent of GDP in 2003.

At this point, two issues deserve further attention. Firstly, despite the unfavourable developments of the euro area fiscal position in the recent cyclical downturn, it is important to compare them with what happened in similar periods of past cycles, as a way to assess the effectiveness of the fiscal framework after the outset of the third stage of the EMU. Secondly, from the institutional perspective, it is important to discuss how the SGP was actually implemented in the context of rising budget deficits in several member-states, exceeding the 3 per cent threshold in some cases.

In the public finance literature, a number of papers run regressions with the objective of explaining the behaviour of the general government deficit. The explanatory variables typically include the output gap, the degree of openness of the economy (Rodrik, 1999), as well as different features of the budgetary procedures and the political and electoral systems (Roubini and Sachs, 1989). In a recent paper focusing on the euro area, Galí and Perotti (2003) regress the deficit, for the period 1980-2002, as a function of the output gap expected in the previous period and the actual deficit and debt ratio observed also in the previous period, using instrumental variables. In addition, a dummy variable is included to capture hypothetical changes in regime after the beginning of the third stage of the EMU. The authors conclude that discretionary fiscal policy in the euro area countries has become more counter-cyclical after 1999.

(3) "Opinion of the Monetary Committee on the content and format of stability and convergence programmes', 21 September 1998, Monetary Committee, European Commission.

If this was the case, it might be argued that the current problems arise from an inadequate starting point. At its outset, the SGP faced a fiscal position that was not sufficiently sound to let governments run their desired degree of counter-cyclical fiscal policies without breaching the reference value for the deficit. In fact, the desired degree of counter-cyclical policies may go beyond the normal functioning of automatic stabilizers. Nonetheless, the paper is subject to some criticisms, as it would have been preferable to consider the cyclically adjusted primary deficit also adjusted for the effect of temporary measures as the indicator of fiscal stance. In addition, the inclusion of a wider set of explanatory variables such as the degree of openness of the economy and the level of GDP per capita would have been useful. The IMF, in its 2004 World Economic Outlook, uses a panel analysis to conclude that there is a link between fiscal discretion and procyclicality, suggesting that the EMU's rules-based, discipline-oriented fiscal framework could be expected to improve fiscal behaviour. Nevertheless, a more detailed assessment of fiscal behaviour after 1992 suggests that this improvement could be more apparent than real. In fact, this outcome might result from additional tightness in the good times between 1992 and 1997 motivated by the objective of fulfilling the Maastricht fiscal criteria. The separation of the analysis in two sub-periods reveals that after the outset of third stage of the EMU there was a tendency to loosen fiscal policy in good times whereas fiscal tightening in bad times has disappeared.

As for the issue of how the SGP was actually implemented, the assessment is negative. The deterioration of the fiscal position in several member-states after 2000 led to the triggering of the later stages of the excessive deficit procedure. On 30 January 2002, given the deficits recorded in 2001 and the forecasts for 2002, the excessive deficit procedure inaugurated a new phase with the Commission's proposals to address early warnings to Portugal and Germany. Given the political commitments assumed by the Portuguese and the German authorities, such proposals were not voted on and the debate was closed in the Ecofin Council of 12 February 2002. However, the Portuguese general government accounts for 2001 were revised afterwards. On 24 September 2002, the Commission released a report, which led, on 11 November 2002, to a Council decision on the existence of an excessive deficit and a recommendation to the Portuguese authorities to bring the deficit below the reference value in 2003 at the latest. Then, on 19 November 2002, the procedure was initiated for Germany, with the Commission's report leading to a Council decision on the existence of an excessive deficit and to a recommendation to the German authorities, both approved on 21 January 2003. In this case, after assessing the draft budget for 2004, the Commission considered that there was no effective action in response to the previous recommendations. As a consequence, on 18 November 2003, it recommended to the Council, under Article 104(9), to give notice to the German government of the need to take measures in order to reduce the deficit until the end of 2005. The procedure concerning France was initiated on 21 January 2003 with the triggering of the early warning mechanism. Then, on 2 April 2003 the Commission issued a report, which gave rise to a Commission recommendation and a Council decision to declare an excessive deficit situation on 7 June 2003. Next, given the unfavourable fiscal developments in France, on 21 October 2003, the Commission elaborated a recommendation for a Council decision under article 104(9). Although initiated at different moments, the German and the French cases were voted on in the Ecofin Council of 25 November 2003, where it was decided not to adopt the Commission's recommendations. Then, on 28 April 2004 the Commission released a recommendation to address an early warning to Italy because the deficit forecasted for 2004 exceeded the 3 per cent of GDP reference value and the reduction of the public debt ratio was coming to a halt. The decision of the Council was postponed from 11 May 2004 to 5 July in order to examine a set of measures to be proposed by the Italian authorities. In the end, the Commission's recommendation was not adopted. The Netherlands was the next country to find itself under the excessive deficit procedure, leading to a Council's decision on 2 June 2004. Finally, on 19 May 2004, the excessive deficit procedure was initiated for Greece, and the recommendation to consider the country in an excessive deficit situation was approved by the Council on 7 July 2004.

Overall, the performance of the early warning mechanism is very poor. In fact, only one out of four Commission proposals was approved by the Council, as the remaining cases were dropped after political commitments assumed by the national governments. In addition, only one out of five excessive deficit situations was preceded by an early warning.

As far as the corrective arm of the excessive deficit procedure is concerned, it is clear that currently it is not fully operative. Firstly, the non-approval of Commission recommendations under article 104(9) for Germany and France led to a substantial loss of credibility for the fiscal framework. Secondly, the European Court of Justice on 13 July 2004, stated that the failure by the Council to adopt the decisions recommended by the Commission is not challengeable, and it simultaneously made clear that the Council cannot modify the recommendations it had previously made to each of those member-states and that only the Commission holds the power to initiate new recommendations. Therefore, the decision process was deadlocked.

It is clear that the EU fiscal framework faces problems with the economic and institutional design of the existing rules and with transparency and availability of fiscal data. Prior to recent developments, taking on board some of these concerns, the Commission made two recommendations public on November 2002. The first one refers to the strengthening of the co-ordination of budgetary policies and includes proposals aiming at improving the interpretation of the SGP and its implementation. The second one concerns the upgrade of the quality of budgetary statistics and justifies the need to create a code of best practices with the objective of increasing the quality, reliability and transparency of budgetary data. Nevertheless, these proposals did not change the existing framework substantially. More recently, in the report "Public Finances in the EMU – 2004", the Commission reinitiated the debate on the guidelines for the reform of the SGP. Then, on 3 September, the Commission made public a communication to the Council and to the European Parliament on "Strengthening economic governance and clarifying the implementation of the Stability and Growth Pact".

### 2.3 Weak statistical standards

Statistical and accounting problems pose a challenge to any rules-based system and the European fiscal framework is no exception. At its outset, it was not made clear that the difficulty in computing, in a reliable and timely way, the key variables upon which the assessment was made would decisively hinder the credibility of the supervision framework. The accounting framework used in the excessive deficit procedure was upgraded from what existed in the past, specifically, with the introduction of ESA-95, the elaboration of the ESA-95 Manual on Government Deficit and Debt and the Eurostat decisions on several statistical issues, but recent experience has been disappointing. As a matter of fact, national authorities retain substantial room to adjust the notified figures if they are not fully committed to fiscal consolidation. As would be expected, these practices arise when the compliance with the budgetary rules is in danger. The situation is aggravated by the fact that, in many cases, the authorities responsible for budgetary management are also those responsible for the compilation of updated public finance statistics for reporting, in a framework characterized by the lack of accountability and the inexistence of penalties for the cases when substantial revisions occur. Finally, there is also no deterrent effect resulting from the possibility of having public finance statistics fully audited by external authorities such as the Eurostat.

The average revision of the general government deficit figures has been sizeable for some member-states and the revisions that increase the deficit are more frequent than revisions that reduce it. Some significant revisions were those of the Portuguese deficit for 2001, from 2.2 to 4.1 per cent of GDP, which took place in 2002, and those of the Greek deficit from 2000 to 2003, representing an average revision of 2.4 percentage points in each year, which took place in 2004. In addition, the existence of permanent positive deficit-debt adjustments in countries in deficit and with large debt ratios may also be a symptom of statistical problems. The average deficit-debt adjustment in the period 1994-2003 in the EU15 amounted to 0.4 per cent of GDP, but it reached much higher values for some member-states. Some examples are those of Greece, Austria, Portugal and France, with aver-

age deficit-debt adjustments in the period 2000-2003 of 3.7, 0.9, 0.8 and 0.8 per cent of GDP, respectively.

In most cases, the less adequate compilation of fiscal figures does not imply a formal violation of the accounting rules (ESA-95). However, in some countries where the prescriptions of the ESA-95 were not respected, sizeable revisions were imposed by the European institutions or decided by newly elected governments, which did not want to bear the responsibility for past wrongdoings. One area where statistical problems have been identified is the consistency of cash and accrual accounting, for example, on the recording of tax revenues, which may be adjusted to benefit the revenues of one specific year. The recording of transactions with financial assets and the delimitation of the general government sector is also a source of statistical problems. For example, some capital increases made to public corporations are not actually financial operations as they are used to finance chronic losses.

Another important aspect related with weak statistical standards concerns the utilization of temporary measures to positively affect the deficits. In these cases what is at stake is not a less adequate compilation of fiscal figures but instead the utilization of statistical regulations loopholes in order to have a positive impact on the deficit. An example of this is the sale and lease back of government buildings, which generates more revenue at the expense of future payments with rents. These problems date back to the poor statistical standards accepted in some of the 1997 Convergence Reports, but they are currently becoming increasingly important.

## 3. INSTITUTIONAL CONSTRAINTS AND THE LIMITS TO REFORM

The reform of the European fiscal framework is a very difficult task, on institutional and political grounds. The overall budgetary rules are set in the Article 104 of the Treaty that establishes the EU, and it constitutes primary legislation. Therefore, it was agreed by direct negotiation between member-state governments and it was subject to ratification by national parliaments. Council Regulation nº 3605 of 22 November 1993, which set down the exact definition of the relevant aggregates according to the ESA classification as well as Council Regulation nº1467/97 on the speeding up and clarifying the implementation of the excessive deficit procedure, are based on paragraph 14 of Article 104 of the Treaty, where it is said that "The Council shall, acting unanimously on a proposal from the Commission and after consulting the European Parliament and the ECB, adopt the appropriate provisions which shall then replace the said Protocol". Any possible changes therefore require unanimity of member-states.

At present it is clear that any amendments to the Treaty are not feasible as a new integrative constitutional text has been recently signed by the member-states. The new provisions included in the Draft Constitution concern the existence of "early warnings" directly issued by the Commission and the launching of the excessive deficit procedure based on Commission proposals rather than recommendations. These provisions increase the ability of the Commission to exert peer-pressure on fiscal issues but they are not sufficient to overcome the problems of the fiscal supervision framework.

Unanimity is very difficult to find in the EU Council, especially now in its enlarged version with 25 countries. Firstly, countries currently in an excessive deficit situation would not approve changes that imply the effective implementation of sanctions. As a matter of fact, the implementation of sanctions could only come through an automatic system or through the attribution of decision power to the Commission on this matter. Both alternatives are unrealistic. The principle of automatic sanctions is perfectly acceptable and even desirable in economic terms as it fully ensures the credibility of the fiscal framework and eliminates the intertemporal inconsistency problems. Nevertheless, as we mentioned in the second section, this issue was a major focus of debate during the SGP negotiations and it was not possible to reach a consensus at that time. Alternatively, the attribution of decision power to the Commission to implement sanctions on non-complying countries would certainly face the opposition of many member-states. As a matter of fact, the balance of powers in the EU gives no supremacy to the Commission over the Council. According to the Treaty, the Commission is the initiator of proposals for legislation, the guardian of the Treaties and the man-

ager and executor of EU policies and of international trade relations. However, it does not take any decisions on EU priorities and policies, as this is the prerogative of the Council and, in some cases, also of the European Parliament. Secondly, countries that have recently acceded to the EU would presumably oppose any changes in the fiscal framework that made their future accession to the monetary union more difficult. Finally, explicit changes to the legislation that sets down the fiscal framework, concerning specific aspects, such as giving more importance to the public debt ratio or the consideration of long-term fiscal projections, such as those associated with the financing of public pension systems, would predictably face the opposition of the countries where such problems are more acute.

Alesina and Perotti (2004) discuss the voting rules and the institutional design of the EU. In their view, they are characterized by lack of clarity in the allocation of powers between European institutions, confusion in the allocation of prerogatives between national governments and EU institutions and lack of transparency, making it more difficult to reform of the European fiscal framework. Therefore, despite being theoretically interesting and potentially desirable in practice, many of the proposals put forward in several papers published during the last years cannot at the moment be implemented. These proposals are numerous and it is impossible to list them here. They broadly range from the adoption of a golden rule or an expenditure rule (Fitoussi and Creel, 2002 and von Hagen, 2002), to the creation of an independent experts fiscal policy committee (Fatás et all, 2003) or the move to a debt sustainability pact (Pisani-Ferry, 2002).

Given the existing difficulties in reaching a consensus on the reform of the European fiscal framework, some argue that it is preferable to leave it as it is. Firstly, despite its problems, the existing framework has achieved some positive results, such as the existence of a well-known and publicly scrutinized reference value for the budget deficit, which helps to frame governments' fiscal policy decisions. Secondly, during a long negotiation process, the existing framework would lose further credibility. Thirdly, there is the risk that the negotiation would lead to a less stringent fiscal framework, potentially acceptable to all countries. The loosening of the fiscal framework could come through changes in the definition of the relevant indicators, notably, the definition of the general government deficit. Further loosening could come through a redefinition of the exceptional conditions under which deficits higher than 3 per cent are allowed or of the timing for the correction of excessive deficit situations. As a matter of fact, if different motivations lead member-states to unanimously agree on the withdrawal of different expenditure items from the deficit calculations, for instance military expenditure, transfers to the EU budget or I&D expenditure, the underlying fiscal framework will become inoperative in practice.

At present, the process of reform of the EU fiscal framework is evolving in various directions. The European Commission has been fulfilling its role as initiator of proposals for legislation, which will be later evaluated by the Ecofin Council. The guidelines proposed by the Commission were outlined in the report "Public Finances in the EMU 2004" and developed in the Commission's communication on "Strengthening economic governance and clarifying the implementation of the Stability and Growth Pact" of 3 September 2004. The proposals aiming at refocusing the Pact involve placing more focus on debt sustainability, allowing for more country-specific circumstances in defining the medium-term objectives, considering economic circumstances and developments in the implementation of the excessive deficit procedure and ensuring earlier actions to correct inadequate budgetary developments. The proposals aiming at improving coordination of policies imply a stronger connection between the Broad Economic Policy Guidelines, the updates of the stability programmes and the national budgets. Finally, strengthening of the enforcement of fiscal rules would result from the increased quality, timeliness and reliability of budgetary statistics and greater transparency and accountability regarding national fiscal policies. In parallel, other proposals are being advanced by several member-states. Some of them go much beyond the Commissions' proposals and actually make reference to the exclusion of certain expenditure items from the calculation of the general government balance.

The authors believe that it is possible to improve the existing fiscal framework within the existing institutional limitations, ensuring no further

loss of credibility and maintaining the main messages that have been passed to public opinion regarding the need for fiscal co-ordination in the EU. The underlying rationale is based on the principle that, given the institutional restrictions, the corrective arm of the fiscal framework will not be fully operative. However, there is room to enhance the preventive component of the fiscal framework, through the improvement of the Commission's ability to evaluate national fiscal policies, the reduction of the statistical problems associated with fiscal data, leading to higher transparency, and the reinforcement of peer-pressure as well as market and public opinion scrutiny on governments' fiscal policies. The main guidelines for reform are discussed in detail in the next section. These guidelines are close to the ones presented by the Commission but with differences in emphasis.

## 4. GUIDELINES FOR REFORM: A DISCUSSION

As previously discussed, the EU Commission should be able to ensure a thorough evaluation of the fiscal situation of member-states and flag either deviations from what is considered an adequate and sustainable fiscal path or any shortcomings related with the quality and transparency of the statistical information that is provided. The fulfilment of such a role in the EU fiscal framework should allow the right peer-pressure and public scrutiny, encouraging governments to keep public finances on a sustainable path. In this context, the technical quality and transparency of the analysis carried out by the Commission is vital. In fact, the higher its credibility, the stronger its impact on decision-making in the EU institutions and on markets and public opinion.

Any proposal for reform must also fulfil certain specific requirements. Firstly, the economic rationale underlying the proposals must be incentive-compatible, otherwise its effectiveness will be reduced. Secondly, the rules and the fiscal objectives should be both implementable and realistic. The setting of overly ambitious objectives is frequently the first step towards no adjustment at all. Thirdly, the rules should be simple in order to enhance the scrutiny from markets and public opinion. Finally, it should not require major amendments to the main legal texts. The guidelines for reform presented below try to fulfil these requirements.

### 4.1 Medium-term fiscal objective

One of the important contributions of the SGP to the European fiscal framework was the definition of a medium-term objective for the budgetary situation of member-states, which should be close to balance or in surplus. According to the resolution of the European Council on the Stability and Growth Pact of 17 June 1997: "Adherence to the objective of sound budgetary positions close to balance or in surplus will allow all Member States to deal with normal cyclical fluctuations while keeping the government deficit within the reference value of 3 % of GDP."

More recently, this objective has been evaluated on cyclically adjusted terms[4] and does not differentiate the specific circumstances of member-states regarding key variables, such as, the sensitivity of the fiscal balance to the output gap, the growth rate of potential output, the public debt ratio, the amount of contingent or implicit liabilities related to government guarantees or the future payment of pensions.

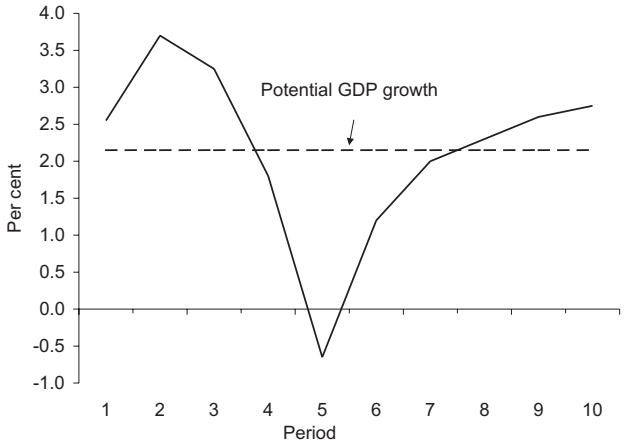
This approach raises some criticisms. Firstly, the current methodology for the calculation of the output gap, which is later used for the calculation of the cyclically adjusted fiscal balance, is not easily reproducible by other entities[5]. In fact, its relative complexity leads to a lack of transparency, which diminishes the public impact of the Commission's analysis. In this case, the trade-off between technical requirements and transparency should be reevaluated, developing a simpler method, easily understandable by the experts

(4) The reference to the evaluation of the medium-term objective in terms of cyclically adjusted balances dates back to the revised Code of Conduct of July 2001. Later, in October 2002, the Eurogroup meeting referred that the correction of fiscal imbalances should be based on the underlying balance, considered as the balance adjusted for the effect of cyclical developments and temporary measures. In March 2003, the Ecofin council stated that such correction should be evaluated in cyclically adjusted terms and temporary measures would be considered case by case on their own merits.

(5) The methodology used by the European Commission for the calculation of the cyclically adjusted balances is based on a production function and the OECD semi-elasticities of the fiscal balance relatively to the output-gap.

Chart 2A

Real and potential GDP growth




Output gap

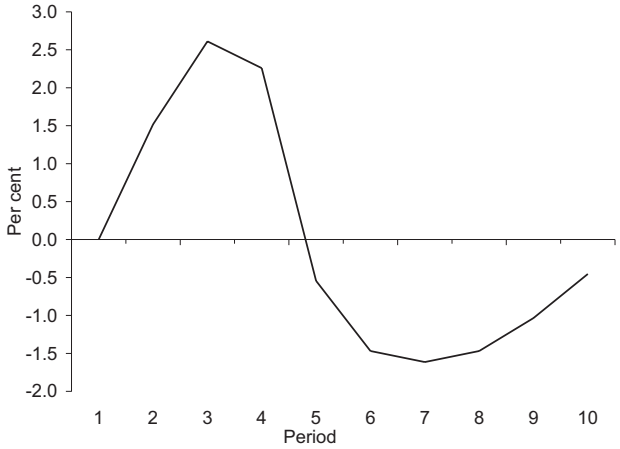
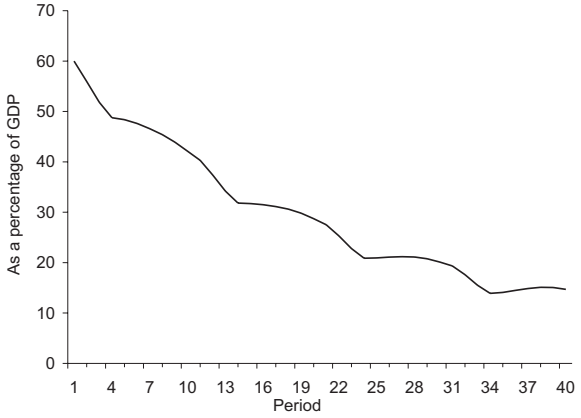
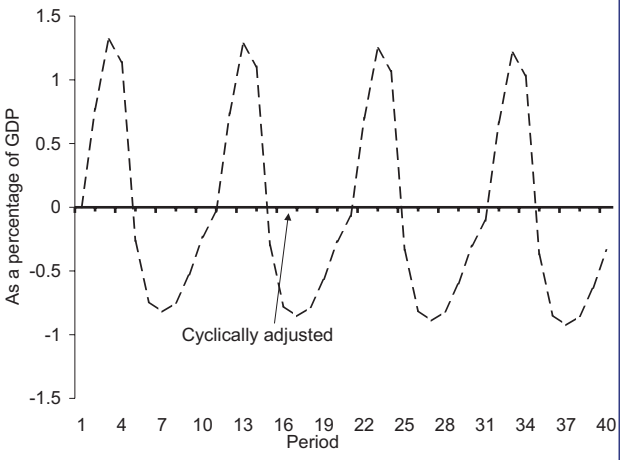



Chart 2 B

Public debt ratio




General government balance



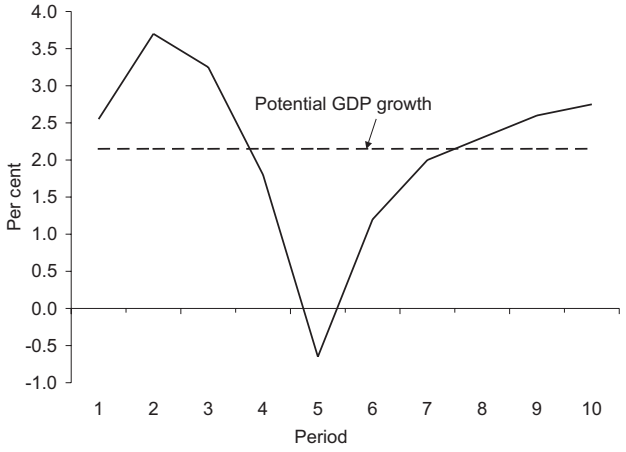

from domestic and international institutions and the public in general. For example, the potential real GDP growth rate could simply be the average real GDP growth rate observed during the last economic cycle (i.e. the moving average of the last ten years), to be coupled with a semi-elasticity on the fiscal balance to be provided by each country, under the technical scrutiny of the European Commission, and to be maintained fixed during a given number of years.

Secondly, the aforementioned medium-term objective of close to balance or in surplus seems too restrictive for countries with low public-debt ratios and low cyclically adjusted deficits. Taking as a rough and merely illustrative example the average EU business cycle (presented in charts 2A-5A and successively repeated to generate the underlying scenario for Charts 2B-5B)[6], the de-

(6) The simulated economic cycle takes an average real GDP growth and a standard deviation equal to the simple average of what was observed in the last two economic cycles in the euro area (1981-1992 and 1993-2002). The two parameters are respectively 2.2 per cent and 1.2, respectively. Inflation is set at 2 per cent. The objective of the simulations presented is merely illustrative. The consideration of averages does not allow for the evaluation of worst-case scenarios, where the average real output growth is low and its volatility is high in the economic cycle. In this simple framework, it is also important to note that in situations when there is a sharp change in the debt ratio, the decline in interest expenditure facilitates the reduction of the overall deficit, though not leading necessarily to fiscal consolidation, since this one is evaluated through the change in the primary balance or the underlying primary balance.

Chart 3 A

Real and potential GDP growth

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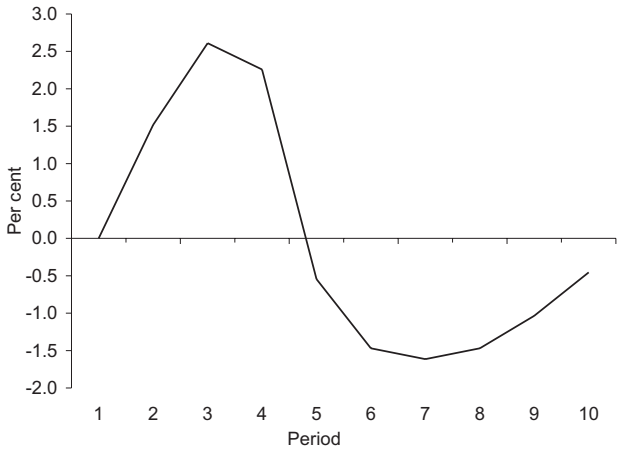
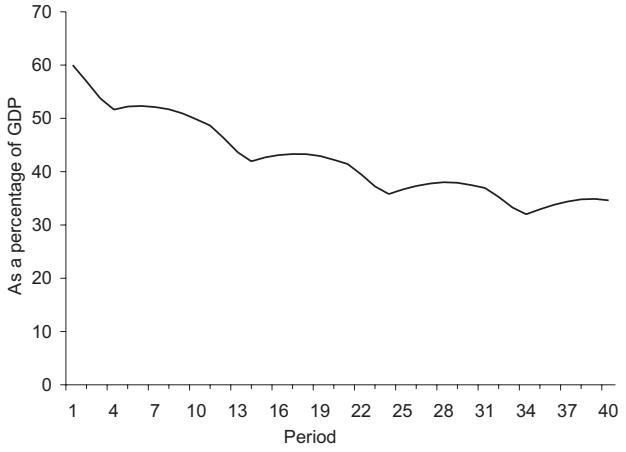
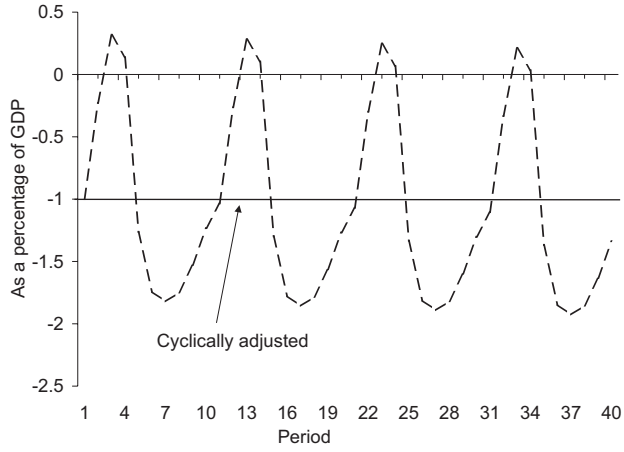



Chart 3 B

Public debt ratio




General government balance

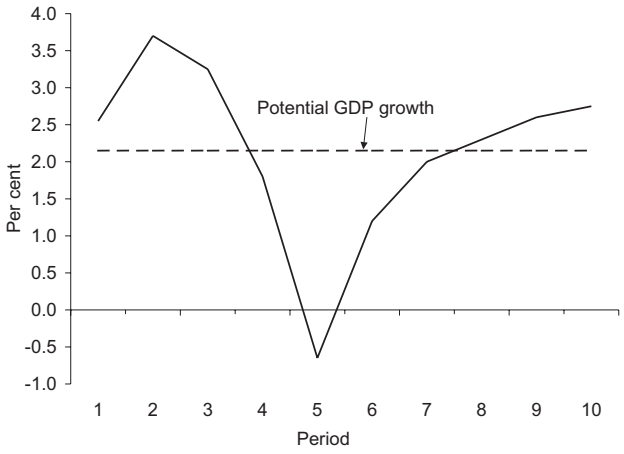



parture from a debt-ratio of 60 per cent, together with a constant zero cyclically adjusted balance, puts the debt ratio on a diminishing path, reaching about 15 per cent in forty years (Chart 2B). This is an undesirable outcome as public bonds, which are regarded as non-risk assets, play a vital role in the stability of international financial markets. Therefore, a more neutral long-term objective should be set. Given the parameters of our illustrative example, a cyclically adjusted deficit of 1 per cent would smoothly reduce the debt-ratio to close to 40 per cent in about 20 years (Chart 3B). A debt-ratio of 40 per cent is perceived as a prudent figure, giving room for an increase of debt if an adverse fiscal shock occurs.

Thirdly, the consideration of different medium-term objectives according to the member-states' debt ratio is warranted. It is clear that a country that records high initial debt levels and high cyclically adjusted deficits is on an unsustainable path. In such cases it would be useful to define a transition period along which improvements in the cyclically adjusted balances would be imposed on a yearly basis, until a sustainable fiscal situation is achieved. In Chart 4B we illustrate this situation considering the previous illustrative business cycle, with a cyclically adjusted deficit of 2 per cent, an initial debt ratio of 100 per cent and a 4-year adjustment period (a consolidation of 0.5 p.p. of GDP each year) until a balanced cyclically adjusted situation is achieved. In this case, the

Chart 4 A

Real and potential GDP growth

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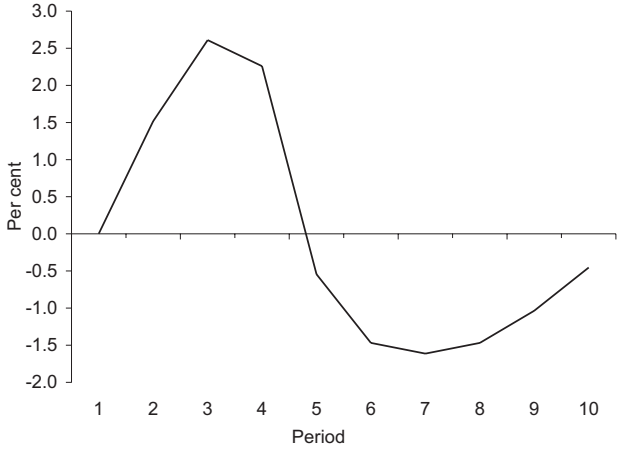
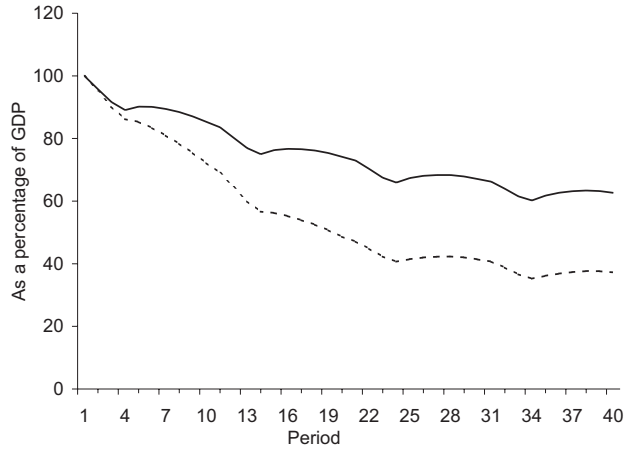
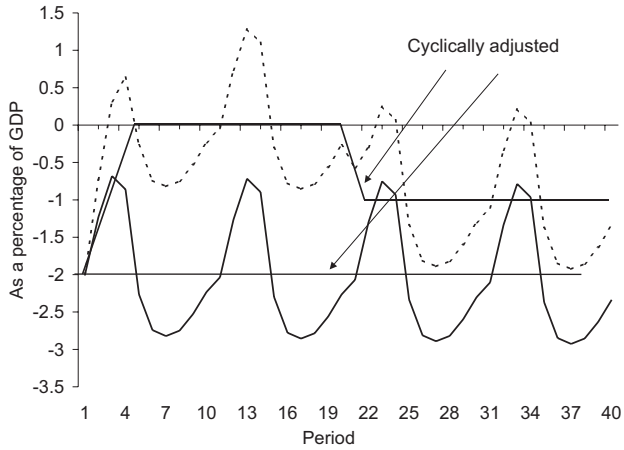



Chart 4 B

Public debt ratio




General government balance

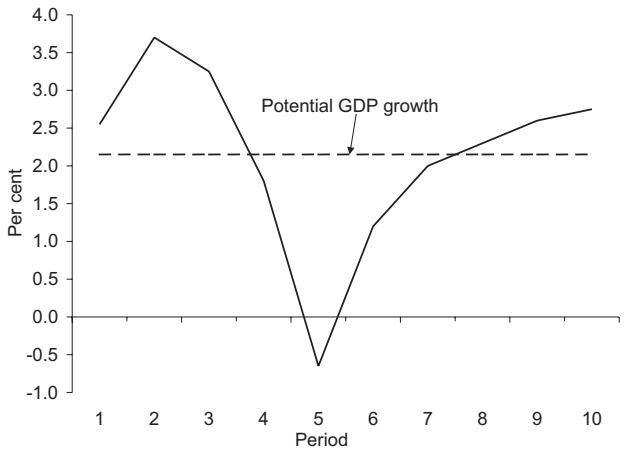



debt ratio would move to a prudent level of 40 per cent in about 20 years (dashed line). After that period, the stabilization of the debt ratio would be achieved through a lower cyclically adjusted balance. Alternatively, member-states with low initial debt levels (for example 40 per cent) but high cyclically adjusted deficits (for example 3 per cent of GDP), also tend to face rising public debt ratios (Chart 5B). In this case, it is necessary to stabilize the public debt ratio, which, in our example, would come through a 4-year adjustment period (consolidation of 0.5 p.p. of GDP each year) until a 1 per cent cyclically adjusted deficit is achieved.

Finally, it is important to underline that other factors determine the path of the general government balances and public debt ratio. Firstly, the existence of contingent liabilities, which are backed by legal obligations but may never lead to government expenditure, and implicit liabilities, which are not currently accounted but are likely to translate into higher expenditure in the future, may strongly affect the fiscal position. In particular, the widely discussed phenomenon of ageing determines important implicit liabilities to governments through higher future expenditure with pensions in pay-as-you-go systems. Therefore, any reform to the EU fiscal framework should address this problem. As previously mentioned, a possible solution is to impose a path for the cyclically adjusted balance that implies a reduction of the debt ratio to a prudent level, in order to provide a cushion for the higher expected public indebtedness

Chart 5 A

Real and potential GDP growth




Output gap

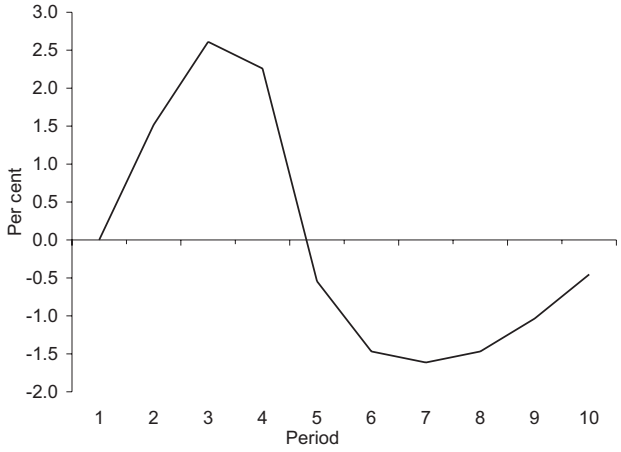
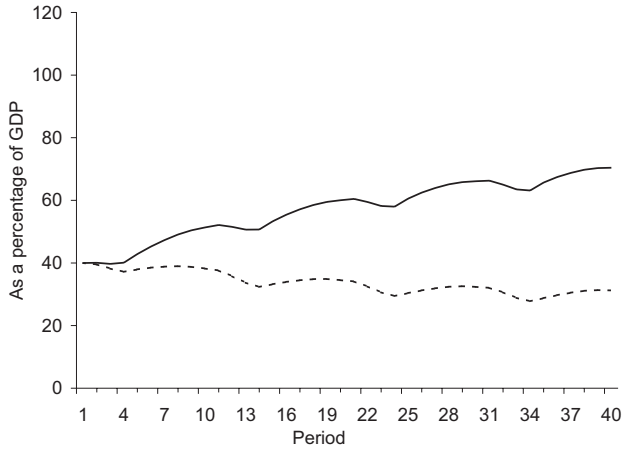
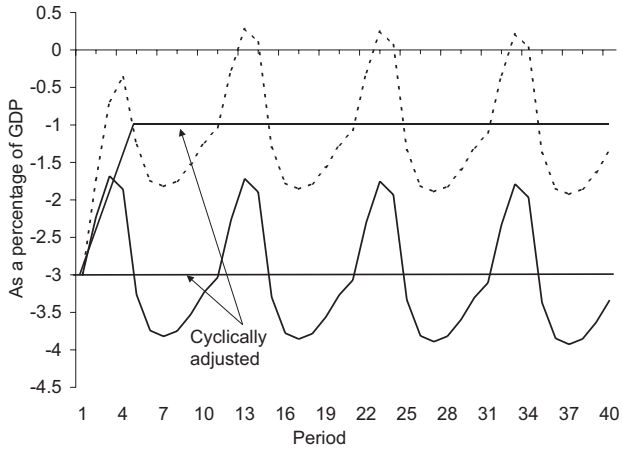



Chart 5 B

Public debt ratio




General government balance




during the period when the impact of ageing becomes more acute. The difficulty in assessing the projections for additional expenditure resulting from ageing, which are presently not fully comparable between member-states, recommends the consideration of a common safety margin. In this context, only grounded on solid evidence would it be possible to exempt a member-state from building such a safety margin.

The other element that severely distorts the evaluation of fiscal developments is the use of temporary measures that affect the general government deficit. The effect of these measures, which are being used in a growing number of countries and on a repeated basis(7), should not be considered in the computation of the general government balance relevant for the assessment of fiscal developments. It is worth mentioning that temporary measures comprise one-off measures, which have effects only on the deficit of the current year, and self-reversing measures, which benefit the deficit of the current year but also burden future deficits. This latter type of operation is particularly undesirable as it implies higher future implicit or explicit liabilities. A deterrent for the utilization of this type of operations on the part of member-states is to correct their effects through the calculation of the underlying balance.

(7) See details in the report "Public Finances in the EMU, 2004", European Commission.

In theory, the consideration of exceptional circumstances is partly inconsistent with the credibility of a rules-based system. Nevertheless, in practice, such provisions are required and they were included in the EU fiscal framework. In this field, three main guidelines should be taken into account. Firstly, the exceptional circumstances in terms of differences between actual and required budget balances should be based on relative deviations from the macroeconomic scenario considered in the budget(8). Secondly, for the case of countries with prudent debt levels and close to balance, a counter-cyclical fiscal stance, i.e. a lower primary cyclically-adjusted balance corrected for the effect of temporary measures, could be accepted, even if this means actual deficits higher than the 3 per cent of GDP threshold, if in the preceding good periods of the cycle the medium-term objective was overachieved, i.e. "rainy days surpluses". This would create incentives not to adopt an expansionary fiscal stance in the good phase of the cycle. Finally, for the group of countries experiencing fiscal imbalances, during the transitory adjustment period, consolidations exceeding 0.5 per cent of GDP per year during good times would give a margin for lower adjustments during low growth periods. This would give an incentive for bigger adjustment in good times.

Overall, a revision of the yearly and medium-term fiscal objectives based on the cyclically adjusted balance and corrected for the effect of temporary measures is advocated. The medium-term objective should lead member-states to a situation where the debt ratio is stabilized at a prudent value and the actual balances do not surpass the 3 per cent of GDP reference value in the lower part of the cycle. The adjustment for the effect of ageing on pension expenditures should be uniform between countries, justifying the creation of a safety margin for the debt ratio, with possible exemptions for countries that present solid evidence of no future pressures on pension expenditure. Furthermore, the computation of the cyclically adjusted balances should be clear and easily computable by other entities and economic agents. The differentiation of countries' fiscal adjustment should take into consideration the underlying balances and the public debt ratio, demanding a stronger temporary adjustment for those with higher imbalances and more indebted. The adjustment period should be clearly defined and realistic. Finally, it should be noted that the adoption of this set of rules, which objectively differentiate the fiscal situation of member-states, does not raise questions related to an unequal treatment. The crucial element is to ensure the transparency of the process and a common set of procedures.

Although it is important to evaluate the fiscal position of member-states according to their specific circumstances, the degree of discretionarity in the analysis must be reduced as much as possible. In this context, to take into consideration the future positive effects of announced structural reforms in the assessment of the fiscal position is problematic. The argument for the consideration of the future effects of structural reforms on the fiscal assessment and in the definition of the medium-term budgetary targets is based on the belief that such reforms imply short-term budgetary costs, either due to higher expenditure or lower receipts. Thus, if countries are constrained by tight fiscal rules, they will not be able to implement such reforms, forgoing their positive medium and long-term effects, in particular on real GDP growth. The argument runs for social security reforms, tax reductions, labour and product market reforms and additional investment expenditure. Thus, according to this interpretation, the consideration of the future effects of such reforms on the present fiscal assessment would free the SGP from undesirable constraints and would make it "growth-friendly".

The theoretical validity of these arguments depends on the type of structural reform considered. In any case the past experience is not reassuring. Firstly, there is no motive to consider reforms that do not imply substantial increases in expenditures, such as labour and product market reforms or changes in pension system eligibility criteria. In these cases, the existence of fiscal rules does not pose an obstacle to its implementation. Secondly, allowing for higher deficits due to lower taxation would only be acceptable if its future effects on GDP increased receipts by a similar amount. Nevertheless, the effects of tax reductions on GDP are

(8) In Sub-section 4.2 it is highlighted the need to consider realistic macroeconomic scenarios in the elaboration of national budgets, for instance by using the Commission's Spring forecasts as a baseline.

disputable and the Laffer-curve effects lack empirical validation. Thirdly, allowing for deficits due to additional public investment is basically equivalent to adopting a golden-rule. The argument is theoretically valid but there are serious practical problems that impair its implementation, in particular, the identification of the transactions that should be classified as investment and the evaluation of its quality and impact on future GDP growth. Finally, allowing for higher deficits due to the implementation of a pension reform based on a multi-pillar system seems acceptable. Such a reform is relatively easy to assess and there are clearly positive effects on the sustainability of public finances. This is the only case where it seems uncontroversial to consider the costs of a structural reform for the effect of both the choice of the medium term target and the analysis of a violation of the 3 per cent threshold.

It is also worth noting that the recent deterioration in the fiscal position of several member-states is not clearly attributable to the short-term costs of ongoing structural reforms or to higher public investment. Taking the cases of Germany, France and Italy (Table 1) it seems that there has been a reduction in taxation in the recent period that has not been offset by a similar decrease in primary current expenditure. As for the cases of Portugal and Greece, the increase in the tax revenue has been much lower than the increase in current primary expenditure. In addition, with the exception of Greece, public investment has not significantly increased in the recent period. Therefore, in the light of past experience, arguing for a more "growth-friendly" SGP means allowing for lower taxation as a percentage of GDP, whose impact on public finances is permanently negative and with an uncertain effect on GDP growth.

Table 1

**AVERAGE TAX REVENUE**
**% GDP**

| | 1996-2000 | 2001-2003 | Dif |
|---|---|---|---|
| Portugal | 35.2 | 36.1 | 0.9 |
| Germany | 42.7 | 41.3 | -1.4 |
| France | 45.9 | 45.1 | -0.9 |
| Italy | 42.9 | 41.8 | -1.1 |
| Greece | 37.1 | 38.5 | 1.5 |

**AVERAGE GOVERNMENT INVESTMENT**
**% GDP**

| | 1996-2000 | 2001-2003 | Dif |
|---|---|---|---|
| Portugal | 4.1 | 3.7 | -0.4 |
| Germany | 1.9 | 1.7 | -0.3 |
| France | 3.1 | 3.2 | 0.1 |
| Italy | 2.3 | 2.3 | 0.0 |
| Greece | 3.5 | 3.8 | 0.3 |

**AVERAGE CURRENT PRIMARY EXPENDITURE**
**% GDP**

| | 1996-2000 | 2001-2003 | Dif |
|---|---|---|---|
| Portugal | 34.8 | 38.4 | 3.6 |
| Germany | 41.7 | 41.7 | 0.0 |
| France | 45.1 | 45.0 | -0.1 |
| Italy | 37.7 | 38.7 | 0.9 |
| Greece | 32.8 | 35.2 | 2.4 |

Source: European Commission. For Portugal, data corrected for the effect of temporary measures in 2002 and 2003.

### 4.2 Timing of the budgetary process and institutional features

The organization of budgetary procedures, such as the negotiation process in the elaboration of the budget, the timings and the voting rules, are acknowledged as important determinants of fiscal performance (see for instance von Hagen, 1992). In the EU, the design of fiscal policy and of the national budgetary procedures is the responsibility of member-states. Nevertheless, given the ineffectiveness of the corrective arm of the budgetary surveillance framework, it is crucial to increase the ability of the Commission to put pressure on national governments in order to conduct appropriate fiscal policies, in particular, through the effect of its assessments on the decision-making process in the EFC and the Ecofin Council and on the scrutiny of public opinion and financial markets.

In this context, changing the timings of submission of some documents that currently determine fiscal policy decisions in EU member-states would bring significant benefits. The current framework is based on four elements. Firstly, in April the Commission makes public the Broad Economic Policy Guidelines, which has a multi-annual perspective, containing both general and country-specific recommendations, laying down the EU's medium-term economic policy strategy. Sec-

(9) The content and the timing of submission of the Stability and Convergence Programmes were revised in the new Code of Conduct, adopted in July 2001.

ondly, in the third quarter of the year, member-states elaborate national budgets, which are approved in general in the fourth quarter. Thirdly, in principle, before the 1st of December of each year, countries submit the stability and convergence programmes containing medium-term information on the path of the main public finance indicators, some analysis on the quality of public expenditure and long-run projections for pension expenditure(9). Finally, the programmes are assessed by the Commission and discussed by the EFC and the Ecofin Council. Therefore, the Commission's assessment on each country fiscal developments does not influence the elaboration of the national budgets. The submission of member-states' stability programmes and their subsequent assessment by the Commission, EFC and Ecofin Council should occur before the approval of national budgets in order to provide a relevant input to the national debate. In addition, in order to avoid the temptation to be overoptimistic on macroeconomic assumptions, as a way to facilitate the construction of a softer fiscal scenario, the change in the timing of submission of the stability and convergence programmes should be accompanied by the obligation to use the Spring Economic Forecasts of the Commission as the baseline macroeconomic scenario. Nevertheless, there would be some time lag between the submission of the stability programme and the elaboration of the national budget, which means that new relevant information might become available. In this context, in the elaboration of the budget, deviations from the baseline scenario would have to be explained by national authorities strictly on technical grounds.

The proposed procedure would bring some benefits but it does not necessarily guarantee the approval of an adequate budget at the national level. The member-states ultimately retain the ability to define their fiscal policy and as in the past they may easily argue that the positive effect of projected reforms is higher than forecasted by the Commission. Therefore, it would be useful to maintain the assessments of fiscal policies after the approval of the national budgets. These assessments could be elaborated by an independent expert committee and made public at the beginning of each year. The creation of this type of committee has been advocated by some authors (see for example Fatás, von Hagen, Hallett, Strauch and Sibert, 2003) as providing a more flexile analysis, independent from short-term political pressures and focused on fiscal sustainability. In the present EU institutional framework, it is difficult to conceive that such a body would hold the power to ensure fiscal sustainability at the national level, not to mention the ability to determine any type of sanctions. Nonetheless, a small fiscal expert committee could assess national budgets, acting, in the perspective of public opinion and financial markets, as an independent third party, which reinforces the pressure on governments to adopt sustainable fiscal policies. Such a body should also adopt a pedagogical approach, informing public opinions on the importance to ensure fiscal sustainability as a way to foster growth and social cohesion.

### 4.3 Improving the statistical system

As mentioned above, the experience of the EU rules-system has been somewhat poor in terms of the quality, timeliness and reliability of public finance statistics, and this impairs the credibility of the fiscal framework.

The areas where most statistical problems have been identified are the consistency of cash and accrual accounting, the recording of transactions with financial assets and the delimitation of what constitutes the general government. According to ESA-95, the general government accounts should be compiled on an accrual basis, that is, expenditure and revenue should be recorded at the time of the underlying transaction, irrespective of the timing of effective cash payments and receipts(10). The main argument against the use of cash based accounting for budgetary surveillance purposes is related with its volatility, as payments and receipts associated with expenditure and revenue are in many cases subject to an erratic temporal pattern. Nevertheless, accrual accounting tends to be more complex to implement in a transparent way and it is much more difficult to audit. Therefore, it seems

(10) However, according to Regulation nº251/2000, tax and social contribution receipts may also be recorded on a cash adjusted basis. Further, whenever the public accounts do not allow a proper compilation of accrual data, other items of revenue and expenditure in National Accounts, may in practice coincide with cash data.

to be generally agreed that the two approaches should be adopted in parallel, imposing on the member-states the obligation to provide detailed information at least on the transition from the cash to the ESA-95 general government balance.

The definition of the general government deficit adopted for the purpose of the fiscal surveillance framework is the balance of government revenue and expenditure excluding financial transactions. The reason for excluding from the deficit the operations related with financial assets lies in the fact that such transactions do not affect the net assets of the general government. Indeed, expenditures associated with the acquisition of financial assets are expected to generate positive returns and there is also the possibility of being reversed in the future. In this sense, for example, privatisation returns are not booked as revenues and do not have an impact on the deficit. Nevertheless, problems may arise when we consider loans and non-quoted shares in public enterprises, in particular when there is some evidence that such financial operations will never give rise to reimbursements and just aim at financing chronic losses. In this case, such capital injections should be entered above the line (i.e. as capital transfers). Thus, full information on government's yearly financial transactions with public enterprises should be made public in order to facilitate the assessment of the true fiscal position.

Government relations with public corporations are also at the centre of the debate on the definition of the boundary between government and non-government sectors. According to ESA-95, an institution is considered inside government if it is not able to finance more than 50 per cent of its costs with revenue from sales of goods and services. However, this criterion does not ensure by itself its economic viability and in many cases public enterprises accumulate losses and run into debt, frequently backed by implicit or explicit State guarantees. Therefore, for the effect of fiscal surveillance, all operations where government has direct responsibility should be considered.

The statistical issues previously mentioned are among the main reasons for the occurrence of significant deficit-debt adjustments. In general, deficit-debt adjustments are associated with three distinct situations. Firstly, the deficit is compiled on an accrual basis while public debt as taken into account in the excessive deficit procedure is a cash concept. Secondly, the government balance is a net concept, which means that financial operations cancel out, while the public debt relevant for the EU fiscal supervision is a gross concept. Thirdly, there are valuation effects associated with the calculation of public debt. Therefore, if member-states were required to provide more detailed information on the deficit-debt adjustments, this would allow the clarification of critical statistical issues, leading to increased transparency and credibility in the fiscal framework.

Overall, given the institutional constraints, the reduction of statistical problems requires the inclusion of more information in the excessive deficit procedure notifications. Specifically, member-states should provide more detailed information on the transition from cash to accrual accounting, on the financial relations with public corporations and on deficit-debt adjustments.

The issues related with the responsibilities attributable to the different national institutions that intervene in the compilation of fiscal data to be reported in the excessive deficit procedure notifications should also deserve some attention. These institutions are the national statistical authorities and the Ministries of Finance. In many member-states the compilation of fiscal data for the most recent years is the responsibility of the Ministry of Finance, which sometimes also formally reports the data. However, in order to increase transparency and to reduce data revisions, the authority responsible for the implementation of fiscal policy should be different from the authority responsible for the compilation and notification of fiscal data. Therefore, the national statistical authorities should actually be responsible for the compilation and reporting of all past fiscal data, leaving, at most, the current year's figures to be compiled by the Ministries of Finance.

## 5. CONCLUSION

Fiscal policy decisions are the responsibility of EU member-states. Nevertheless, the externalities of fiscal policy between the different member-states and their effects on monetary policy and long-term economic growth require active coordination and the avoidance of fiscal crises. Therefore, the EU needs to maintain a credible and ef-

fective fiscal framework. The experience of the fiscal framework established with the third stage of the EMU has been disappointing. Recent developments point to a deterioration of the fiscal position of several member-states, accompanied by the proliferation of temporary measures and the occurrence of sizeable statistical revisions. In addition, the Council's non-approval on 25 November 2003 of the Commission's recommendation, under article 104(9) of the Treaty, regarding the fiscal situation in Germany and France, severely reduced the credibility of the fiscal surveillance framework. Nevertheless, fiscal developments and their compliance with the reference values for the general government deficit and for debt-ratio have become a matter of public domain, reducing the discretionary power of governments. The origin of some of the current difficulties could be traced back to the budgetary surveillance framework set down in the Treaty and in the SGP. In fact, the non-automatism of sanctions lead to unsolved intertemporal inconsistency problems. At present, the practical impossibility of finding consensus that would allow a revision of the Treaty and the SGP, impede substantial changes to the fiscal surveillance framework and make it impossible to implement first-best reforms. Conversely, it is undesirable to base a reform on a set of proposals acceptable to all countries, which would mean a loosening of the fiscal framework, in particular through the removal of specific expenditure items from the relevant definition of deficit or by considering that structural reforms justify higher deficits in the short term.

In the context of the current debate and taking into consideration the existing institutional constraints, it is necessary to reinforce the Commission's ability to contribute to effective peer pressure, through clear and sound assessments of fiscal developments in member-states. Such assessments should also increase the scrutiny of public opinion and financial markets, giving to governments further incentives to maintain public finances on a sustainable path. A stronger role for the Commission requires a clearer definition of what is considered the medium-term fiscal objective for each member-state, which should depend on its specific circumstances, such as the sensitivity of the fiscal balance to the output gap, the growth rate of potential output, the public debt ratio, the amount of contingent or implicit liabilities related to government guarantees or the future payment of pensions. In addition, the budgetary process should change its timings in order to allow the assessments made public at the EU level to precede the approval of the national budgets. Finally, the quality, timeliness and reliability of public finance data should be improved through the disclosure of more detailed information on the consistency of cash and accrual deficits, the deficit-debt adjustments, the relations with public corporations and the contingent and implicit liabilities of general government. In addition, it is necessary to separate the responsibility for the implementation of fiscal policy from the responsibility to compile and report public finance statistics. Moreover, an enhanced role for the national statistical authorities and the Eurostat would be desirable, via an increase of their technical ability and independence, accompanied by greater accountability. These reforms could have a strong positive effect on member-states' fiscal medium-term positions and do not require significant changes to the Treaty or the SGP.

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# OIL PRICES AND THE ECONOMY*

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## 1. INTRODUCTION

The importance of oil prices to explain economic fluctuations emerged when the remarkable price stability that characterized the Golden Age period was interrupted in the early 70s. The recent conflicts on Iraq and the strong increase of oil prices in 2004 contributed to perk up the debate concerning the importance of oil prices to industrialized economies, as scenarios of a new oil shock have been frequently put forward.

This paper resumes the main channels through which oil prices affect the economy. Recent empirical findings are confronted with simple indicators and some models simulations, as a way to derive useful rules of thumb for the effects of oil prices both in real activity and inflation. Concerning the direct and short-run effects on inflation an elasticity of around 0.01 seems to hold over the last 30 years across the countries considered (G7 and Portugal). Concerning GDP, elasticities of around -0.02 for the main developed countries (underlying a higher value for the euro area countries) and -0.04 for Portugal emerge as possible rules of thumb when oil prices are at a level around 25 USD.

The paper is organized as follows. Section 2 presents the evolution of oil prices against inflation and GDP growth in the OECD area since the early 70s. A simple graphic analysis shows that periods with more pronounced increases in oil prices were connected with higher inflations and lower GDP growth rates.

Section 3 presents the main channels underlying the transmission of oil prices to the economy. Despite the great unanimity concerning the signal of the effects on inflation and GDP, the transmission channels underlying those effects are complex and evolve over time. Nevertheless, an oil price shock would inevitably produce lower effects today than in the past given the reduction of the oil expenditure share on GDP— reflecting the decline of the relative price of oil as well as the reduction in the consumption of oil per unit of output — and the lessons drawn for monetary authorities from the past oil price shocks. Reflecting a more intensive use of oil and a strong sensitiveness to the external environment, that characterizes a small and open economy, the effects on the Portuguese economy are more pronounced than in the main developed countries.

Section 4 presents estimates for the overall impact of an oil price increase on GDP and prices, both for the main developed countries and Portugal. Despite the considerable uncertainty surrounding those estimates, they may constitute useful rules of thumb.

Finally, section 6 resumes the main conclusions.

## 2. OIL PRICES AND THE ECONOMY SINCE THE EARLY 70S

The remarkable stability of oil prices during the Golden Age period was interrupted in the 70s. Reflecting the premeditated action of OPEC (Organization of Petroleum Exporting Countries), by con-

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straining the quantity supplied to the market, oil prices reached 11.5 USD per barrel in 1974, more than tripling from the previous year and almost 5 times above the 1972 figure. Some years later, in 1980-81, oil prices increased again sharply, reaching values around 30 USD per barrel, doubling from the levels achieved in the previous year.

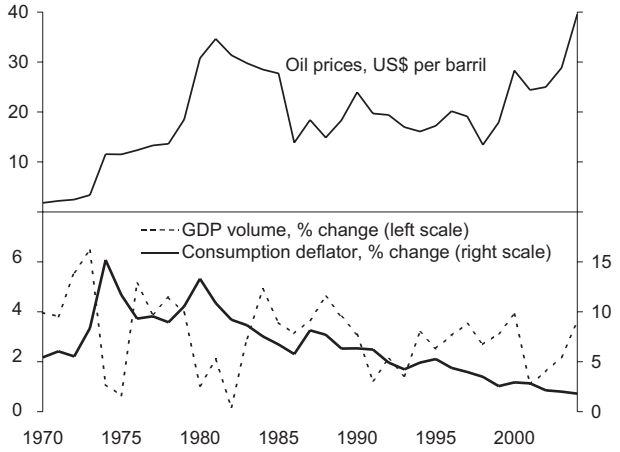
During these two oil shocks, the inflation rate in OECD countries reached maximum figures of about 15 per cent in 1974 and 13 per cent in 1980, while the GDP decelerated intensely to rates of growth close to zero in 1975 and 1982, after average values around 4-5 per cent observed in the years before the two oil shocks (see Chart 1)[1].

In the first half of the 80s, the OPEC became unable to enforce the production quotas set for its members and new producers entered the market. Given the increasing oil supply and the serious disagreements within OPEC, prices started to decline, collapsing in 1986 and starting to fluctuate within a narrower band. During this period, inflation in OECD countries recorded a noticeable downward trend from two digit figures to figures close to 2 per cent, while the GDP growth became more stable — the standard deviation of the GDP growth rate decreased to almost half of the figure registered in the period 1970-1985.

Over the last years, however, oil price volatility remained a central feature of the world economy. Oil prices decreased to around 10 USD per barrel in late 1998 and early 1999. After seriously misjudging the oil market in that period, OPEC has successfully pushed prices upward, and prices increased vigorously, reaching figures close to 30 USD per barrel in 2000[2]. Most recently, oil prices registered a pronounced increase, namely reflecting the developments related with the war in Iraq, reaching a new historical maximum above the 50 USD during the second half of 2004.

Despite the less pronounced fluctuations than in the past, oil prices continue to influence decisively inflation, being also frequently pointed out as a key factor explaining the real fluctuations of the OECD economies. For instance, Muelbauer and Nunziata (2001) successfully predicted the US

Chart 1
**OIL PRICES AND ECONOMIC FLUCTUATIONS IN OECD COUNTRIES**




Sources: OECD and Thomson Financial Datastream.

economy recession in 2001 using a multivariate analysis in which oil prices play a prominent role. Thus, the recent increase of the oil price to levels above 40 USD bring back the fears of a new slowdown in the world economy.

## 3. PASS-THROUGH CHANNELS FROM OIL PRICE CHANGES

The most usual channels to explain the effects of oil prices on the economy are the strong link between oil prices and the terms of trade (see Backus and Crucini (2000)) and the role of oil as an intermediate production factor (see Bruno and Sachs (1985)). Both channels explain why an oil price increase tend to raise inflation and to decrease GDP.

The relation between oil prices and inflation is easily achieved, namely considering the strong link between energy consumer prices and oil prices, while a negative correlation of oil prices with GDP was reported, among others, by Hamilton (1983), Mork *et al.* (1994), Rotemberg and Woodford (1996), Raymond and Rich (1997), Bernanke *et al.* (1997), Hamilton (2003), Jiménez-Rodriguez and Sanchez (2004) and Jones *et al.* (2004). Moreover, the same negative correlation seems to emerge when microeconomic data is used (see, for instance, Keane and Prasad (1996), Davis and Haltiwanger(2001), Lee and Ni (2002)).

(1) The brent crude prices are the ones considered (retropolated for the period before 1983 using the prices of the Arabian light crude).

(2) For the role of OPEC in this period see Kohl (2000).

However, some controversy remains in respect to the transmission channels underlying those effects. Firstly, these effects tend to evolve over time, reflecting the declining vulnerability of the industrialized economies to oil prices (see Hooker (1996)). Secondly, those effects could be complex and difficult to estimate, as they depend on the reaction of policy authorities and on the expectations concerning the persistence of the shock. More recently, Hamilton (2003) supported this last point, confirming that oil prices increases are much more important than oil prices decreases, and that increases after a period of stable prices tend to produce larger effects than the ones that correct previous declines on prices, explaining a non-linear relationship between oil prices and economy.

As the aim of this section is to present in a very simple manner the channels surrounding the effects of oil prices fluctuations on economy (see also Stuber (2001)), those channels are presented separately in terms of inflation and GDP.

### 3.1. Effects on inflation[3]

The channels through which oil prices affect consumer prices could be distinguished between first round effects — further decomposed in direct and indirect effects — and second round effects (see also Bank of England (2000)).

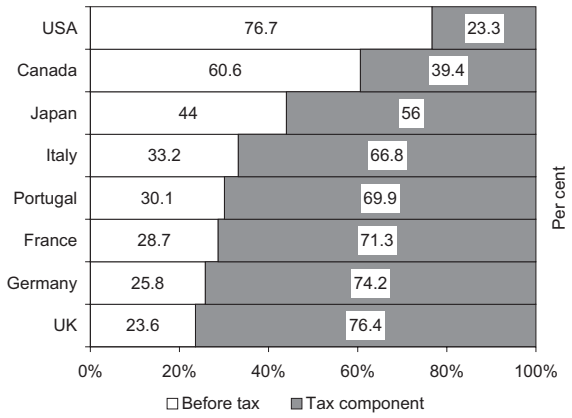
#### 3.1.1. First round effects

First round effects reflect the fact that fuel — as well as goods and services with a direct content of oil (transports, for instance) — is included in the consumer price index. First round effects on prices can be direct and indirect, as it is useful to distinguish the impact on the energy components of the index, the so called direct effects, and the impact on the components of the index that have a high content of energy, the so called indirect effects.

#### Direct effects

Considering the direct effects, the larger the share of energy — fuels, electricity and gas — in consumption expenditure the larger the direct impact on the CPI of a given energy price change.

Chart 2
**UNLEADED GASOLINE PRICES AND TAXES**
(2004 Q2)




Source: OECD.

The importance and the structure of tax rates also affects the size of these first round direct effects If the tax rate has an *ad valorem* structure (i.e. the tax corresponds to a fixed proportion of the final price) an increase in the cost of energy will be totally transmitted to the consumer. However, if the tax corresponds to a specific tax (i.e. *x* cents by unit of energy) an increase in the cost of energy will be only partially transmitted to the consumer, at least before any adjustment of the tax. Usually, tax systems are more complex than these very simple illustrations, reflecting the existence of both *ad valorem* and specific components. Chart 2 shows the sizeable discrepancies of the tax component in unleaded gasoline prices across several countries,which are reflected on the final consumer prices given that prices before taxes should be very similar across the different economies[4]. The tax component is considerable higher in the European countries, including Portugal, than in the non-European G7 countries.

Table 1 shows for the G7 countries the very strong correlation between annual rates of change of oil prices in national currency and the consumer

(3) This sub-section follows very closely Esteves and Neves (2004).

(4) The overall picture would be the same considering the diesel prices. More detailed information is easily obtained in the OECD International Energy Agency (IEA) quarterly publication (Energy prices & Taxes).

Table 1

**OIL PRICES AND CONSUMER ENERGY PRICES**

(Annual rates of growth, 1971-2003)

| | | Consumer energy prices | |
|---|---|---|---|
| | | Correlations coefficients | Elasticity |
| Oil prices in national currency | USA | 0.741 | 0.143 |
| | Japan | 0.763 | 0.128 |
| | Germany | 0.662 | 0.097 |
| | France | 0.811 | 0.139 |
| | Italy | 0.797 | 0.156 |
| | UK | 0.568 | 0.101 |
| | Canada | 0.416 | 0.066 |
| | G7 (weighted average) | 0.721 | 0.130 |
| | G7 (weighted average)[a] | 0.698 | 0.139 |
| | Portugal | 0.322 | 0.095 |
| | Portugal[a] | 0.174 | 0.061 |
| | Portugal[b] | 0.248 | 0.121 |

Sources: OECD, Thomson Financial Datastream and Banco de Portugal.

Notes:

(a) Considering data from 1986 to 2003.

(b) Considering data from 1986 to 1998.

energy components of the national CPIs. A simple linear estimation between these two variables points to an elasticity around 0.1, i.e. that the energy component of the CPI tends to react by 1 to 10 to the change in oil prices.

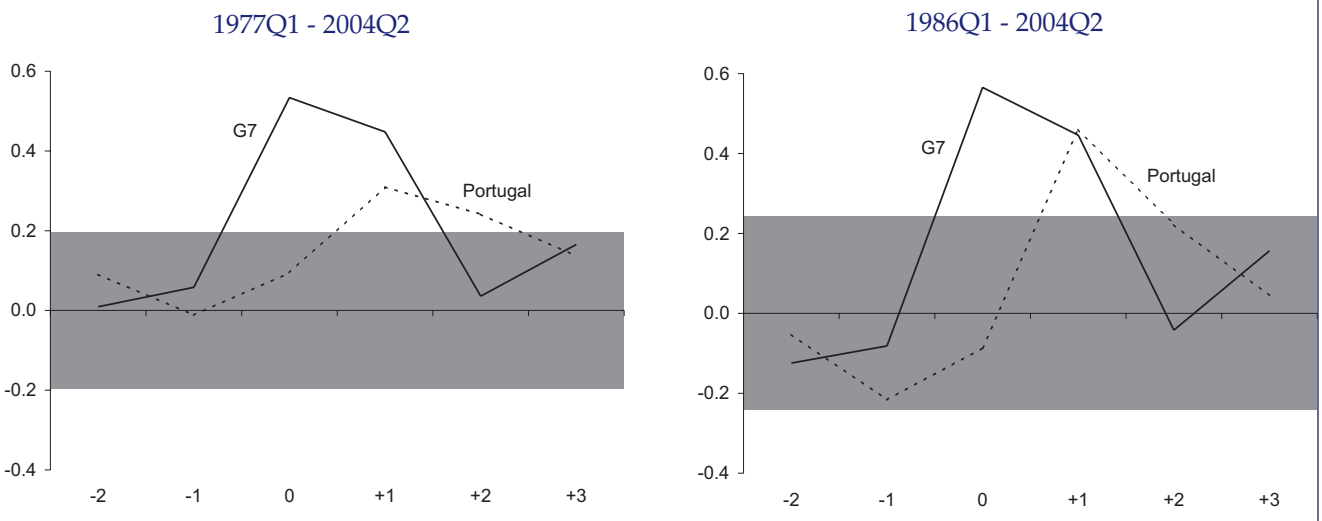
An important result is the stability of this rule of thumb. In fact, the same rule holds when data from 1986 to 2003 is used and thus there is no evidence that a smaller vulnerability of inflation to oil prices could be attributed to a decline of the magnitude of the so called first round direct effects. Moreover, the results do not suggest very significant differences across countries, namely connected with the above mentioned differences on taxes on energy products.

Finally, the results for Portugal have a lower statistical significance (suggesting other important factors explaining energy prices) but the estimates are not very different from the G7 average. The exception occurs in the period 1986-2002, where energy prices registered a lower sensitivity to oil prices changes. This result is likely to have been determined by the policy followed in the later 90s (abandoned in 2002) that isolated the consumer fuel prices from the fluctuations of oil prices in international markets, by allowing the change of taxation on fuel products. In fact, when the latest years of sample are excluded, the estimated elasticity between oil and consumer energy prices became closer to the ones obtained for the G7 average.

Combining this sensitivity to the present weight of energy in final household's consumption — which tends to be close to 10 per cent — one concludes that inflation reacts by approximately 1 to 100 to the change in oil prices. That is, if the price of oil increases by 100 per cent, the direct effect on inflation is roughly one percentage point. This rule of thumb gives a rough approximation of the magnitude of the direct first round effects of an oil price change in inflation. And this rule seems to have been broadly stable reflecting the stability of oil component expenditure share on total consumption. Despite the decline of the relative price of oil and of the oil consumption per unit of output, the stability of this share could be explained by an increase of the tax component on energy consumer prices[5].

An important feature is the high speed of transmission to prices underlying these direct effects. This point is illustrated in Chart 3 that presents the quarterly correlation coefficients between oil

Chart 3
**OIL PRICES (QUARTER t) AND ENERGY PRICES (QUARTER t+i)**
(Correlation coefficients)




Sources: OECD and Banco de Portugal.

prices changes in national currency changes and the lagged and led changes of the consumer energy prices (the shadow area corresponds to the correlation coefficients not statistically different from zero at a 95 percent confidence level).

As expected the correlation structure points to a causality from oil prices to energy prices — the correlations using lagged energy prices are not statistically different from zero.

Considering data for the G7 countries, the evolution of oil prices just tends to affect the chain rate of the energy consumer prices in the current and one step ahead quarters — this means that these direct effects tend to occur during three months after the oil price change, and there is no evidence of a different transmission profile since the second half of the 80s, reinforcing the stability of the above mentioned rule of thumb. The results for Portugal suggest that the transmission was slightly slower — however, the data for the latest years point to some evidence of an increasing speed of transmission.

### Indirect effects

As mentioned above, changes in oil prices will also produce first round indirect effects as prices of goods and services with some content of energy will react to an increase in the cost of energy. The most obvious cases are transports (air and surface) — components highly energy-intensive — but a large proportion of the price index is also likely to be affected.

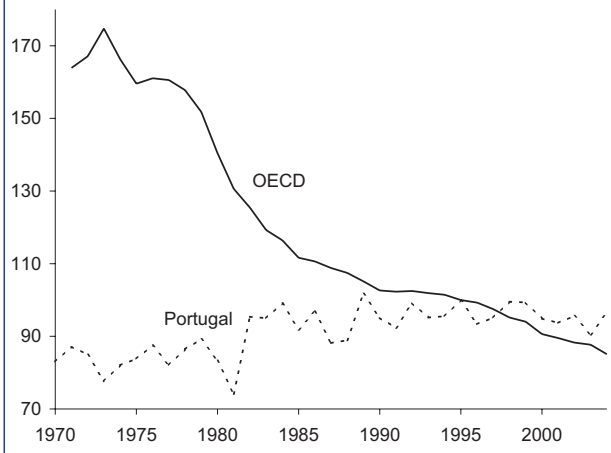
Contrarily to the above mentioned direct effects it is not straightforward to derive any quantification of these indirect effects. However, as the magnitude of these effects on price depends on the importance of energy as an input, there are two reasons why they should be smaller in current days than in the 70s[(6)].

Firstly, there was a strong decline in the use of oil per unit of GDP in the OECD countries (Chart 4). It is common to accept that this decline in oil intensity reflected the adjustment of the world economy to a new era of higher and more unpredictable oil prices, through the use of alternative sources of energy and more energy-efficient tech-

(5) Despite the same effects on energy prices, it should be stressed out that the results for the economy are of course different, because part of the energy price increase is transferred to a domestic sector, e.g. the public sector, instead to the oil exporter country.

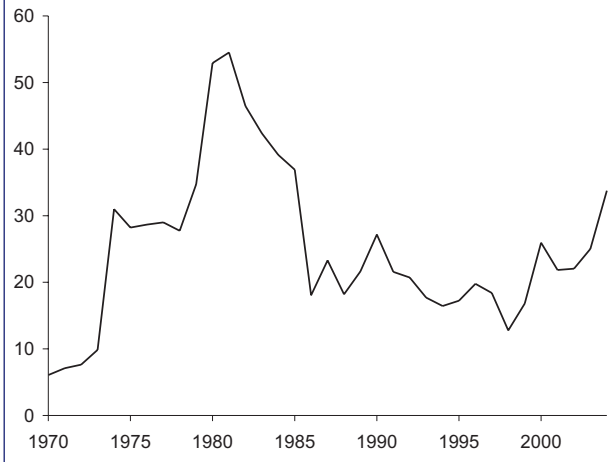
(6) Of course, as in consumer energy prices, those effects could have been balanced by the increase of energy taxes. However, it should be stressed that the increase of taxes on the energy used at the production sector should have been lower than the ones observed at the consumer level.

Chart 4
**OIL CONSUMPTION PER UNIT OF OUTPUT**
(1995=100)




Sources: OECD and Banco de Portugal.

Chart 5
**OIL PRICES IN REAL TERMS**
(Using the US GDP deflator (1995=1))




Sources: OECD and Thomson Financial Datastream.

nologies. It should be mentioned that this trend was not observed in Portugal, reflecting probably a different stage of its developing process during the period, characterized namely by a decline of the weight of the agricultural sector.

Secondly, there was a decline of the oil prices in real terms (Chart 5), diminishing its role as a production input. Considering the US GDP deflator[7], the relative price of oil stood throughout the 90s at levels that correspond to less than half the maximum levels observed in the early 80s.

Finally, the increase of competition, in particular in those markets more exposed to oil prices, may have reduced the ability to transpose to final prices the increase of energy costs.

### 3.1.2. Second round effects

In addition, price developments are also affected by the so called second round effects, that are related with macroeconomic reaction to a change of oil price. Besides the above mentioned first round indirect effects, these second round effects constitute an additional factor why changes in consumer energy prices tend to produce contemporaneous but also lagged effects on the remaining components of CPI. This point is illustrated in Table 2 that presents the correlation coefficients between the annual change of oil prices in national currency and the lagged and led changes of consumer prices excluding food and energy (usually referred as underlying inflation).

As expected, the correlation coefficients are not so significant as in the case of the energy prices (Table 1), as other factors than oil prices are more important to explain non-energy prices. Nevertheless, the results suggests that energy prices tend to explain changes on the other prices — the highest coefficients are to the one year ahead underlying inflation[8].

Typically, the second round effects are associated with a circular wage-price causality. If employees do manage to increase their nominal wages in line with the rise in consumer prices — rather than accepting lower real wages — additional inflation pressures emerge, through a wage-price spiral. Therefore, the magnitude of those second round effects clearly depend on the labour market flexibility and on the credibility of monetary policy, which is key to the formation of inflation expectations The experience of the two oil price shocks is able to describe the important role of monetary policy.

In the oil price shock of 1973-1974 there is a strong evidence that substantial second round effects on inflation took place in many industrial

(7) Real price of oil estimated for the US economy in order to allow a direct comparison between the GDP deflator and the international oil price denominated in USD.

(8) This is reason why inflation measures that exclude the evolution of energy prices do not constitute a reliable measure of core inflation (see Marques *et al.* (2002)).

Table 2

**ENERGY PRICES VS UNDERLYING INFLATION**

(Annual rates of growth, 1977-2003)

| | | Correlation coefficients | | | | |
|---|---|---|---|---|---|---|
| | | Overall consumer prices excluding food and energy | | | | |
| | | t-1 | t | t+1 | t+2 | t+3 |
| Oil prices in national currency (t) | USA | 0.143 | 0.336 | 0.403 | 0.209 | -0.021 |
| | Japan | -0.070 | 0.063 | 0.163 | 0.116 | -0.064 |
| | Germany | -0.048 | 0.170 | 0.236 | 0.176 | -0.059 |
| | France | 0.203 | 0.257 | 0.261 | 0.277 | 0.234 |
| | Italy | 0.196 | 0.334 | 0.336 | 0.264 | 0.182 |
| | UK | 0.129 | 0.317 | 0.231 | -0.001 | -0.117 |
| | Canada | 0.126 | 0.150 | 0.370 | 0.390 | 0.151 |
| | G7 (weighted average) | 0.092 | 0.254 | 0.313 | 0.191 | 0.003 |
| | Portugal | 0.165 | 0.322 | 0.380 | 0.363 | 0.375 |

Source: OECD.

economies. This outcome reflects the combined effects of latent inflationary pressures, already present in the beginning of the 70s, the large magnitude of the oil price shock, the relatively low flexibility of labour markets and, last but not the least, the accommodative stance of monetary policies in the more advanced economies. It is commonly accepted by economists that a tighter monetary policy was required, as suggested by the fact that *ex post* real interest rates became negative in 1974 and remained so until 1978, in a large number of countries. The lack of anti-inflationary credibility contributed to unsustainable levels of real wages and thus to marked increases in the unemployment rate.

The experience with the second oil price shock was different. In spite of the fact that inflation remained high in the period 1981-82 — at two digit figures — it fell significantly in the subsequent years. A decisive factor for that evolution was the decline in real wages, in clear contrast with what had happened in the first oil price shock. In addition, the response of monetary policy — characterized by increases in the nominal interest rates — assured that *ex post* real interest rates were positive. Monetary policy was relatively successful in the second oil price shock, as measured by the moderate evolution of inflation expectations and the subsequent reduction of inflation(9).

These lessons drawn for monetary policy authorities from the previous shocks and a more flexible labour market — through more decentralized wage settlements and the increasing competition from countries with much lower wages, following the world economy globalization — should allow for lower second round effects on inflation than the ones observed in the past.

### 3.2. Terms of trade effects

Oil price increases represent a negative terms of trade shock for oil net importers countries. Assuming that oil demand is inelastic to its price, the effect of an oil price shock is totally transmitted to GDP by the increase of the domestic resources that are necessary to reallocate in order to assure the same imported oil volume. Thus a very simple indicator to account for this income effect is given by the weight of import oil to GDP(10).

Using this indicator, the results presented in Table 3 show a generalized decrease of the GDP sensitiveness to oil prices during the last 30 years, reflecting the use of less energy-intensive technolo-

(9) On this issue, European Central Bank (2000) provides a very useful discussion for the euro area.

(10) The use of this rule could also be justified by the use of a production function where besides labour and capital oil is considered as an intermediate factor (see Esteves (2004)).

Table 3

**TERMS OF TRADE ELASTICITIES**

| | Energy net exports (% of GDP) | | | Considering spillover effects | | |
|---|---|---|---|---|---|---|
| | 1977-2002 | 1986-2002 | 2001-2002 | 1977-2002 | 1986-2002 | 2001-2002 |
| USA | -0.012 | -0.008 | -0.010 | -0.016 | -0.010 | -0.012 |
| Japan | -0.022 | -0.012 | -0.014 | -0.027 | -0.014 | -0.017 |
| Germany | -0.019 | -0.011 | -0.013 | -0.038 | -0.022 | -0.026 |
| France | -0.017 | -0.009 | -0.011 | -0.038 | -0.020 | -0.024 |
| Italy | -0.031 | -0.016 | -0.019 | -0.052 | -0.028 | -0.033 |
| UK | -0.004 | -0.001 | 0.001 | -0.020 | -0.010 | -0.010 |
| Weighted average | -0.016 | -0.009 | -0.011 | -0.025 | -0.014 | -0.017 |
| Portugal | -0.037 | -0.024 | -0.029 | -0.060 | -0.036 | -0.043 |

Sources: Using data from OECD, Banco de Portugal and Hooper *et al.* (2000).

gies and the reduction of the relative price of oil. Table 3 also highlights the higher sensitiveness of the Portuguese GDP to oil prices fluctuations. The share of net oil imports to GDP in Portugal is almost 0.04 considering the whole period, declining to around 0.025 in the 1986-2002 period and increasing to almost 0.03 in the period 2001-2002. The weighted average of the six countries considered(11) moved from -0.02 in all period to a value close to -0.01 at the end of the sample.

However, these initial effects are enlarged by the spillover effects related with external trade links across economies. Using the trade-income elasticities presented in Hooper *et al.* (2000) to compute these spillover effects, estimates for the overall effect on GDP are presented in the right side of Table 3(12).

Considering the average figures for 2001-2002, this analyses point to an average GDP-oil price elasticity close to -0.02, but with important differences across countries — from values between -0.01 and -0.015 for UK, US and Japan to values between -0.02 and -0.03 for most euro area countries. The highest elasticity is achieved to Portugal (around -0.04), given the more intensive use of oil but also by higher spillover effects reflecting the openness level of the Portuguese economy.

This rule should be carefully used, and the results presented above should be conditioned on the observed oil prices — around 25 USD in the period 2001-2002. Reflecting the lack of an unitary substitution between oil and the other production factors (see Backus and Crucini (2000) and Esteves (2004)), the oil expenditure share in GDP depends on its relative price. This feature implies a non-linear effect of an oil price change, towards a higher elasticity when the imports share (i.e. oil price) is higher. In other words, for instance, a 100 per cent increase of oil prices will produce higher results when the reference scenario considers as baseline an oil price of 40 USD per barrel than one of 10 USD. The use of a constant elasticity — reflecting a sample average — could be misleading given the traditional volatility of oil prices.

It is also worth mentioning that those elasticities do not account for the effects related with the monetary policy reaction to an oil price increase.

(11) The Canada was not consider because its energy net imports are very influenced by the non-oil component.

(12) The overall effect on GDP of each country (vector $E_T$) is computed according to:

$$E_T = \left[I - diag\left[\frac{x}{y}\varepsilon_{x,y^*}\right]\left[\frac{x_i}{x}\right]diag\left[\varepsilon_{m,y}\right]\right]^{-1} E_0$$

where $\left[\frac{x}{y}\varepsilon_{x,y^*}\right]$ is the diagonal matrix composed by the weighs of exports in GDP per country $\frac{x}{y}$ multiplied by the respective exports elasticity to external income $\varepsilon_{x,y^*}$, $\left[\frac{x_i}{x}\right]$ is a matrix where each line represents the trade partners shares on the exports of each country, $diag\left[\varepsilon_{m,y}\right]$ is the diagonal matrix with the imports elasticities to domestic income in each country and $E_0$ is the vector of the initial effects given by the weigh of energy net exports on GDP.

Table 4

**EFFECTS OF A 100 PER CENT INCREASE OF OIL PRICES**

| | | Year 1 | Year 2 | Year 3 |
|---|---|---|---|---|
| European Comission (2004)[a] | | | | |
| Euro area | Consumer prices | 0.9 | 1.1 | 1.2 |
| | GDP | -1.2 | -1.5 | -1.6 |
| International Energy Agency (2004)[b] | | | | |
| Euro area | Consumer prices | 0.7 | 1.5 | - |
| | GDP | -0.7 | -1.4 | - |
| US | Consumer prices | 0.7 | 1.5 | - |
| | GDP | -0.4 | -0.8 | - |

Notes:
(a) Original shock is 25 per cent since the beginning of 2004 (oil price around 30 USD in 2003).
(b) Original shock from 25 to 35 USD per barrel.

## 4. CURRENT ESTIMATES FOR THE OIL PRICES EFFECTS

The focus of this section in on the quantitative assessment of the effects of oil prices on inflation and GDP both for G7 countries and Portugal. Those results should be considered as illustrative, because the usual caveats when dealing with these kind of models produce a lot of uncertainty on the results: (i) the macroeconometric models constitute a very simplified representation of the real world and thus do not capture precisely the functioning of the economy; (ii) econometric simulations tends to reproduce the average behaviour of the economy, and, in general, do not deal easily with the above mentioned structural changes related with oil intensity or the weight of energy taxes in consumer prices; (iii) the simulations results depend crucially on the assumptions on the form of economic agents expectations and the reaction of monetary and fiscal policies.

Besides these usual problems when simulating models, an important issue is that the usual macroeconometric models do not seems to be able to produce reliable results concerning the effects of oil prices on GDP. For instance, the simulations of the OECD Interlink model and of the IMF Multimod (reported in Dalsgaard *et al.* (2001) and Hunt *et al.* (2001), respectively) point to very low effects of oil prices on GDP. In spite of being commonly used to produce scenarios for the world economy, the problem is that these kind of models do not account for the mechanisms through which oil prices affect permanently GDP, namely its role as an intermediate production function (on this issue see Jones *et al.* (2004) and Esteves (2004)).

This section presents the results of two recent studies published by the European Commission (EC) (to the euro area) and the International Energy Agency (IEA) (both to the euro area and the US), and the simulations for Portugal carried out with the Annual Macroeconometric Model (AMM) used at Banco de Portugal as the benchmark model to produce forecast or simulation exercises.

### 4.1. Recent OECD and EC simulations

Table 4 presents the rescaled results of the studies of the EC and the IEA. The shock corresponds to a permanent increase of oil price by 100 per cent, taking as initial price 30 USD and 25 USD, respectively.

Concerning the effects on inflation, the results are very similar for the euro area and the US economy. In the first year, the effects are slightly below the "1 to 100" rule above mentioned to measure the first round direct effects (between 0.7 and 0.9 per cent to the euro area and 0.7 to the US). The major differences are related with the lagged effects on inflation across the EC and the IEA simulations. While in the EC study the transmission to prices seems to be very quick — with inflation being just 0.2 and 0.1 percentage points above the baseline in the second and third years, respectively — in the International European Agency, the peak on inflation occurs in the second year of simula-

tion (0.8 percentage points), leading to a more pronounced effect in consumer price level (1.5 per cent in the IEA and 1.1 in the EC).

Concerning the effects on GDP, the accumulated effect two years ahead is -0.8 per cent for the US economy, while both the EC and the International European Agency results converge to values close to 1.5 per cent for the euro area. These results confirms a lower sensitiveness of US GDP to an oil price change, but they are lower than the ones suggested by the terms of trade rule (-1.2 and - 2.5 per cent to the US and the euro area, respectively).

Interestingly, the results produced by more specialized literature are closer to the ones suggested by the terms of trade rule. As referred in Jones *et al.* (2004), an accumulated GDP-oil price elasticity during two years between -0.05 and -0.06 seem to be in line with the recent empirical findings for the US economy — namely Mork *et al.* (1994)] and Hamilton (2003). The results reported in Jiménez-Rodriguez and Sanchez (2004) point also to an elasticity of -0.05 for the US and are in a range from -0.03 to -0.05 for the euro area countries (these lower effects may be related with the embodied depreciation of the euro). However, a part of these estimated effects on GDP are related with the answer of monetary policy to oil price changes rather than the oil price shocks themselves — for instance, Bernanke *et al.* (1997) reduces the accumulated response of the US GDP during 42 months from -0.055 to around an half, to -0.023, when the federal funds rate is kept unchanged at 4 per cent. Thus, controlling for the temporary effects related with monetary policy reaction, these figures are nearer to the terms of trade rule than to the OECD and EC studies.

### 4.2. Results for Portugal

Results for Portugal can be achieved with the model usually used at Banco de Portugal as a forecasting and simulating tool. This model, contrarily to the most usual macroeconometric models, considers a production function where oil is an intermediate factor, therefore increasing its ability to capture an oil price increase as a negative supply shock. Chart 6 reports the results both in GDP and in consumer prices of an increase of oil prices of 100 per cent, against a baseline in which oil price is kept constant at 25 USD, and spillover effects are considered using the procedure presented above.

The inflation is quickly affected in the first year (around 1.2 percentage points), and then the effects start to disappear. Five years after the shock inflation is very close to the baseline. As to the GDP, its growth is mainly affected during the first four years. After that period the effects start to die out, converging to a long-run effect on GDP level close to 4 per cent (in line with the "terms of trade rule").

## 5. CONCLUSIONS

This paper tries to resume the effects of oil prices on the economy, both on GDP and inflation, presenting in a simple way the main channels underlying those effects and, when possible, providing some rules of thumb for the size of the effects.

Concerning the effects on inflation, the main conclusions are the following.

(i) The effects of oil prices in inflation may be decomposed into:

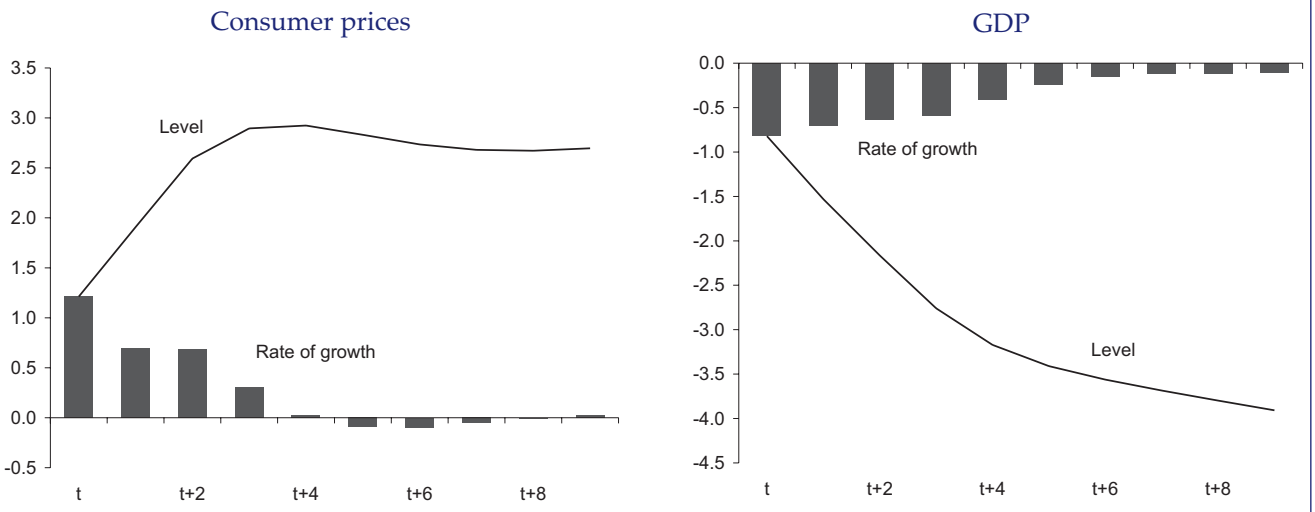
(ia) First round direct effects on energy consumption components. The results suggests that consumer energy prices tends to react approximately 1 to 10 to an oil price change, which represents a reaction of 1 to 100 in overall inflation rate. This rule of thumb seems to be stable both over the last 30 years and across countries.

(ib) First round indirect effects are associated with the fact that oil is an important production input in other sectors of activity. It is not easy to derive any rule of thumb for these indirect effects. However, the decline of oil prices and the reduction of oil consumption per unit of output is likely to have reduced the size of these type of effects.

(ic) Second round effects are mainly influenced by the credibility of monetary policy and the flexibility of labour market. On this issue, given the lessons from the previous oil-shock episodes, presently, monetary policy seems to be more oriented towards the moderation of inflation expectations, allowing to reduce the magnitude of these second round effects.

(ii) The effect on prices of an oil price increase of 100 per cent is around 1-1.5 per cent in the second year, both for the euro area and the US, while

Chart 6
**EFFECTS OF AN INCREASE OF OIL PRICES OF 100 PER CENT**
(Differences from the baseline)




for Portugal, the effect is larger, amounting to around 2 per cent in the second year.

Considering the effects on GDP, some conclusions seem to emerge, using indicators that try to measure the importance of oil as a production factor and as a source of a terms of trade shock, as well the available model simulations and the recent empirical findings of specialized literature.

(i) There is a strong evidence that the negative reaction of GDP to oil price increases declined over the nineties, reflecting both the decline of the relative price of oil and the reduction of oil consumption per unit of output.

(ii) It is dangerous to extrapolate a constant GDP-oil price elasticity in order to produce simulations concerning the effects of a new oil price shock. Reflecting the small substitution between oil and other resources (in particular over the short and medium terms) the impact of the shock depends positively on the price of oil. Thus the GDP-oil relationship is nonlinear, towards more sizeable effects when oil price is higher. In other words, the effects on GDP when oil price increases from 10 to 20 USD are smaller than then ones that would occur if oil price doubles from its current level above 40 USD.

(iii) Considering a price of around 25 USD and using the net imports share on GDP, a negative elasticity of around -2 per cent may emerge as a prudent rule of thumb for the main developed countries, encompassing however important differences across countries, towards lower effects in the UK, US and Japan (in the range -1 to -2 per cent) and more pronounced ones in the main euro area countries (in the range -2.5 to 3 per cent). Those values are within the ones produced by standard macroeconomic projection models and the ones produced by more recent empirical findings of specialized literature.

(iv) The Portuguese GDP exhibits a higher sensitivity to oil price shocks, reflecting simultaneously a more intensive use of oil and a high openness of the economy. The indicators and the simulation results from the AMM model used at Banco de Portugal suggest as rule of thumb a negative elasticity of around -0.04 (i.e. an increase of the oil price from 25 to 50 USD could lead to an accumulated loss of GDP of around 4 per cent).

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# NEW EFFECTIVE EXCHANGE RATE INDEX FOR THE PORTUGUESE ECONOMY*

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## 1. INTRODUCTION

Effective exchange rates are indicators of the purchasing power of currencies and, when properly deflated, their change is an indicator of developments in the external competitiveness of the economy.

This paper presents an updated nominal effective exchange rate index for Portugal (NEERIP), which corresponds to an international goods trade structure encompassing a higher number of countries than those considered for the calculation of the previous index(1). This update was necessary due to changes in the international trade structure on which the previous version of the index (dating from 1990) was based. In addition, two real indices are presented, using consumer price indices and GDP price indices to deflate nominal changes in exchange rates.

With the implementation of Stage Three of Economic and Monetary Union a number of institutions started to calculate euro effective exchange rates, namely the European Central Bank publishes, on a regular basis, in its *Monthly Bulletin* effective exchange rates, in nominal and real terms, for the euro area as a whole(2). However, for each participating country it remains important to obtain national effective exchange rate indices, which replace the previous effective exchange rates of their currencies, given that their individual behaviour is different from that of the euro area as a whole. In fact, each country has a different external trade structure, namely regarding the relative importance of the several intra and extra-euro area trading partners, different domestic developments in terms of prices and production costs, different institutions and different ways to conduct national economic policies. Moreover, if in nominal terms the change in the effective exchange rate indices translates exchange rate developments of the euro against the currencies of extra-euro area trading partners (which in the case of the Portuguese economy have a minority part on external trade(3)), in real terms, the change in the effective exchange rate index also reflects changes in the relative behaviour of inflation and production costs between national economies belonging to the euro area. Thus, the real effective exchange rate index is still important as an indicator of the external competitiveness of the economy.

However, a real effective exchange rate index is an external competitiveness indicator in the narrow sense, given that competitiveness is assessed only in terms of the relative change in prices or costs. In fact, this index does not reflect other qualitative factors relevant for the overall competitiveness of the economy, such as the ability to innovate, the quality of the product or the ability to adapt to market demands.

* The views expressed in this paper are those of the authors and do not necessarily coincide with those of Banco de Portugal.
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(1) See Vidal, Maria José and Balcão Reis, Teresa (1994).

(2) Other institutions, e.g. the European Commission, IMF and OECD, also publish these rates.

(3) In 2003 extra-euro area trade accounted for 33.2 and 28.9 per cent respectively of exports and imports of goods.

This paper is organised as follows: Section 2 discusses the methodologies underlying the calculation of effective exchange rates, ending with a summarised description of the methodologies used by some international bodies and central banks; Section 3 presents the new nominal effective exchange rate index and two real effective exchange rate indices; the last section presents the conclusions, where the main results obtained are summarised.

## 2. METHODOLOGICAL ASPECTS

### 2.1. Methodological options to be considered

The nominal effective exchange rate (NEER) of country $j$ is generally obtained as a geometric average of bilateral nominal exchange rates according to the following formula:

$$NEER_j = \prod_{i=1}^{N} \left(e_{i,j}\right)^{W_i},$$

where $N$ is the number of trading partners considered, $e_{i,j}$ is the exchange rate of the currency of partner $i$ against the currency of country $j$ and $W_i$ is the total weight assigned to partner $i$. An increase in the rate reflects an appreciation of the value of the currency of country $j$.

The real effective exchange rate (REER) is calculated by deflating the nominal effective exchange rate:

$$REER_j = \prod_{i=1}^{N} \left(\frac{d_j e_{i,j}}{d_i}\right)^{W_i},$$

where $d_j$ and $d_i$ are, respectively, the deflator of the country for which the real effective exchange rate is calculated and the deflator of partner $i$.

The use of these formulas implies the determination of the partners to be considered, the method and the reference period for the calculation of weights $W_i$, and, to obtain the index in real terms, the deflators to be used. Options in this respect should depend on the purpose underlying the calculation of this indicator and also on operational aspects, namely regarding the regular availability and the statistical quality of the information to be used.

If, as usual, real effective exchange rates are used to build external competitiveness indicators, bilateral exchange rates to be selected should correspond to partners with which the country has more significant trade relations.

With regard to the weighting method, the purpose is to obtain a proxy for the effective weight that each currency has in external trade relations of the country for which the index is calculated.

The most frequently used method implies the calculation of bilateral weights for imports and double weights for exports[4].

The imports bilateral weights reflect the weight of partner $i$ in imports of country $j$ from the group of partners considered. Thus, the weight of country $i$ in the index of $j$ is given by:

$$W_{ij}^{m} = \frac{M_j^i}{M_j},$$

where $M_j^i$ are the imports of $j$ from $i$ and $M_j$ are the imports of $j$ from the partners considered.

Weights assigned to exports are double weights that take into account, in each market, the competition of the domestic producer and other exporters. The weighting of country $i$ in the exports of $j$, $W_j^i$, results from the combination of the weight of the trading partner $i$ in the total supply of each market with the importance of that market for the exports of the country for which the index is calculated, i.e.:

$$W_{ij}^{x} = \left(\frac{X_j^i}{X_j}\right) \times \left(\frac{Y_i}{Y_i + \sum_{h \neq i,j} X_h^i}\right) + \sum_{k \neq i} \left(\frac{X_j^k}{X_j}\right) \times \left(\frac{X_i^k}{Y_k + \sum_{h \neq k,j} X_h^k}\right),$$

where $X$ refers to exports (the index in the lower corner stands for the country of origin and the index in the upper corner stands for the country of destination) and $Y_i\,(Y_k)$ represents the domestic production of country $i$ (country $k$). The following example shows the calculation of the relative weight of the pound sterling in the context of exports (country $j$, in this case, is Portugal and country $i$ is the United Kingdom). In order to obtain this weight, first it is necessary to determine the weight of the domestic production of the United Kingdom in its domestic market $\left(Y_i / Y_i + \sum_{h \neq i,j} X_h^i\right)$ and in the remaining markets $\left(X_i^k / Y_k + \sum_{h \neq k,j} X_h^k\right)$. These weights reflect, respectively, the competition faced by the United Kingdom production in

(4) For a more detailed description of the double weighting method see Turner, Philip and Van´t dack, Jozef (1993).

the domestic and external markets. Second, each of these markets is weighted by its relative importance in Portuguese exports ($X_j^i / X_j$ in the case of the United Kingdom domestic market and $X_j^k / X_j$ in the remaining cases).

Finally, total weights are a linear combination of both partial weights:

$$W_{ij} = \left(\frac{M_j}{M_j + X_j}\right) \times W_{ij}^m + \left(\frac{X_j}{M_j + X_j}\right) \times W_{ij}^x ,$$

where the weighting factor is the weight of imports or exports of *j* in its total external trade in the markets considered.

The International Monetary Fund created a triple weighting scheme where double weights were calculated for 143 categories of manufactured goods, afterwards they were aggregated using the weight of each category of goods in total exports of manufactured goods. The complexity of its application together with the negligible gains obtained led to the discontinuance of this method(5).

Regarding the selection of the reference period for the calculation of weights, it might appear that the ideal solution would be to admit that this period is always the most recent possible, i.e. a reference period updated on a yearly basis. However, the choice of time varying weights raises some problems of a practical nature. One of them results from the need to include one adjustment element that makes it possible to obtain consistent results between the end of each reference period for the calculation of the weighting structure and the beginning of the new reference period. Assuming that the weights are annual, a possible calculation formula for the annual effective exchange rate would use an adjusted index(6):

$$NEER_t = NEER_{t-1} \times \frac{\prod_i e_{i,j;t}^{Wi;t}}{\prod_i e_{i,j;t-1}^{Wi;t}} ,$$

where *t* and *t-1* refer, respectively, to the year that corresponds to the new reference period and to the previous year. Moreover, for the current year and while information is not complete, the new weights are not available and therefore the weights for the previous year must be used, or any other expedite solution, thus introducing a methodological discontinuity. Another problem results from the use of very recent data that may be revised. Indeed, the revisions of the series of external trade flows are generally very frequent and, sometimes, of a great magnitude, which brings instability to the determination of weighting structures.

These aspects led to the choice, in most cases, of fixed weights. These fixed weights are often derived via an average of external trade structures corresponding to a few years, usually 3-year averages, in order to obtain a weighting structure that is not significantly affected by irregular fluctuations. If these fixed weights are updated at regular intervals, the differences resulting from the use of time varying weights will obviously tend to be negligible.

With regard to the deflators to be used, there is no deflator that, by itself, can give an entirely satisfactory overview of competitiveness, even when it is considered in the narrow sense in terms of relative prices or relative costs. All deflators have conceptual and/or statistical limitations. As a consequence, taking into account the relative advantages of deflators and the aims of the analysis, several real effective exchange rates are often constructed, i.e. several deflators are used. Among the deflators that can be used for this purpose, two types should be highlighted: price indices and cost indices.

Several price indices may be considered, of which the most common are export price indices, producer price indices (PPIs) and consumer price indices (CPIs).

The use of export price indices seems to be an obvious choice, given the purpose that usually underlies the computation of real exchange rate indices. However, in practice, these indices correspond in fact to mere export unit value indices(7), and thus they are not actual price indices. Moreover, the different composition of the exports from the various countries, as well as the change in that composition over time can significantly affect ag-

(5) See Zanello, Alessandro and Desruelle, Dominique (1997), pp. 11-12.

(6) Banca d' Italia follows a slightly different method where the weight used is a simple average of the weight of the previous year and the current year. See Banca d' Italia (1998). The formula presented is followed, for example, by the Federal Reserve Bank. See Leahy, Michael (1998).

gregate indices.

PPIs could be a more attractive alternative, but their use is seriously hindered due to the lack of international harmonisation in terms of the degree of coverage, methodology and publication calendar.

CPIs are regularly calculated by many countries, with considerable timeliness and, in the case of European Union countries, their calculation follows some harmonisation rules. However, they are affected by indirect taxes, subsidies and price controls. Moreover, they include non-tradable goods and exclude some tradable goods, in particular intermediate goods. Nonetheless, despite these features, the relative operational advantages explain why they are commonly used to deflate nominal effective exchange rates.

The most commonly used cost indicators are unit labour costs (ULC) and GDP deflators. Usually, they are only made available with some time lag, particularly in the case of unit labour costs, and with a lower frequency (quarterly or even yearly).

Unit labour costs do not reflect all relevant costs, such as capital costs. Generally, they are highly volatile which denotes, in some cases, significant problems in terms of statistical quality, and are often presented in terms of trends[8]. The use of trends raises the problem of selecting the most adequate estimation algorithm, namely regarding the treatment of the latest available observations, which are precisely those that deserve more interest. Moreover, it is also necessary to choose the scope of the unit labour costs to be considered, usually between unit labour costs in manufacturing (ULCM) and unit labour costs in the total economy (ULCT). ULCM are commonly used given that manufactured goods are the main component of international trade. However, the growing importance of services in international trade also points to the use of ULCT.

Given that unit labour costs do not reflect all relevant costs, the GDP deflators, being a more general measure, are naturally an alternative to be considered. Namely, they also reflect costs of capital utilisation. However, they include non-market sectors and, as unit labour costs in the total economy, they cover goods that are not internationally traded. Moreover, the index usually made available refers to GDP at market prices. With regard to unit labour costs in the total economy GDP deflators have, however, some advantages that make their choice as a deflator relatively attractive. One of these advantages is that, in the large majority of the developed economies, this indicator is made available on a quarterly basis and with a relatively short time lag, in the context of the production of quarterly national accounts.

### 2.2. Prevailing methodologies

Effective exchange rates are calculated by several central banks and international bodies. This section presents the various methodologies, with special emphasis on those used by Banco de Portugal and the European Central Bank.

#### a) Banco de Portugal

The methodology used by Banco de Portugal for the calculation of the nominal effective exchange rate index for Portugal (NEERIP) was first presented in 1994[9].

In terms of the scope of external trade, it was decided to include only manufactured goods, given their relevance for Portugal in terms of external competitiveness. The reference currency basket continued to include 13 currencies[10], covering 81.9 per cent of the Portuguese (direct) external trade. The use of a larger basket would not have very relevant effects in terms of results. Moreover, by including more countries, the timely construction of real indices could be jeopardised. The weighting method was also revised, with double weights replacing bilateral weights. This change aimed at considering not only bilateral trade relations but also competition in third markets. Finally, the choice of the base period for

(7) Generally, for each group of products included in a given category of the external trade nomenclature, these indices are originally derived through the ratio of its monetary value to the overall weight of these products.

(8) See IMF, Zanello, Alessandro and Desruelle, Dominique (1997), p. 11.

(9) See Vidal, Maria José and Balcão Reis, Teresa (1994).

(10) Deutsche mark, Belgian franc, French franc, Italian lira, Dutch guilder, Danish krone, pound sterling, Spanish peseta, US dollar, Japanese yen, Swedish krona, Norwegian krone and Swiss franc.

weights fell on a single year, 1990, given that it is a representative and recent year.

In practice, the choices made in terms of the above-mentioned variables made it possible to apply the weights calculated by the Bank for International Settlements (BIS)[11], standardised[12] to the 13-currency basket.

The nominal effective exchange rate index for Portugal series has a monthly frequency and has been regularly published in the *Statistical Bulletin* of Banco de Portugal.

The *Annual Report* of Banco de Portugal presents real effective exchange rate indices for Portugal, calculated using the CPI and unit labour costs. These indicator series have a yearly frequency.

#### b) European Central Bank (ECB)

The ECB methodology for the calculation of the euro effective exchange rate (EER)[13] is largely based on the one presented by the BIS. The trade flows considered by the ECB refer to manufactured goods. Services were excluded due to the lack of data. Obviously, intra-euro area trade was excluded.

As for the choice of the basket of currencies, they tried to find an equilibrium between the degree of coverage of external trade and the quality of information. Thus, two baskets were created, one involving 12 industrialised or recently industrialised countries[14] and another, with a wider coverage, involving 38 trading partners[15], including emerging markets and transition economies. In the 1995-1997 period, these baskets covered respectively 61 and 89 per cent of the euro area external trade in manufacturing goods. The criteria for the group of 12 were, in addition to significant trade links, the existence of daily data on the exchange rate as well as a set of cost and price indices made available in due time. In the wider group were included the countries that fulfilled at least one of the following conditions: individual share of the euro area trade higher than 1 per cent; accession country status; significant trade links with individual euro area countries. They also needed to have available monthly data on the CPI released in due time and with good quality. With the 2004 revision, the group of 38 countries was extended to encompass Latvia, Lithuania, Bulgaria and Malta and another group of 23 countries was created, including the 12 countries of the already existing group, the 10 new EU Member States and China, which will be the reference group. In the 1999-2001 period, trade flows of the groups of 42, 23 and 12 countries represented respectively 89.6, 74 and 59.8 per cent of the euro area external trade in manufacturing goods.

The weighting method adopted was double weights and the base period is fixed, since it was considered that changes in the pattern of international trade are very gradual, and therefore the weights only need to be revised at five-year intervals. The 1995-1997 base period was applied until 1999. Thenceforth the reference period was changed to 1999-2001. The current EER series results from the link between the two indices in early 1999.

The deflators applied to obtain the real effective exchange rate (REER) are the consumer price index (CPI), producer price index (PPI), unit labour costs in manufacturing (ULCM), unit labour costs in the total economy (ULCT) and the gross domestic product deflator (GDPD). Whenever possible, the ECB applies harmonised indicators for EU countries.

#### c) Other central banks and international bodies

The methodologies applied by other international institutions and central banks are summarised in Table 1.

(11) For more details on BIS methodology, see Turner, Philip and Van´t dack, Jozef (1993).

(12) Theoretically, this standardisation is not correct and weights should be recalculated. However, in practice, results are very similar.

(13) For a detailed description of the methodology, see Buldorini, Luca, Makrydakis, Stelios and Thimann, Christian (2002). The changes introduced in 2004 are summarised in the September 2004 issue of the *Monthly Bulletin* of the European Central Bank.

(14) Australia, Canada, Denmark, Hong Kong, Japan, Norway, Singapore, South Korea, Sweden, Switzerland, United Kingdom, United States.

(15) Includes the group of 12 countries and Cyprus, Czech Republic, Estonia, Hungary, Poland, Slovenia, Slovakia, China, New Zealand, Algeria, Argentina, Brazil, Croatia, India, Indonesia, Israel, Malaysia, Mexico, Morocco, Philippines, Romania, Russia, South Africa, Taiwan, Thailand, Turkey.

The choice of the scope of external trade fell mainly on manufactured goods, owing to their relevance in terms of international trade and to the good quality of the data. However, in practical terms, the definition of manufactured goods adopted is slightly different.

The basket of currencies adopted varies widely, and there are even institutions that opt for more than one basket. Banco de Portugal had one of the most reduced baskets, reflecting in part the relatively high geographical concentration of the Portuguese external trade in goods.

The double weighting method is used by all the institutions presented in Table 1[(16)], reflecting the fact that it is modestly complex but guarantees quite satisfactory quality levels. However, it is important to take into consideration that there are some differences in the application of this type of weighting .

Most of the institutions presented adopted fixed weights, taking as a basis the average of three consecutive years (in contrast to BIS, Banco de Portugal and Danmarks Nationalbank that took as a basis only one year). The others opted for time

(16) In the case of the inclusion of primary goods, the double weights no longer make sense, since these are non-differentiated goods with only one international market.

Table 1

**COMPARISON OF THE METHODOLOGIES OF SOME CENTRAL BAN S AND INTERNATIONAL BODIES**

| | Scope of external trade | Reference trading partners | Weighting method | Base period of weighting | Deflators |
|---|---|---|---|---|---|
| Banco de Portugal | Manufactured goods | 14 | Double | Fixed (1990) | CPI, ULCM, ULCT |
| European Central Bank | Manufactured goods | 12, 23, 42 | Double | Fixed (revised at five-year intervals: 1995-1997; 1999-2001) | CPI, PPI, ULCM, ULCT, GDPD |
| IMF[(a)] REER (ULC) | Manufactured goods | 20 | Double | Fixed (1989-1991) | ULCM |
| REER (CPI) | Manufactured goods, primary goods (excluding petroleum), tourism | 146[(b)] | Double (Manufactured goods and tourism),"special" (primary goods) | Fixed (1988-1990) | CPI |
| BIS | Manufactured goods | 25 | Double | Fixed (1990) | CPI, export unit value index (EUVI), ULCM |
| European Comission | Merchandise | 12, 24, 25, 34, 41 | Double (only exports) | Moving | CPI, EUVI, ULCM, ULCT, GDPD |
| OECD | Manufactured goods | 41 | Double | Moving | CPI, ULCM |
| Banca d'It lia | Manufactured goods | 24 | Double | Moving | PPI, EUVI, ULCM |
| Banco de Espa a | Manufactured goods | 14, 21, 28 | Double | Fixed (1995-1997) | CPI, PPI, EUVI, ULCM |
| Danmarks Nationalbank | Manufactured goods | 25 | Double | Fixed (1995) | CPI, ULC, hourly earnings, hourly wage costs |
| Bank of Canada | Merchandise | 16 | Double | Fixed (1994-1996) | CPI, ULCM, GDPD |
| Federal Reserve Bank | Merchandise excluding primary goods[(c)] and military exports | 18, 19, 37 | Double | Moving | CPI |

Notes:

(a) The International Monetary Fund (IMF) will update its methodology in the near future. See Bayoumi, T., Jaewoo, L., Jayanthi, S. (2004). Bank of England applies directly the weights calculated by the IMF. Recently a proposal for the revision of methodology was presented (Lynch, B e Whitaker, S., 2004), which will be applied in the Spring 2005. The main changes suggested are the application of time varying weights (in year t, weights based on t-2 are applied, while t-1 weights are not available) and the incorporation of external trade in services, although with some limitations.

(b) The IMF calculates effective exchange rates for 147 countries. However, for 16 of these countries, the CPI is not available, and therefore it is not possible to calculate the REER including this subgroup.

(c) From January 2002 onwards, exports of agricultural goods are not excluded.

varying weights.

Finally, almost all institutions use the CPI as a deflator. ULCM are also quite common.

## 3. EFFECTIVE EXCHANGE RATE INDEX FOR PORTUGAL

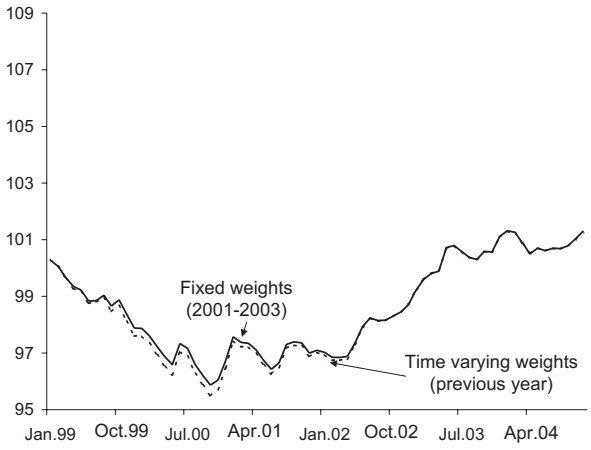
### 3.1 NEERIP update

The structure of the Portuguese external trade has undergone profound changes since 1990, warranting the need to update the NEERIP. As a consequence, the group of trading partners considered as well as the reference period for the weights were revised. The weights previously used by Banco de Portugal were made available by the BIS, standardised for the basket of the 13 currencies considered. In this update, the calculation was exclusively made by Banco de Portugal. The series of the new index starts in 1999, when the Third Stage of Economic and Monetary Union also started, with the adoption of the euro (see in Annex 1 the table with the results).

As referred to above, the group of countries relevant for the Portuguese external trade has changed over the past few years and therefore the previous basket was outdated. For the new group of trading partners, a wider group of 22 countries was chosen (Austria, Belgium, Brazil, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, The Netherlands, Norway, Poland, Spain, Sweden, Switzerland, United Kingdom and United States), taking into account their representativeness and availability of information. This group of countries represents around 92 per cent of the Portuguese manufacturing external trade, and therefore it has a wider coverage than the previous one, which represented approximately 82 per cent.

The reference period for the weights was updated, corresponding to the average of the 2001-2003 triennium. The option to maintain fixed weights to the detriment of time varying weights makes the calculation of NEERIP less complex and more stable. This option does not seem to imply considerable differences as regards the alternative option. Chart 1 presents NEERIP[17] calculated with fixed weights and with time varying weights[18]. As can be seen, differences are not significant and therefore the gain in terms of simplification of the regular publication process of the series justifies the choice. Moreover, as referred to above, the utilisation of time varying weights, even if corresponding to the previous year, would imply that in the first months of each year the structure of the index could not be updated.

Chart 1
**COMPARISON BETWEEN NEERIP CALCULATED WITH FIXED WEIGHTS AND WITH TIME VARYING WEIGHTS**




The weights were calculated applying the double weighting method, using the formula described in Section 2. It was assumed that Portugal competes in 23 markets: the 22 of the reference countries and a third market aggregating the rest of the world. It was assumed that the production of the rest of the world do not compete in any market considered[19]. The values of the trade flows between the several countries were obtained on the *"World Trade Atlas"* (WTA) database. As the classification of goods used by WTA is the Harmonised Commodity Description and Coding System (HS), it is not possible to extract directly the value of external trade in manufacturing goods. Thus, it was necessary to convert this nomenclature into

(17) All indices presented take value 100 in the first quarter of 1999, as the ECB does for the euro effective exchange rates, making comparisons easier.

(18) The time varying weights were calculated using the same methodology as the fixed weights, but considering for each year the trade flows of the previous year.

(19) This simplification is used by other institutions. See Turner, Philip and Van't dack, Jozef (1993), p. 22 for the BIS and Buldorini, Luca, Makrydakis, Stelios and Thimann, Christian (2002), p. 12 for the ECB.

the Standard International Trade Classification (SITC)[20], using afterwards sections 5 to 8. Data on Norway and Switzerland were extracted from the *"Commodity Trade Statistics Database"* of UNO.

The domestic production that competes with imports had to be estimated[21]. The procedure followed consisted in using the adjusted value added of manufacturing (VAM), in order to be comparable with gross trade flows. Data on VAM were obtained through OECD (*National Accounts* of OECD Countries – *Detailed Tables*). As a measure of the inputs used by the domestic manufacturing industry other than the inputs produced by the industry itself, we added the value of manufacturing imports. Although this is not the ideal calculation process, it avoids negative results. The calculation of the domestic production sold internally was obtained by subtracting manufacturing exports. However, as for some countries this information was not yet available for all years, we assumed in these cases that VAM varied in line with GDP[22].

Updated weights show considerable differences compared with the previous ones. Table II shows the previous weights (base period: 1990) and the updated weights (base period: 2001-2003). Considering that the reference trading partners changed, it is necessary to standardise[23] the weights of 2001–2003 for the previous basket so as to establish comparisons. As illustrated in Chart 2, the countries that increased their weight were Belgium and Luxembourg (+0.2 p.p.), United States (+1.7 p.p.) and chiefly Spain, with a 10.7 p.p. increase. The countries with the highest absolute declines were Italy, United Kingdom and France, recording reductions of 1.9 p.p., 2.1 p.p. and 2.2 p.p. respectively.

In 1990 the three main trading partners were by this order, Germany, France and Spain. In the period 2001–2003 Spain was the most important trading partner (23.4 per cent of the total for the 22 countries), followed by Germany and France. The weight of these three countries as a whole exceeds always 50 per cent.

Table 2

**PREVIOUS WEIGHTS AND UPDATED WEIGHTS**

Per cent

| | Previous weights (1990) | Updated weights (2001-2003) | Standardised updated weights (2001-2003)[a] |
|---|---|---|---|
| Austria | | 1.46 | |
| Belgium | 4.85[b] | 4.45 | 5.06[b] |
| Brazil | | 0.65 | |
| Czech Republic | | 0.63 | |
| Denmark | 1.35 | 0.81 | 0.87 |
| Finland | | 0.80 | |
| France | 15.22 | 12.12 | 12.99 |
| Germany | 20.98[c] | 17.88 | 19.16 |
| Greece | | 0.23 | |
| Hungary | | 0.76 | |
| Ireland | | 1.07 | |
| Italy | 11.11 | 8.60 | 9.22 |
| Japan | 4.13 | 2.82 | 3.02 |
| Luxembourg | | 0.28 | |
| The Netherlands | 6.10 | 5.39 | 5.77 |
| Norway | 1.06 | 0.64 | 0.68 |
| Poland | | 1.07 | |
| Spain | 14.44 | 23.45 | 25.12 |
| Sweden | 2.94 | 1.35 | 1.45 |
| Switzerland | 2.86 | 1.87 | 2.01 |
| United Kingdom | 10.03 | 7.41 | 7.94 |
| USA | 4.95 | 6.25 | 6.70 |

Notes:
(a) Standardised updated weights for the previous basket of trading partners.
(b) The weight refers to Belgium and Luxembourg.
(c) The weight refers only to West Germany.

Despite the change observed in the structure of international trade, the performance of the new index is similar to that of the previous index in qualitative terms, as illustrated in Chart 3. In part, this performance can be explained by the partial compensation of the increase in the relative weight of Spain by the reduction in the relative weight of other euro area countries.

### 3.2 Real effective exchange rate index for Portugal

As discussed above, there are several possible deflators for the calculation of REERIP. With this update we decided to apply the CPI and GDP deflators, taking into account the availability and reliability of the data. In the future, admitting that it will be possible to have data on wages with statistically satisfactory quality, namely for Portugal, we

(20) The conversion table used was the one made available by the United Nations Organisation (UNO), with the 6-digit HS. The conversion is somewhat complex and some SITC codes do not have correspondence in HS.

(21) For a more detailed discussion, see Turner, Philip and Van't dack, Jozef (1993), pp.116-118.

(22) In the same circumstances, the method applied by the ECB was similar. See Buldorini, Luca, Makrydakis, Stelios and Thimann, Christian (2002), p. 15.

(23) As referred to in footnote 12, this standardisation is not theoretically correct. In practice, results are however quite similar to those that would be obtained by recalculating the weights.

Chart 2
**COMPARISON BETWEEN WEIGHTS BASED ON 1990 AND STANDARDISED WEIGHTS BASED ON 2001-2003**

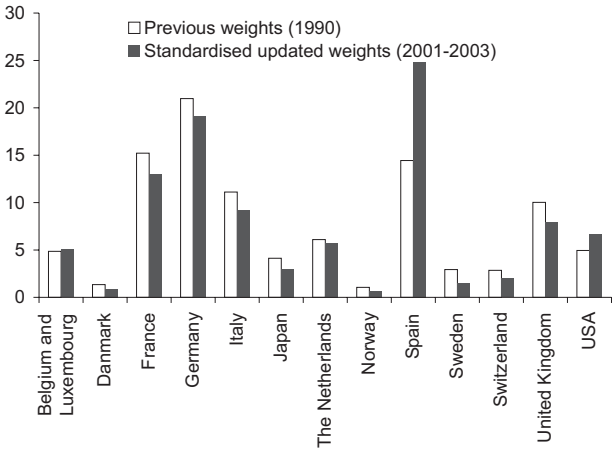
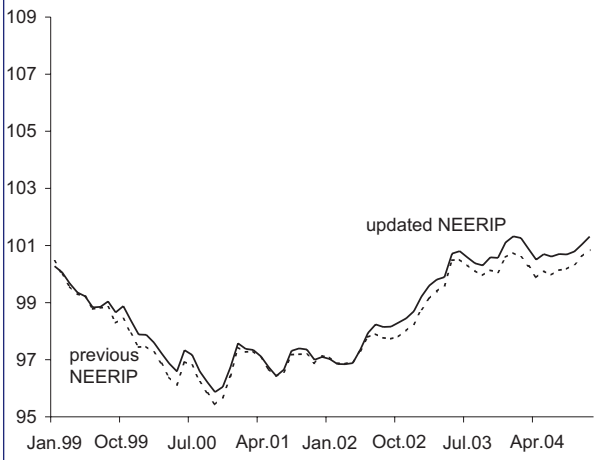



Chart 3
**COMPARISON OF THE UPDATED AND PREVIOUS VERSIONS OF NEERIP**




are going to construct also an (infra-annual) index using unit labour costs.

### 3.2.1 REERIP (adjusted for the consumer price indices)

With the aim of obtaining a competitiveness indicator that makes it possible within a short time and with a monthly frequency, to understand recent developments in competitiveness and taking into account the relatively generalised use of consumer price indices, we constructed a NEERIP series adjusted for this type of indicator (see Annex 2).

For EU countries and Norway we applied the monthly Harmonised Index of Consumer Prices (HICP) compiled by Eurostat and for the remaining countries we used the monthly CPI of the Reuters database.

Chart 4 presents this index, as well as the one resulting from the application of the weightings structure of the previous index. In real terms, differences in the evolution of the updated index adjusted for the CPI vis-à-vis the previous one are, in general, more significant than in nominal terms. This result reflects the fact that this index is more affected by the change in the structure of external trade, since even the change in the relative weight of the euro area trading partners is relevant, in so far as these changes imply a different weighting of the national CPI. In this case, the updated REERIP reflects a more favourable external competitiveness position than indicated by the previous REERIP, in particular in the most recent years. In part, this results from the increase in the relative weight of Spain, which has recorded relatively higher inflation levels than the ones of other important trading partners. Even though, the trend of the chain rates of change and of the year-on-year rates of change in the new REERIP are relatively similar to those of the former REERIP.

### 3.2.2 REERIP (adjusted for GDP deflators)

To supplement the NEERIP adjusted for the CPI, a quarterly index was constructed, adjusted for GDP deflators (see Annex 3).

For this, we compiled (seasonally adjusted[24]) GDP deflators, which are regularly made available by Eurostat, but it was not possible to include all the countries considered in the calculation of the former index. The countries excluded were Brazil, Hungary, Luxembourg, Poland and Sweden[25]. It should be noted, however, that on the whole these countries have a weight of approximately 4 per cent in the original structure of the weights.

(24) The choice of seasonally adjusted indices was due to the fact that the GDP deflator in Portugal, in principle, is only made available already disseasonalised, according to the methodology of the Quarterly National Accounts.

(25) To obtain weights only for this narrower group, the original weights were standardised.

Chart 4
**COMPARISON OF THE UPDATED AND PREVIOUS VERSIONS OF REERIP (ADJUSTED FOR THE CPI)**

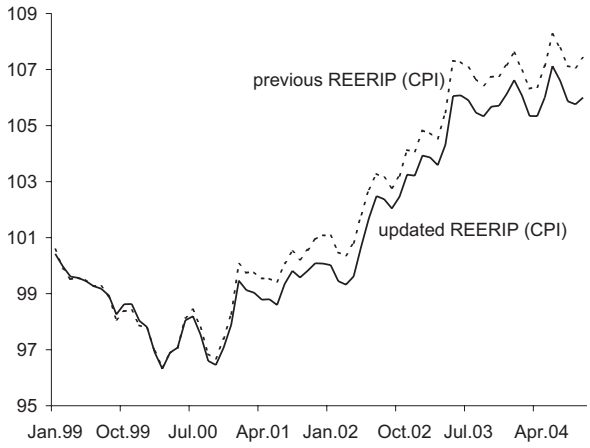
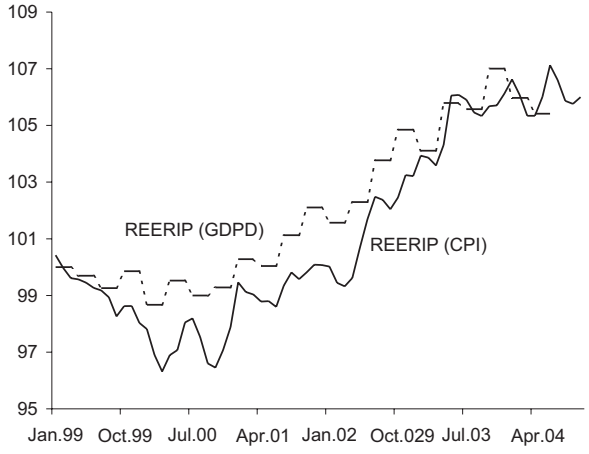



Chart 5
**REAL EFFECTIVE EXCHANGE RATES INDICES FOR PORTUGAL**




Comparatively with the previous case, these indices have the disadvantage of being subject to regular revisions. Although typically these revisions are not quite significant, they occur whenever data for a new quarter are released and therefore the corresponding REERIP must also be changed.

The REERIP results adjusted for the GDP deflators and for the CPI are not fully similar (Chart 5) but point, in general, to the same type of competitive developments. In 1999 and 2000 the competitiveness of the Portuguese economy seems to have remained relatively stable, pointing even to a slight improvement. From 2001 onwards, REERIP recorded an upward trend, with some losses in competitiveness, in particular in 2002 and in the first half of 2003. Thenceforth, the deterioration of competitiveness was interrupted, giving rise to a stabilisation of the index.

## 4. CONCLUSION

The performance of the updated NEERIP, despite the sizable change in the structure of Portugal's international trade, is similar to that of the previous index. However, in real terms, differences are more significant. In this case, the new REERIP has, in general, a lower level than the previous index, denoting a relatively more favourable competitive situation.

Both this index and the real index which is obtained with the utilisation of GDP deflators, indicate that from 2001 onwards the Portuguese economy has lost some competitiveness. Notwithstanding, from the second half of 2003 onwards, the situation seems to have stabilised. However, it should be noted that these considerations must be taken with caution since as referred to above, these indices are not a global measure of competitiveness, given that they ignore some qualitative aspects that may influence it.

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## Annex 1

### COMPARISON OF THE UPDATED AND PREVIOUS VERSIONS OF NEERIP - cont.

(In percentage)

| 1999Q1=100 | NEERIP | | Chain rate of change | | Year-on-year rate of change | | Annual average rate of change | |
|---|---|---|---|---|---|---|---|---|
| | Updated version | Previous version | Updated version | Previous version | Updated version | Previous version | Updated version | Previous version |
| Jan-99 | 100.28 | 100.46 | | | | | | |
| Feb-99 | 100.06 | 99.99 | -0.22 | -0.47 | | | | |
| Mar-99 | 99.67 | 99.56 | -0.39 | -0.43 | | | | |
| Apr-99 | 99.35 | 99.30 | -0.31 | -0.26 | | | | |
| May-99 | 99.22 | 99.22 | -0.13 | -0.08 | | | | |
| Jun-99 | 98.83 | 98.78 | -0.39 | -0.45 | | | | |
| Jul-99 | 98.85 | 98.82 | 0.02 | 0.04 | | | | |
| Aug-99 | 99.04 | 98.85 | 0.19 | 0.04 | | | | |
| Sep-99 | 98.66 | 98.29 | -0.39 | -0.57 | | | | |
| Oct-99 | 98.88 | 98.44 | 0.23 | 0.15 | | | | |
| Nov-99 | 98.37 | 97.92 | -0.51 | -0.53 | | | | |
| Dec-99 | 97.88 | 97.44 | -0.50 | -0.48 | | | | |
| Jan-00 | 97.87 | 97.46 | -0.01 | 0.01 | -2.40 | -2.99 | | |
| Feb-00 | 97.60 | 97.26 | -0.28 | -0.20 | -2.45 | -2.73 | | |
| Mar-00 | 97.22 | 96.87 | -0.39 | -0.40 | -2.45 | -2.70 | | |
| Apr-00 | 96.87 | 96.38 | -0.36 | -0.50 | -2.50 | -2.93 | | |
| May-00 | 96.59 | 96.12 | -0.29 | -0.27 | -2.65 | -3.12 | | |
| Jun-00 | 97.33 | 96.93 | 0.77 | 0.84 | -1.52 | -1.87 | | |
| Jul-00 | 97.17 | 96.81 | -0.17 | -0.12 | -1.70 | -2.03 | | |
| Aug-00 | 96.59 | 96.22 | -0.60 | -0.61 | -2.48 | -2.66 | | |
| Sep-00 | 96.21 | 95.83 | -0.39 | -0.40 | -2.48 | -2.50 | | |
| Oct-00 | 95.87 | 95.43 | -0.35 | -0.42 | -3.05 | -3.06 | | |
| Nov-00 | 96.05 | 95.69 | 0.19 | 0.27 | -2.36 | -2.28 | | |
| Dec-00 | 96.73 | 96.42 | 0.71 | 0.77 | -1.18 | -1.05 | -2.27 | -2.50 |
| Jan-01 | 97.57 | 97.43 | 0.87 | 1.04 | -0.30 | -0.02 | -2.10 | -2.25 |
| Feb-01 | 97.38 | 97.27 | -0.20 | -0.16 | -0.23 | 0.01 | -1.91 | -2.02 |
| Mar-01 | 97.34 | 97.30 | -0.04 | 0.02 | 0.12 | 0.44 | -1.70 | -1.76 |
| Apr-01 | 97.11 | 97.07 | -0.24 | -0.24 | 0.25 | 0.71 | -1.47 | -1.46 |
| May-01 | 96.74 | 96.67 | -0.38 | -0.41 | 0.15 | 0.57 | -1.24 | -1.16 |
| Jun-01 | 96.43 | 96.42 | -0.32 | -0.26 | -0.93 | -0.52 | -1.19 | -1.04 |
| Jul-01 | 96.65 | 96.57 | 0.23 | 0.15 | -0.53 | -0.25 | -1.09 | -0.89 |
| Aug-01 | 97.31 | 97.18 | 0.68 | 0.63 | 0.75 | 0.99 | -0.82 | -0.59 |
| Sep-01 | 97.39 | 97.19 | 0.09 | 0.01 | 1.23 | 1.42 | -0.51 | -0.26 |
| Oct-01 | 97.36 | 97.19 | -0.04 | 0.00 | 1.55 | 1.84 | -0.13 | 0.15 |
| Nov-01 | 97.00 | 96.88 | -0.37 | -0.31 | 0.98 | 1.25 | 0.15 | 0.44 |
| Dec-01 | 97.10 | 97.13 | 0.11 | 0.26 | 0.38 | 0.73 | 0.28 | 0.59 |

## COMPARISON OF THE UPDATED AND PREVIOUS VERSIONS OF NEERIP

(In percentage)

| | NEERIP | | Chain rate of change | | Year-on-year rate of change | | Annual average rate of change | |
|---|---|---|---|---|---|---|---|---|
| 1999Q1=100 | Updated version | Previous version | Updated version | Previous version | Updated version | Previous version | Updated version | Previous version |
| Jan-02 | 97.02 | 97.08 | -0.08 | -0.05 | -0.56 | -0.36 | 0.26 | 0.57 |
| Feb-02 | 96.85 | 96.88 | -0.18 | -0.21 | -0.54 | -0.41 | 0.23 | 0.53 |
| Mar-02 | 96.84 | 96.86 | -0.01 | -0.02 | -0.51 | -0.45 | 0.18 | 0.46 |
| Apr-02 | 96.88 | 96.93 | 0.04 | 0.07 | -0.24 | -0.14 | 0.14 | 0.38 |
| May-02 | 97.35 | 97.31 | 0.49 | 0.40 | 0.63 | 0.66 | 0.18 | 0.39 |
| Jun-02 | 97.94 | 97.80 | 0.60 | 0.50 | 1.57 | 1.42 | 0.39 | 0.55 |
| Jul-02 | 98.24 | 97.90 | 0.30 | 0.11 | 1.64 | 1.38 | 0.57 | 0.69 |
| Aug-02 | 98.15 | 97.77 | -0.09 | -0.14 | 0.86 | 0.61 | 0.58 | 0.66 |
| Sep-02 | 98.16 | 97.73 | 0.01 | -0.03 | 0.79 | 0.56 | 0.54 | 0.59 |
| Oct-02 | 98.30 | 97.81 | 0.15 | 0.08 | 0.97 | 0.64 | 0.49 | 0.49 |
| Nov-02 | 98.45 | 98.01 | 0.15 | 0.21 | 1.50 | 1.17 | 0.54 | 0.48 |
| Dec-02 | 98.70 | 98.26 | 0.25 | 0.25 | 1.65 | 1.16 | 0.64 | 0.52 |
| Jan-03 | 99.21 | 98.77 | 0.52 | 0.52 | 2.25 | 1.74 | 0.88 | 0.69 |
| Feb-03 | 99.59 | 99.14 | 0.39 | 0.37 | 2.83 | 2.33 | 1.16 | 0.92 |
| Mar-03 | 99.81 | 99.40 | 0.21 | 0.26 | 3.06 | 2.62 | 1.46 | 1.18 |
| Apr-03 | 99.89 | 99.60 | 0.09 | 0.20 | 3.11 | 2.75 | 1.74 | 1.42 |
| May-03 | 100.72 | 100.48 | 0.83 | 0.89 | 3.45 | 3.26 | 1.97 | 1.64 |
| Jun-03 | 100.80 | 100.51 | 0.08 | 0.02 | 2.92 | 2.77 | 2.09 | 1.75 |
| Jul-03 | 100.59 | 100.31 | -0.21 | -0.19 | 2.39 | 2.46 | 2.15 | 1.84 |
| Aug-03 | 100.38 | 100.11 | -0.21 | -0.20 | 2.27 | 2.40 | 2.27 | 1.99 |
| Sep-03 | 100.30 | 99.96 | -0.07 | -0.15 | 2.18 | 2.28 | 2.38 | 2.13 |
| Oct-03 | 100.58 | 100.13 | 0.28 | 0.17 | 2.32 | 2.37 | 2.49 | 2.28 |
| Nov-03 | 100.57 | 100.07 | -0.02 | -0.06 | 2.15 | 2.10 | 2.55 | 2.35 |
| Dec-03 | 101.11 | 100.59 | 0.54 | 0.53 | 2.44 | 2.38 | 2.61 | 2.46 |
| Jan-04 | 101.32 | 100.74 | 0.21 | 0.14 | 2.12 | 1.99 | 2.60 | 2.48 |
| Feb-04 | 101.26 | 100.60 | -0.06 | -0.14 | 1.68 | 1.47 | 2.51 | 2.40 |
| Mar-04 | 100.88 | 100.29 | -0.38 | -0.31 | 1.07 | 0.89 | 2.34 | 2.26 |
| Apr-04 | 100.50 | 99.88 | -0.37 | -0.40 | 0.61 | 0.28 | 2.13 | 2.05 |
| May-04 | 100.70 | 100.10 | 0.20 | 0.22 | -0.02 | -0.38 | 1.84 | 1.74 |
| Jun-04 | 100.61 | 99.97 | -0.09 | -0.13 | -0.19 | -0.53 | 1.58 | 1.47 |
| Jul-04 | 100.70 | 100.14 | 0.09 | 0.17 | 0.11 | -0.17 | 1.39 | 1.25 |
| Aug-04 | 100.68 | 100.18 | -0.02 | 0.04 | 0.31 | 0.07 | 1.23 | 1.05 |
| Sep-04 | 100.79 | 100.35 | 0.10 | 0.17 | 0.48 | 0.39 | 1.08 | 0.90 |
| Oct-04 | 101.04 | 100.62 | 0.25 | 0.27 | 0.45 | 0.49 | 0.93 | 0.74 |
| Nov-04 | 101.31 | 100.85 | 0.27 | 0.23 | 0.74 | 0.78 | 0.81 | 0.63 |

## Annex 2

### COMPARISON OF THE UPDATED AND PREVIOUS VERSIONS OF REERIP (CPI) - cont.

(In percentage)

| 1999Q1=100 | REERIP (CPI) | | Chain rate of change | | Year-on-year rate of change | | Annual average rate of change | |
|---|---|---|---|---|---|---|---|---|
| | Updated version | Previous version | Updated version | Previous version | Updated version | Previous version | Updated version | Previous version |
| Jan-99 | 100.42 | 100.58 | | | | | | |
| Feb-99 | 99.97 | 99.90 | -0.45 | -0.68 | | | | |
| Mar-99 | 99.61 | 99.52 | -0.36 | -0.38 | | | | |
| Apr-99 | 99.57 | 99.56 | -0.04 | 0.04 | | | | |
| May-99 | 99.45 | 99.50 | -0.12 | -0.06 | | | | |
| Jun-99 | 99.27 | 99.27 | -0.18 | -0.23 | | | | |
| Jul-99 | 99.18 | 99.27 | -0.09 | 0.00 | | | | |
| Aug-99 | 98.94 | 98.92 | -0.24 | -0.35 | | | | |
| Sep-99 | 98.26 | 98.08 | -0.68 | -0.85 | | | | |
| Oct-99 | 98.62 | 98.38 | 0.37 | 0.31 | | | | |
| Nov-99 | 98.63 | 98.41 | 0.01 | 0.03 | | | | |
| Dec-99 | 98.03 | 97.87 | -0.61 | -0.55 | | | | |
| Jan-00 | 97.81 | 97.78 | -0.22 | -0.09 | -2.60 | -2.79 | | |
| Feb-00 | 96.90 | 96.95 | -0.93 | -0.84 | -3.07 | -2.95 | | |
| Mar-00 | 96.32 | 96.38 | -0.60 | -0.59 | -3.30 | -3.15 | | |
| Apr-00 | 96.89 | 96.87 | 0.60 | 0.50 | -2.69 | -2.70 | | |
| May-00 | 97.07 | 97.08 | 0.19 | 0.21 | -2.39 | -2.44 | | |
| Jun-00 | 98.05 | 98.14 | 1.00 | 1.09 | -1.23 | -1.14 | | |
| Jul-00 | 98.19 | 98.43 | 0.15 | 0.30 | -0.99 | -0.85 | | |
| Aug-00 | 97.53 | 97.80 | -0.67 | -0.64 | -1.42 | -1.13 | | |
| Sep-00 | 96.60 | 96.85 | -0.96 | -0.97 | -1.69 | -1.25 | | |
| Oct-00 | 96.45 | 96.68 | -0.15 | -0.17 | -2.20 | -1.72 | | |
| Nov-00 | 97.07 | 97.39 | 0.64 | 0.73 | -1.58 | -1.03 | | |
| Dec-00 | 97.89 | 98.28 | 0.84 | 0.92 | -0.15 | 0.42 | -1.95 | -1.73 |
| Jan-01 | 99.46 | 100.06 | 1.61 | 1.81 | 1.69 | 2.34 | -1.59 | -1.31 |
| Feb-01 | 99.12 | 99.76 | -0.34 | -0.31 | 2.29 | 2.89 | -1.15 | -0.83 |
| Mar-01 | 99.03 | 99.76 | -0.09 | 0.01 | 2.82 | 3.51 | -0.64 | -0.28 |
| Apr-01 | 98.78 | 99.54 | -0.25 | -0.22 | 1.95 | 2.76 | -0.26 | 0.18 |
| May-01 | 98.80 | 99.53 | 0.02 | -0.01 | 1.78 | 2.53 | 0.09 | 0.59 |
| Jun-01 | 98.60 | 99.43 | -0.21 | -0.11 | 0.56 | 1.32 | 0.24 | 0.80 |
| Jul-01 | 99.35 | 100.09 | 0.77 | 0.67 | 1.18 | 1.69 | 0.42 | 1.02 |
| Aug-01 | 99.81 | 100.51 | 0.47 | 0.42 | 2.34 | 2.78 | 0.74 | 1.34 |
| Sep-01 | 99.58 | 100.23 | -0.24 | -0.28 | 3.08 | 3.49 | 1.14 | 1.74 |
| Oct-01 | 99.82 | 100.57 | 0.24 | 0.34 | 3.49 | 4.02 | 1.61 | 2.22 |
| Nov-01 | 100.09 | 100.95 | 0.27 | 0.38 | 3.11 | 3.65 | 2.01 | 2.61 |
| Dec-01 | 100.08 | 101.08 | -0.01 | 0.14 | 2.24 | 2.85 | 2.21 | 2.81 |

## COMPARISON OF THE UPDATED AND PREVIOUS VERSIONS OF REERIP (CPI)

(In percentage)

| 1999Q1=100 | REERIP (CPI) | | Chain rate of change | | Year-on-year rate of change | | Annual average rate of change | |
|---|---|---|---|---|---|---|---|---|
| | Updated version | Previous version | Updated version | Previous version | Updated version | Previous version | Updated version | Previous version |
| Jan-02 | 100.02 | 101.07 | -0.06 | -0.01 | 0.56 | 1.01 | 2.11 | 2.70 |
| Feb-02 | 99.45 | 100.47 | -0.57 | -0.60 | 0.32 | 0.72 | 1.94 | 2.52 |
| Mar-02 | 99.32 | 100.37 | -0.13 | -0.10 | 0.29 | 0.61 | 1.73 | 2.27 |
| Apr-02 | 99.62 | 100.82 | 0.30 | 0.44 | 0.84 | 1.28 | 1.64 | 2.15 |
| May-02 | 100.69 | 101.83 | 1.08 | 1.00 | 1.92 | 2.30 | 1.65 | 2.13 |
| Jun-02 | 101.69 | 102.73 | 0.99 | 0.89 | 3.14 | 3.32 | 1.87 | 2.30 |
| Jul-02 | 102.48 | 103.28 | 0.78 | 0.53 | 3.15 | 3.19 | 2.03 | 2.42 |
| Aug-02 | 102.37 | 103.15 | -0.11 | -0.13 | 2.56 | 2.63 | 2.05 | 2.41 |
| Sep-02 | 102.04 | 102.78 | -0.32 | -0.36 | 2.48 | 2.55 | 2.00 | 2.34 |
| Oct-02 | 102.46 | 103.21 | 0.41 | 0.42 | 2.65 | 2.63 | 1.94 | 2.23 |
| Nov-02 | 103.25 | 104.13 | 0.77 | 0.89 | 3.16 | 3.15 | 1.94 | 2.19 |
| Feb-02 | 103.21 | 104.08 | -0.04 | -0.04 | 3.13 | 2.96 | 2.02 | 2.20 |
| Jan-03 | 103.93 | 104.82 | 0.70 | 0.71 | 3.91 | 3.71 | 2.30 | 2.42 |
| Feb-03 | 103.86 | 104.73 | -0.07 | -0.08 | 4.44 | 4.24 | 2.64 | 2.72 |
| Mar-03 | 103.59 | 104.54 | -0.27 | -0.19 | 4.29 | 4.15 | 2.97 | 3.01 |
| Apr-03 | 104.31 | 105.47 | 0.70 | 0.90 | 4.71 | 4.62 | 3.30 | 3.29 |
| May-03 | 106.05 | 107.31 | 1.67 | 1.74 | 5.32 | 5.39 | 3.58 | 3.55 |
| Jun-03 | 106.08 | 107.27 | 0.02 | -0.03 | 4.31 | 4.42 | 3.68 | 3.64 |
| Jul-03 | 105.91 | 107.07 | -0.16 | -0.19 | 3.34 | 3.67 | 3.69 | 3.68 |
| Aug-03 | 105.46 | 106.66 | -0.42 | -0.38 | 3.01 | 3.40 | 3.73 | 3.74 |
| Sep-03 | 105.33 | 106.44 | -0.12 | -0.21 | 3.22 | 3.56 | 3.79 | 3.83 |
| Oct-03 | 105.68 | 106.74 | 0.33 | 0.28 | 3.14 | 3.41 | 3.83 | 3.89 |
| Nov-03 | 105.71 | 106.77 | 0.03 | 0.03 | 2.38 | 2.54 | 3.76 | 3.84 |
| Dec-03 | 106.12 | 107.17 | 0.39 | 0.37 | 2.82 | 2.97 | 3.73 | 3.83 |
| Jan-04 | 106.62 | 107.61 | 0.47 | 0.40 | 2.59 | 2.66 | 3.62 | 3.74 |
| Feb-04 | 106.08 | 106.98 | -0.51 | -0.59 | 2.13 | 2.14 | 3.43 | 3.57 |
| Mar-04 | 105.34 | 106.32 | -0.69 | -0.61 | 1.69 | 1.71 | 3.21 | 3.36 |
| Apr-04 | 105.34 | 106.37 | 0.00 | 0.05 | 0.99 | 0.85 | 2.90 | 3.05 |
| May-04 | 106.01 | 107.13 | 0.64 | 0.71 | -0.04 | -0.16 | 2.45 | 2.58 |
| Jun-04 | 107.12 | 108.26 | 1.05 | 1.05 | 0.99 | 0.92 | 2.18 | 2.29 |
| Jul-04 | 106.60 | 107.77 | -0.49 | -0.46 | 0.65 | 0.65 | 1.95 | 2.04 |
| Aug-04 | 105.87 | 107.12 | -0.69 | -0.60 | 0.39 | 0.43 | 1.73 | 1.79 |
| Sep-04 | 105.76 | 107.08 | -0.10 | -0.04 | 0.41 | 0.60 | 1.50 | 1.55 |
| Oct-04 | 106.00 | 107.42 | 0.23 | 0.32 | 0.30 | 0.64 | 1.27 | 1.32 |

## Annex 3

### COMPARISON OF THE REAL EFFECTIVE EXCHANGE RATES INDICES FOR PORTUGAL, ADJUSTED FOR THE CPI AND GDP DEFLATORS

(In percentage)

| 1999Q1=100 | REERIP (CPI) | REERIP (GDPD) | Chain rate of change | | Year-on-year rate of change | | Annual average rate of change | |
|---|---|---|---|---|---|---|---|---|
| | | | REERIP (CPI) | REERIP (GDPD) | REERIP (CPI) | REERIP (GDPD) | REERIP (CPI) | REERIP (GDPD) |
| 1999Q1 | 100.00 | 100.00 | | | | | | |
| 1999Q2 | 99.43 | 99.70 | -0.57 | -0.30 | | | | |
| 1999Q3 | 98.79 | 99.26 | -0.64 | -0.44 | | | | |
| 1999Q4 | 98.43 | 99.85 | -0.37 | 0.60 | | | | |
| 2000Q1 | 97.01 | 98.67 | -1.44 | -1.19 | -2.99 | -1.33 | | |
| 2000Q2 | 97.34 | 99.53 | 0.34 | 0.87 | -2.10 | -0.17 | | |
| 2000Q3 | 97.44 | 99.00 | 0.11 | -0.53 | -1.37 | -0.26 | | |
| 2000Q4 | 97.14 | 99.28 | -0.31 | 0.28 | -1.31 | -0.57 | -1.95 | -0.59 |
| 2001Q1 | 99.21 | 100.28 | 2.13 | 1.01 | 2.26 | 1.63 | -0.64 | 0.15 |
| 2001Q2 | 98.73 | 100.04 | -0.48 | -0.24 | 1.43 | 0.51 | 0.24 | 0.32 |
| 2001Q3 | 99.58 | 101.13 | 0.86 | 1.09 | 2.19 | 2.15 | 1.14 | 0.93 |
| 2001Q4 | 99.99 | 102.11 | 0.41 | 0.97 | 2.94 | 2.84 | 2.21 | 1.78 |
| 2002Q1 | 99.60 | 101.57 | -0.40 | -0.53 | 0.39 | 1.28 | 1.73 | 1.70 |
| 2002Q2 | 100.67 | 102.29 | 1.08 | 0.72 | 1.97 | 2.26 | 1.87 | 2.13 |
| 2002Q3 | 102.30 | 103.77 | 1.62 | 1.44 | 2.73 | 2.61 | 2.00 | 2.25 |
| 2002Q4 | 102.97 | 104.85 | 0.66 | 1.04 | 2.98 | 2.69 | 2.02 | 2.21 |
| 2003Q1 | 103.79 | 104.11 | 0.80 | -0.70 | 4.21 | 2.50 | 2.97 | 2.52 |
| 2003Q2 | 105.48 | 105.79 | 1.63 | 1.62 | 4.78 | 3.42 | 3.68 | 2.81 |
| 2003Q3 | 105.57 | 105.57 | 0.08 | -0.21 | 3.19 | 1.74 | 3.79 | 2.58 |
| 2003Q4 | 105.84 | 107.00 | 0.26 | 1.36 | 2.78 | 2.06 | 3.73 | 2.42 |
| 2004Q1 | 106.01 | 105.97 | 0.17 | -0.97 | 2.14 | 1.79 | 3.21 | 2.24 |
| 2004Q2 | 106.16 | 105.41 | 0.14 | -0.53 | 0.64 | -0.36 | 2.18 | 1.30 |
| 2004Q3 | 106.07 | | -0.08 | | 0.48 | | 1.50 | |

# RECENT EVOLUTION OF PORTUGUESE EXPORT MARKET SHARES IN THE EUROPEAN UNION*

*Sónia Cabral***

## 1. INTRODUCTION

After the significant market share gains observed previously, Portuguese producers started to record losses in export market shares in 1997, when international trade flows were strongly affected by the international financial crisis(1). This situation seems to have started to reverse only from 2001 onwards. The behaviour of Portuguese exports in the past few years contrasts with the buoyancy of exports from other areas, namely South-East Asian or Central and Eastern European countries. Even though developments in the price/competitiveness of Portuguese exports may partly explain the losses in market share recorded from 1997 onwards, there are other factors, such as those related to the productive specialisation pattern of the Portuguese economy and to changes in the world demand for the various products, that had also an impact on developments in the market share of Portuguese exports.

Considering that around 80 per cent of Portuguese exports are channelled to other Member States of the European Union (EU15), the analysis of the behaviour of Portuguese producers in this market is particularly relevant. This article analyses developments in the market share, in volume, of Portuguese exports in the intra-community market in the 1997-2003 period, in particular regarding the influence of product composition on the aggregate behaviour of exports. For this purpose, we used the constant market share methodology, as presented by Nyssens and Poullet (1990) and applied to the Portuguese economy by Manteu and Abreu (1993). The overall change in the market share of Portuguese exports in the past seven years in the community market is broken down into two additive and analytically interpretable terms. The first term, the structure effect, analyses to which extent the composition by products of Portuguese exports affected developments in the market share, while the second term, the market share effect, takes into consideration the effective changes in the market share in each product market.

The results obtained reveal a considerable loss in the overall market share in the community market in the 1997-2003 period, higher than 10.5 per cent in cumulative terms. The breakdown of this total effect points to the existence of high effective losses in individual product markets, contributing with 6 percentage points (p.p.) to the total loss, which can indicate some deterioration in the competitiveness of Portuguese exports. However, the contribution of the specialisation by products of Portuguese exports was also rather negative, ac-

* The views expressed in this article are those of the author and do not necessarily coincide with those of Banco de Portugal. The author thanks Paulo Esteves, José Ferreira Machado, Maximiano Pinheiro and Luís Morais Sarmento for their suggestions and comments.

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(1) From mid-1997 onwards, the international financial crisis started to affect some economies in South-East Asia, spreading subsequently to Russia and to some Latin American countries. The marked deceleration in economic activity in these countries and the improvement in their competitiveness, resulting from significant nominal depreciations of their currencies, led to a smaller growth of exports across the most developed economies. However, the intensity of this contractionary shock depended on both the type of goods exported and the resulting increased competition in third markets and on the degree of trade integration with the countries more severely hit by the international crisis.

counting for around 45 per cent of the total market share loss over this period. In particular, the higher relative weight in Portuguese exports of products whose markets recorded below average growth, in the past seven years as a whole, had a specially negative impact.

This article is organised as follows: section 2 makes a preliminary analysis of the product composition of Portuguese exports. Section 3 contains a brief description of the methodology. Section 4 presents the main results of the constant market share analysis. Finally, section 5 concludes.

## 2. BRIEF DESCRIPTION OF THE PRODUCTIVE STRUCTURE OF PORTUGUESE EXPORTS

In the past two decades, the relative importance of the main productive sectors of the Portuguese economy underwent major changes. In particular, in parallel with a reduction in the weight of manufacturing industry, the relative importance of its various subsectors also changed.

Table 1 illustrates developments in the structure of Portuguese merchandise exports by groups of products in the past two decades. Over this period, there was a marked reduction in the weight of products more intensive in low-skilled labour and of products related to the exploitation of natural resources: "clothing and footwear", "skins, leather and textiles" and "wood, cork and paper". On the whole, the weight of these products in Portuguese exports reached almost 50 per cent in 1983-1984[2], having declined to less than 35 per cent in the average of the most recent period. With respect to "clothing and footwear", it should be noted that its loss of importance in total exports was only visible after 1993, since its weight even increased until this year. Thereafter, the loss of weight of this type of products was rather marked, which may reflect, at least in part, the increased competition from a significant number of emerging markets and transition economies.

By contrast, there was a significant increase in the weight of other sectors, such as "machinery" and "transport material", whose exports increased strongly, particularly in the second half of the 1990s. Thus, the aggregate weight of these two groups of products in total Portuguese exports increased from around 16 per cent in 1983-1984 to more than 35 per cent in 2000-2003. Moreover, it should be noted that this change was largely influenced by increases in the export capacity resulting from the entry into operation of industrial production units associated with foreign direct investment projects.

As illustrated in Table 2 and in Chart 1, and despite the changes occurred over the past two decades, the productive specialisation of Portuguese

Table 1

**STRUCTURE OF PORTUGUESE MERCHANDISE EXPORTS**

Weight in total nominal exports (per cent)

| | | 1983-1984 | 1985-1989 | 1990-1994 | 1995-1999 | 2000-2003 |
|---|---|---|---|---|---|---|
| 000 | Agricultural and food products | 11.4 | 8.6 | 7.5 | 7.4 | 7.4 |
| 100 | Energy | 4.9 | 3.2 | 3.3 | 2.2 | 2.2 |
| 200 | Chemicals | 8.2 | 6.9 | 5.9 | 6.3 | 7.9 |
| 300 | Wood, cork and paper | 13.9 | 14.1 | 11.1 | 9.8 | 9.6 |
| 400 | Skins, leather and textiles | 13.5 | 10.9 | 8.6 | 7.8 | 7.3 |
| 500 | Clothing and footwear | 19.6 | 27.6 | 29.5 | 22.3 | 16.7 |
| 600 | Minerals and metals | 6.6 | 6.0 | 6.1 | 5.7 | 6.2 |
| 700 | Machinery | 12.1 | 11.4 | 14.1 | 17.2 | 19.4 |
| 800 | Transport equipment | 4.3 | 5.4 | 6.7 | 14.4 | 16.4 |
| 900 | Miscellaneous finished products | 5.6 | 5.9 | 7.1 | 7.0 | 7.1 |
| | Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| *Memo:* | | | | | | |
| 300+400+500 | Wood, cork, paper, skins, leather, textiles, clothing and footwear | 47.0 | 52.6 | 49.3 | 39.8 | 33.5 |
| 700+800 | Machinery and transport equipment | 16.4 | 16.8 | 20.8 | 31.6 | 35.8 |

Source: *Ministério da Economia – Gabinete de Estratégia e Estudos* (former *Direcção-Geral de Relações Económicas Internacionais*).

Table 2

**COMPARISON OF THE STRUCTURE OF MERCHANDISE EXPORTS BY GROUPS OF PRODUCTS 2000-2003 PERIOD**

| Weight in total nominal exports (per cent) | | Portugal | EU15 | Spain | Greece | Ireland |
|---|---|---|---|---|---|---|
| SITC 0 | Food and live animals | 4.2 | 6.2 | 12.0 | 15.6 | 6.6 |
| SITC 1 | Beverages and tobacco | 2.6 | 1.5 | 1.6 | 4.6 | 1.2 |
| SITC 24+25 | Crude materials – Cork, wood and paper | 2.4 | 0.6 | 0.5 | 0.1 | 0.1 |
| SITC 21 to 23 + 26 to 29 | Other crude materials, excluding food and fuels | 1.3 | 1.6 | 1.6 | 5.3 | 1.1 |
| SITC 3 | Mineral fuels, lubricants and related materials | 2.2 | 3.7 | 3.4 | 10.1 | 0.3 |
| SITC 4 | Animal and vegetal oils, fats and waxes | 0.4 | 0.3 | 1.1 | 2.3 | 0.0 |
| SITC 5 | Chemical and related products n.e.s | 5.7 | 14.3 | 10.4 | 9.8 | 38.3 |
| SITC 61+ 65 | Manufactured goods – leather, and textiles | 7.0 | 2.5 | 3.0 | 4.6 | 0.6 |
| SITC 63+ 64 | Manufactured goods – cork, wood and paper | 7.1 | 2.8 | 2.3 | 1.2 | 0.4 |
| SITC 62 + 66 to 69 | Other manufactured goods, classified by raw material | 9.7 | 9.8 | 11.6 | 15.1 | 1.2 |
| SITC 70 to 77 | Machinery | 19.3 | 27.1 | 15.7 | 10.4 | 34.7 |
| SITC 78 + 79 | Transport equipment | 15.9 | 15.9 | 25.5 | 2.2 | 0.8 |
| SITC 84 | Articles of apparel and clothing accessories | 11.0 | 2.1 | 2.0 | 13.0 | 0.4 |
| SITC 85 | Footwear | 5.8 | 0.7 | 1.6 | 0.3 | 0.0 |
| SITC 81 to 83 + 87 to 89 | Miscellaneous manufactured articles | 5.1 | 8.7 | 6.5 | 4.6 | 9.7 |
| SITC 9 | Other goods not classified else were | 0.3 | 2.2 | 1.1 | 0.7 | 4.5 |
| | Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| *Memo:* | | | | | | |
| CTCI 24+25, 61+ 65, 63+ 64, 84, 85 | Wood, cork, paper, leather manufactures, textile yarn, fabric articles, articles of apparel, clothing accessories and footwear | 33.3 | 8.7 | 9.5 | 19.2 | 1.5 |
| CTCI 70 to 77, 78+79 | Machinery and transport equipment | 35.2 | 42.9 | 41.2 | 12.6 | 35.5 |

Source: *ComExt - Eurostat*.

exports still shows significant differences compared with either the EU15 average or other EU15 Cohesion countries (Spain, Greece and Ireland)[3]:

i) The so-called traditional products continue to account for more than 30 per cent of Portuguese exports in the 2000-2003 period, clearly higher than in both the EU15 as a whole and in countries such as Spain or even Greece.

ii) The relative weight of Portuguese exports of "chemicals and related products" is much lower than in the EU15 and in the remaining countries analysed. In this group of products, the difference is particularly marked compared with Ireland, where the weight of these products in exports reaches almost 40 per cent (around 6 per cent in Portugal).

iii) The aggregate weight of products included in "machinery" and "transport equipment" continues to be lower in Portugal than in the EU15 (approximately 35 and 40 per cent respectively). This result reflects the smaller relative importance of "machinery" in Portuguese exports, since the weight of "transport equipment" in the 2000-2003 period is similar in Portugal and in the EU15. Compared with other countries, the total aggregate weight of these products in Portuguese exports in the past four years is much higher than in Greece, similar to that of Ireland, but still lower than in Spain.

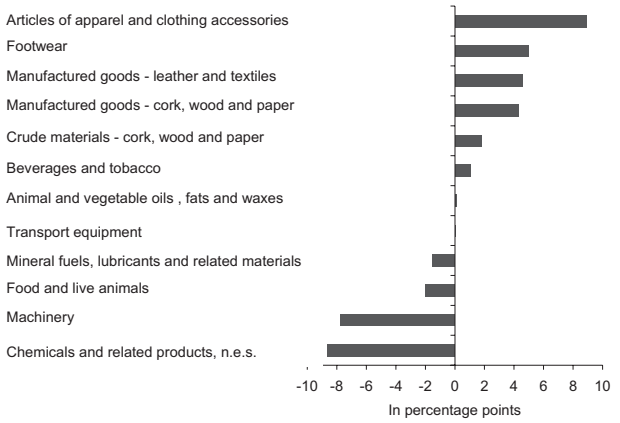
## 3. DESCRIPTION OF THE CONSTANT MARKET SHARE METHODOLOGY

The constant market share methodology is an accounting method that enables the ex-post disaggregation of the changes in global market shares of a certain country over time. This method is particularly useful to separate and quantify the contribution of the trade pattern of the country (in

(2) The annual series released by the former *Direcção-Geral de Relações Económicas Internacionais (DGREI)* by groups and subgroups of products start in 1983.

(3) The comparison of the productive structures of Portuguese and EU15 exports was made on the basis of data released by *Eurostat - Comext*, whose nomenclature by product is different from that used by the former *DGREI*. The former is based on the Standard International Trade Classification (SITC), while the latter in based on the Combined Nomenclature (CN). However, the analysis on the basis of either of them leads to quite similar conclusions. The structure by products used in the international comparison was constructed from the 2-digit disaggregation of the SITC, in order to reflect the sectoral specialisation of Portuguese exports. This structure will also be used in the application of the constant market share methodology described in the following section. The description of the products included in each SITC is presented in the Annex.

Chart 1
**COMPARISON OF EXPORT STRUCTURES BY MAIN GROUPS OF PRODUCTS – PORTUGAL VS. EU15**
Differences in average weights in the 2000-2003 period




Source: *ComExt - Eurostat*.

terms of products and/or markets) from the contribution of other factors[4]. The interest of this method, which is only used for descriptive rather than explanatory purposes, results mainly from its easiness of use as well as from its capacity to identify key features of the differentiated behaviour of a given variable[5].

The main idea underlying the constant market share analysis, as presented by Nyssens and Poullet (1990) and applied by Manteu and Abreu (1993) to the Portuguese economy, is that the export structure of a given country affects its global growth, regardless of the changes in other factors, such as those associated with competitiveness. Thus, the change in the global market share of a country in a given period, the total effect, is broken down into two terms: one measuring the effect of the export structure of the country in terms of geographical distribution and/or product composition, the structure effect; and another resulting from changes in the market share of each product in each destination market, the market share effect.

In this article, we compare the evolution of Portuguese exports to the EU15 and of total imports from the EU15, in volume, so as to assess the impact of the sectoral structure of Portuguese exports on the change in its total market share in the community market. It should be noted that, unlike the other two studies mentioned above, data availability in volume did not enable the geographical distribution of Portuguese exports into the several EU15 trading partners to be taken into consideration, and therefore the structure effect in this article refers only to the product composition.

Thus, we have:

$X_t$ = total Portuguese exports to the EU15 in period $t$

$a_{it} = X_{it} / X_t$ = weight of exports of product $i$ in total Portuguese exports to the EU15 in period $t$

$u_{it}$ = 1+ rate of change of Portuguese exports to the EU15 of product $i$ in period $t$

$u_t$ = 1+ rate of change of Portuguese exports to the EU15 in period $t$

$M_t$ = total imports from the EU15 in period $t$

$a^*_{it} = M_{it} / M_t$ = weight of imports of product $i$ in total imports from the EU15 in period $t$

$u^*_{it}$ = 1+ rate of change of imports from the EU15 of product $i$ in period $t$

$u^*_t$ = 1+ rate of change of imports from the EU15 in period $t$

According to the methodology used, the Total Effect (ET) corresponds to the difference between the effective exports of the country and the hypothetical exports that would allow the total market share in the reference market to remain constant:

$$ET_t = X_{t-1}\sum_i (a_{i,t-1}.u_{it}) - X_{t-1}\sum_i (a^*_{i,t-1}.u^*_{it}) =$$

$$= X_{t-1}(u_t - u^*_t)$$

(4) This technique was initially used in studies of variables such as employment or labour productivity within the scope of regional economics, where it is best-known as shift-share analysis; subsequently this technique was applied to studies on international trade flows, where it was used for the first time by Tyszynski (1951). For a detailed description of the constant market share methodology, its different formulations and application in studies of regional economics, see Loveridge and Selting (1998); for an analysis of the application of this methodology to exports, see Leamer and Stern (1970).

(5) This type of analysis has been criticised both for the lack of theoretical bases and for its empirical applications. For example, the analysis of constant market share can be applied at several product/destination market disaggregation levels; the results are not independent from this choice, although the discretionary decision on the level of disaggregation to be used is generally determined by the availability of information. For a detailed discussion of the main criticism on the constant market share methodology, see Richardson (1971).

This ET can be broken down into two terms: one resulting from effective gains/losses in market shares in each product market, the Market Share Effect (EQM), and another resulting from the influence of the productive specialisation of the country, the Structure Effect (EE)(6) :

$$ET = EQM + EE$$

In each period, EQM results from the difference between the growth of Portuguese exports and that of imports from the EU15, by product, excluding the influence of structural differences. Taking as given the productive structure of Portuguese exports, a comparison is made between the growth rates, for each product, of Portuguese exports and of imports from the EU15:

$$EQM_t = X_{t-1} \sum_i a_{i,t-1}(u_{it} - u_{it}^*)$$

In turn, the EE, obtained as the difference between ET and EQM, determines which part of the total change in the market share of Portugal in the EU15 resulted from the sectoral specialisation of the country:

$$EE_t = X_{t-1} \sum_i (a_{i,t-1} - a_{i,t-1}^*)\, u_{it}^* =$$

$$= \sum_i (X_{t-1}.u_t^*)(u_{it}^* / u_t^* - 1)(a_{i,t-1} - a_{i,t-1}^*)$$

A product is considered progressive (regressive) if the growth of imports of this product in the reference market is higher (lower) than the average growth of total imports. That is:

$$u_{it}^* / u_t^* > 1 \Leftrightarrow \text{progressivity}$$

$$u_{it}^* / u_t^* < 1 \Leftrightarrow \text{regressivity}$$

Portuguese exports are considered to be specialised in a given product if its weight in total exports exceeds the corresponding weight in total imports of the reference market. That is:

$$a_{it} - a_{it}^* > 0 \Leftrightarrow \text{specialization}$$

$$a_{it} - a_{it}^* < 0 \Leftrightarrow \text{non-specialization}$$

Thus, the EE in each period will be positive if the country is relatively more (less) specialised in products whose markets grow above (below) the average; the EE will be negative if the country is relatively less (more) specialised in products that grow above (below) the average.

When a constant market share analysis is made for a period of several years, the various annual effects can be added up. EQM then measures the cumulative change in the market share of exports, considering only its capacity to penetrate in external markets and ignoring the productive structure effect. EE reflects the change in the market share resulting both from the initial productive structure and from structural changes occurred over the period. This EE can be compared with an Initial Structure Effect (EEI), whose calculation is based on a hypothetical productive structure, determined by applying to the initial year structure, the growth rates that would enable exports to keep unchanged their market share in each product market, year after year:

(6) The intuition of this type of effects can be easily understood through a very simple example, in which only two products are considered to exist (A and B). Let us take two extreme cases:

Case 1: imports from the EU15 are comprised of Product A with a weight of 50 per cent and a growth rate of 10 per cent and Product B with a weight of 50 per cent and a growth rate of 20 per cent. Thus, total imports from the EU15, i.e. total demand, increase by 15 per cent. Let us consider that Portuguese exports to the EU15 include Product A with a weight of 50 per cent and a growth rate of 10 per cent and Product B with a weight of 50 per cent and a growth rate of 10 per cent. That is, total Portuguese exports to the EU15 increase by 10 per cent. In this case, we have a loss in the total market share of 5 per cent, which results only from the market share effect (because there is an effective loss in the market of Product B). The sectoral structure effect is nil, since the structures are identical (the weight of Products A and B is the same in imports from the EU15 and in Portuguese exports to the EU15).

Case 2: Let us consider now that imports from the EU15 are the same as in Case 1, but that Portuguese exports to the EU15 are now comprised of Product A with a weight of 75 per cent and a growth rate of 10 per cent and Product B with a weight of 25 per cent and a growth rate of 20 per cent. Hence, total Portuguese exports to the EU15 increase by 12.5 per cent. In this case, we have a loss in the total market share of 2.5 per cent, which results only from the sectoral structure effect. The market share effect in each product market is nil, since the growth rates of exports and of the relevant demand in each product market are similar. The loss in the total market share results from the fact that Portugal is more specialised in a Product (A), whose demand growth is lower than average.

$$EEI_t = X_{t-1} \sum_i \left[ \frac{a_{i0} . u^*_{i1} \ldots u^*_{i,t-1}}{\sum_i a_{i0} . u^*_{i1} \ldots u^*_{i,t-1}} - a^*_{i,t-1} \right] u^*_{it}$$

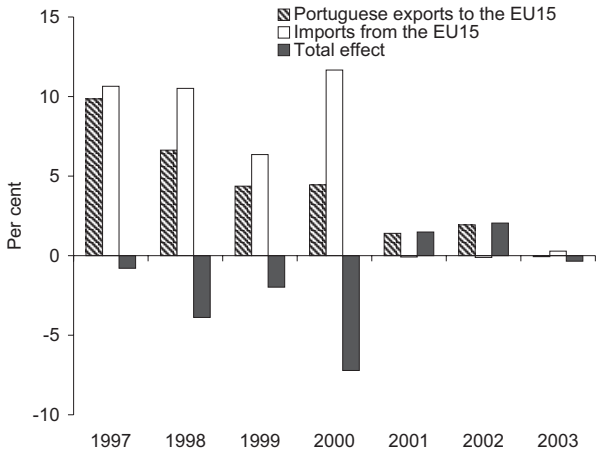
The difference between EE and EEI, when added up throughout several years, reflects the impact of the so-called "complementary changes" of the productive structure of exports in the course of that period, as opposed to the changes strictly necessary to maintain the initial market shares in each product market (EEI). This difference is the Structure Adaptation Effect (EAE).

## 4. MAIN RESULTS

As referred to in section 2, the structure by products of Portuguese exports still shows considerable differences compared with the EU15 average, despite the significant changes occurred in the past two decades. It is now important to determine if the Portuguese productive specialisation had any impact on the overall developments in Portugal's global market shares. This will be done by applying the constant market share methodology described in the previous section.

Like most studies carried out in the past with this methodology, the present study was conditioned by the statistical information available. We used the *ComExt* database of *Eurostat*, which presents data in value and the respective price indices for a 2-digit disaggregation of the Standard International Trade Classification (SITC), and therefore it was possible to analyse the constant market share in volume, taking the EU15 market as the reference market(7). As mentioned above, in view of the non-existence of data on external trade deflators disaggregated by country, the geographical structure of Portuguese exports was not considered in this study. The productive structure was analysed through a disaggregation by products, on the basis of the SITC, similar to that presented in section 2(8). The detailed description of the products included in each SITC is presented in the Annex. In addition, we used total merchandise trade excluding fuels (SITC 3) and other residual merchandise (SITC 9); these items were excluded because their erratic behaviour, with high magnitude changes, could distort the results.

Chart 2
**PORTUGUESE MERCHANDISE EXPORTS TO THE EU15 AND IMPORTS FROM THE EU15**
Rates of change, in real terms




Source: *ComExt - Eurostat*.

As illustrated in Chart 2, the rates of change of Portuguese exports to the EU15 in the several years until 2000 were lower than those of imports from the EU15, in particular in 2000, having recovered somewhat in the last three years. Considering the sum of the total effects in the 1997-2003 period, Portuguese exports recorded a considerable cumulative loss in global market share in the commu-

(7) The relevant market, i.e. total imports from the EU15, was constructed by aggregating EU15 intra-community exports and EU15 imports of extra-community origin. Alternatively, we could have considered total imports made by the EU15 (intra and extra-community) as the relevant market. Given the significant discrepancy between the sum of intra-community exports of EU15 countries and the sum of intra-community imports of the same countries, we used data on intra-community exports. This option, derived from a judgement on the higher relative reliability/coverage of these statistics, in addition to being the option usually used by *Eurostat* in its publications, did not have a significant impact on the results. Indeed, the constant market share analysis was also done using as the relevant market the sum of intra and extra-community imports of the EU15 and the results obtained were similar, in particular the disaggregation of the various effects by the several groups of products was virtually identical.

(8) Considering that in the constant market share analysis, the magnitude of the several effects, except for the total effect, is influenced by the productive disaggregation chosen, all the calculations were also made with a SITC 2-digit disaggregation. The results obtained with the two productive disaggregations were quite similar, which led us to conclude that they are reasonably robust.

**Table 3**
**BREAKDOWN OF THE TOTAL EFFECT *(ET)* INTO MARKET SHARE EFFECT *(EQM)* AND STRUCTURE EFFECT *(EE)*[a]**

Per cent

| | In volume | | | | | | |
|---|---|---|---|---|---|---|---|
| | Portugal[b] | EU15[c] | ET | ET | | | |
| | | | | EQM | EE | EE | |
| | | | | | | EEI | EAE |
| 1997 | 9.9 | 10.6 | -0.8 | -0.5 | -0.3 | -0.3 | 0.0 |
| 1998 | 6.6 | 10.5 | -3.9 | -2.2 | -1.7 | -1.7 | 0.0 |
| 1999 | 4.4 | 6.4 | -2.0 | -1.4 | -0.6 | -0.6 | 0.0 |
| 2000 | 4.5 | 11.7 | -7.2 | -5.3 | -1.9 | -2.2 | 0.3 |
| 2001 | 1.4 | -0.1 | 1.5 | 1.5 | 0.0 | 0.1 | -0.1 |
| 2002 | 1.9 | -0.1 | 2.1 | 2.2 | -0.1 | 0.0 | -0.1 |
| 2003 | -0.1 | 0.3 | -0.3 | -0.4 | 0.0 | 0.2 | -0.2 |
| Average | 4.1 | 5.6 | -1.5 | -0.9 | -0.7 | -0.6 | 0.0 |
| Cumulative | 28.6 | 39.3 | -10.7 | -6.0 | -4.6 | -4.5 | -0.2 |

Source: *COMEXT – Eurostat*.
Notes:
(a) The figures may not add up due to rounding.
(b) Rate of change of Portuguese exports to the EU15, excluding fuels and other residual merchandise.
(c) Rate of change of imports from the EU15, excluding fuels and other residual merchandise.

nity market, higher than 10.5 per cent (Table 3). The breakdown of this total effect shows that there were high effective losses in the community market, which contributed with 6.0 p.p. to the total market share loss over this period. In turn, the contribution of the specialisation by products was also rather negative, accounting for around 45 per cent of the total market share loss in the period under review. Table 3 shows that this negative effect of the productive structure resulted mainly from the initial structure effect, since the structural adaptations of Portuguese exports, undertaken in the period under review, did not make a significant contribution. If national exporters had only changed their sales of each product, in each year, to an extent similar to the change in imports from the EU15 in the same product, i.e. changing the initial structure only the necessary to maintain their market shares in each individual market, the effect due to the structure would have been of -4.5 p.p. The structure effect calculated for the 1997-2003 period was quite similar to this initial structure effect, suggesting that, on the whole, investments/disinvestments made over this period by the national exporting sector did not ensure a more favourable structure, while the impact of a less favourable initial productive structure continued to be felt.

The detailed analysis of each one of these effects by groups of products helps to identify the main features that characterized the evolution of Portuguese exports over this period and that may possibly also influence their future developments. Table 4 presents the rates of change of Portuguese exports to and imports from the EU15 by main groups of products, as well as the breakdown by products of the several effects in the 1997-2003 period. This table shows that the main contribution to the loss in the total market share in the past seven years as a whole came from the "clothing and clothing accessories" sector, although the "footwear" and "transport equipment" sectors also made a significant contribution to the loss in the total market share. In these three groups of products, the total effect observed over this period resulted mainly from effective losses in each of these community product markets, although in the former two there was also a negative structure effect. In particular, with regard to Portuguese exports of "clothing and clothing accessories", with an average weight of around 14 per cent in total exports, the average change of -2.6 per cent in the 1997-2003 period fell considerably short of the figure for imports from the EU15 (4.3 per cent). As il-

Table 4

**PORTUGUESE EXPORTS TO THE EU15 AND IMPORTS FROM THE EU15 BY GROUPS OF PRODUCTS (IN VOLUME)**

Breakdown of the Total Effect (*ET*) into Market Share Effect (*EQM*) and Structure Effect (*EE*)[a]

1997-2003 period

| SITC, rev.3 | | Portuguese exports to the EU15 | Imports from the EU15 | Portuguese exports to the EU15 | Imports from the EU15 | ET | EQM | EE |
|---|---|---|---|---|---|---|---|---|
| | | Average rates of change | | Average weights | | Cumulative effects | | |
| | Total excluding fuels and other residual merchandise | 4.1 | 5.6 | 100 | 100 | -10.7 | -6.0 | -4.6 |
| | | | | | | Contributions in p.p. | | |
| SITC 0 | Food and live animals | 7.3 | 3.1 | 4.1 | 7.7 | 2.1 | 1.1 | 0.9 |
| SITC 1 | Beverages and tobacco | 4.2 | 4.8 | 2.2 | 1.2 | -0.2 | -0.1 | -0.1 |
| SITC 24+ 25 | Crude materials – cork, wood and paper | 2.1 | 3.4 | 3.5 | 1.2 | -0.8 | -0.4 | -0.4 |
| CTCI 21 to 23 + 26 to 29 | Other crude materials, excluding food and fuels | 3.5 | 1.2 | 1.4 | 2.8 | 0.7 | 0.2 | 0.5 |
| SITC 4 | Animal and vegetable oils, fats and waxes | 0.1 | 5.1 | 0.1 | 0.3 | -0.1 | -0.1 | 0.0 |
| SITC 5 | Chemicals and related products, n.e.s. | 11.5 | 8.1 | 5.4 | 12.5 | -0.1 | 1.1 | -1.2 |
| SITC 61+ 65 | Manufactured goods – leather and textiles | 0.1 | 1.1 | 6.3 | 2.6 | -1.6 | -0.4 | -1.2 |
| SITC 63+ 64 | Manufactured goods – cork, wood and paper | 3.5 | 4.2 | 6.5 | 2.8 | -0.8 | -0.4 | -0.4 |
| SITC 62 + 66 to 69 | Other manufactured goods classified by material | 10.3 | 4.4 | 9.4 | 10.8 | 3.9 | 3.7 | 0.2 |
| SITC 70 a 77 | Machinery | 7.9 | 6.6 | 17.3 | 28.8 | 0.5 | 1.4 | -0.9 |
| SITC 78 + 79 | Transport equipment | 4.3 | 7.1 | 18.0 | 14.6 | -3.5 | -3.9 | 0.4 |
| SITC 84 | Articles of apparel and clothing accessories | -2.6 | 4.3 | 13.7 | 3.9 | -8.3 | -7.1 | -1.3 |
| SITC 85 | Footwear | -2.2 | 3.1 | 7.0 | 1.0 | -3.9 | -2.6 | -1.2 |
| SITC 81 to 83 + 87 to 89 | Miscellaneous manufactured articles | 9.5 | 5.7 | 5.0 | 9.5 | 1.3 | 1.4 | 0.0 |

Source: *Eurostat - COMEXT.*
Note:
(a)The figures may not add up due to rounding.

lustrated in this table, the effective loss in the market share of this type of products made a quite significant contribution to the market share effect observed in the period as a whole. This suggests a smaller competitive ability of Portuguese producers in this sector, vis-à-vis an increased competition mainly from non-EU15 countries. By contrast, exports of "machinery" and "chemicals and related products" presented some effective market share gains over this period, although, in terms of the productive structure, the non-specialisation of Portugal in these products was a negative factor.

The contribution of each group of products to the sectoral structure effect in the seven years under review is illustrated in Table 5. The various products were classified as progressive or regressive on the basis of the average changes in the respective imports from the EU15 in the period as a whole. Likewise, Portugal was considered to be specialised in a given class of products when its average weight, in the 1997-2003 period, exceeded the corresponding weight in imports from the EU15. It should be recalled that the specialisation (non-specialisation) in a certain group of products is favourable if this product is progressive (regressive). As it can be seen in this table, the weak points of the Portuguese productive structure in the past seven years as a whole resulted mainly from the fact that Portuguese exports were relatively more specialised in regressive products, such as "clothing and clothing accessories", "footwear" and "skins, leather and textiles". In addition the smaller relative specialisation in progressive products, such as "chemicals and related products" and "machinery", also resulted in a negative structure effect. The largest positive contributions to the sectoral structure effect resulted from the fact that Portuguese exports are relatively less con-

Table 5

**BREAKDOWN OF THE STRUCTURE EFFECT BY PRODUCTS – IN VOLUME**

| 1997-2003 period | | Contribution to the total[c] per cent |
|---|---|---|
| **Groups of Progressive Products**[a] | | |
| Specialization[b] | | |
| SITC 78 + 79 | Transport equipment | 8.9 |
| Non-specialization[b] | | |
| SITC 5 | Chemicals and related products, n.e.s. | -26.4 |
| SITC 70 to 77 | Machinery | -19.2 |
| SITC 81 to 83 + 87 to 89 | Miscellaneous manufactured articles | -0.6 |
| **Groups of Regressive Products**[a] | | |
| Specialization[b] | | |
| SITC 84 | Articles of apparel and clothing accessories | -27.5 |
| SITC 85 | Footwear | -26.6 |
| SITC 61+ 65 | Manufactured goods – leather and textiles | -25.6 |
| SITC 24+ 25 | Crude materials – cork, wood and paper | -8.7 |
| SITC 63+ 64 | Manufactured goods – cork, wood and paper | -8.1 |
| SITC 1 | Beverages and tobacco | -1.3 |
| Non-specialization[b] | | |
| SITC 0 | Food and live animals | 20.2 |
| SITC 21 to 23 + 26 to 29 | Other crude materials, excluding food and fuels | 10.6 |
| SITC 62 + 66 to 69 | Other manufactured goods classified by material | 3.9 |
| SITC 4 | Animal and vegetable oils, fats and waxes | 0.4 |

Source: *COMEXT – Eurostat.*
Notes:
(a) This classification was made on the basis of the change in imports from the EU15 in the 1997-2003 period.
(b) This classification was made on the basis of the average structures in the 1997-2003 period.
(c) The sum of the structure effects by product in the 1997-2003 period corresponds to 100 per cent.

centrated on some regressive products, in particular "food and live animals". Among progressive product markets, Portugal is only relatively more specialised in "transport equipment". The higher relative weight of these products in Portuguese exports was a positive feature of the Portuguese productive structure, although this potential was not fully exploited, as can be confirmed by the significant losses in market share recorded in "transport equipment" over this period.

As mentioned above, in the last three years the market shares of Portuguese exports in the community market recovered somewhat. Indeed, the global cumulative loss in the 1997-2003 period resulted from significant global losses up to 2000, corresponding to almost 14 per cent, since there was a gain of approximately 3 per cent in the 2001-2003 period (Table 6). The market share effect, with an effective loss above 9 per cent in the 1997-2000 period and a gain of more than 3 per cent in the last three years, was the main explanatory factor behind the total change in the market share in both subperiods. In turn, the structure effect was virtually nil in the most recent period, contrasting with the negative contribution in the first four years. The analysis of the cumulative effects by groups of products shows some significant differences between the two subperiods:

i) With respect to the market share effect, the effective losses in the "clothing and clothing accessories" and "transport material" sectors were concentrated in the 1997-2000 period, and there was even a slight gain in exports of "transport material" in the most recent period. With regard to "machinery" exports, the effective gains in market share in the seven years as a whole resulted almost exclusively from developments in the last three years.

ii) With regard to the structure effect, the main differences between the two subperiods seem to be related to the cyclical developments of the European economy, which led to considerable changes

Table 6

**BREAKDOWN OF THE TOTAL EFFECT (*ET*) INTO MARKET SHARE EFFECT (*EQM*) AND STRUCTURE EFFECT (*EE*) BY GROUPS OF PRODUCTS (IN VOLUME)[(a)]**

1997-2000 and 2001-3003 subperiods

| SITC, rev.3 | | ET | EQM | EE | ET | EQM | EE |
|---|---|---|---|---|---|---|---|
| | | Cumulative effects 1997-2000 | | | Cumulative effects 2001-2003 | | |
| | Total excluding fuels and other residual merchandise | -13.9 | -9.3 | -4.6 | 3.2 | 3.3 | -0.1 |
| | | Contributions in p.p. | | | Contributions in p.p. | | |
| SITC 0 | Food and live animals | 2.1 | 0.9 | 1.2 | 0.0 | 0.3 | -0.3 |
| SITC 1 | Beverages and tobacco | -0.4 | -0.2 | -0.1 | 0.2 | 0.1 | 0.1 |
| SITC 24+ 25 | Crude materials – cork, wood and paper | -1.0 | -0.6 | -0.4 | 0.2 | 0.2 | 0.0 |
| SITC 21 a 23 + 26 a 29 | Other crude materials, excluding food and fuels | 0.3 | -0.1 | 0.4 | 0.4 | 0.3 | 0.1 |
| SITC 4 | Animal and vegetable oils, fats and waxes | 0.0 | 0.0 | 0.0 | -0.1 | 0.0 | 0.0 |
| SITC 5 | Chemicals and related products, n.e.s. | 0.8 | 0.8 | 0.0 | -0.9 | 0.3 | -1.2 |
| SITC 61+ 65 | Manufactured goods – leather and textiles | -0.5 | 0.3 | -0.8 | -1.1 | -0.7 | -0.4 |
| SITC 63+ 64 | Manufactured goods – cork, wood and paper | -1.1 | -0.7 | -0.4 | 0.3 | 0.3 | 0.0 |
| SITC 62 + 66 a 69 | Other manufactured goods classified by material | 1.7 | 1.6 | 0.1 | 2.2 | 2.1 | 0.0 |
| SITC 70 a 77 | Machinery | -2.0 | 0.1 | -2.1 | 2.5 | 1.4 | 1.2 |
| SITC 78 + 79 | Transport equipment | -4.3 | -4.7 | 0.4 | 0.9 | 0.9 | 0.0 |
| SITC 84 | Articles of apparel and clothing accessories | -6.6 | -4.8 | -1.8 | -1.7 | -2.3 | 0.6 |
| SITC 85 | Footwear | -2.4 | -1.1 | -1.4 | -1.4 | -1.5 | 0.1 |
| SITC 81to 83 + 87 to 89 | Miscellaneous manufactured articles | -0.4 | -0.6 | 0.2 | 1.8 | 2.0 | -0.2 |

Source: *COMEXT – Eurostat*.
Note:
(a) The figures may not add up due to rounding.

in the progressivity/regressivity of some products, since in terms of the productive specialisation of the Portuguese exports there were no significant changes. First, imports from the EU15 of "clothing and clothing accessories" and "footwear" recorded above the average changes in the most recent period that, given the higher weight of these products in Portuguese exports, translated into a positive structure effect, contrasting with the observed between 1997 and 2000. Second, community imports of "machinery" recorded negative rates of change in the last three years, in line with the evolution of investment in equipment in the EU15. Given the non-specialisation of Portuguese exports in these products, this led to a positive structure effect in the last three years, in contrast with the previous four years.

## 5. CONCLUSION

In the period from 1997 to 2003 as a whole, Portuguese exports to the EU15 recorded a lower volume growth than imports from the EU15, translating into a significant loss in market share in the community market (above 10.5 per cent, in cumulative terms). This global loss in market share in the period as a whole was concentrated in the subperiod until 2000, as in the second subperiod (2001-2003) there was a slight global gain in market share. The total change in the market share of exports of a given country in a certain geographical market is determined by the effective competitive capacity of the country vis-à-vis other supply sources, but it is also influenced by the relative concentration of exports in products with changes in demand different from the average.

In this article, by applying a constant market share methodology, the overall loss in market share recorded by Portuguese exports in the past seven years in the community market was broken down into a market share effect and a structure effect. The structure effect analyses to which extent the productive structure of Portuguese exports represented a higher or lower growth potential in the period under review. The market share effect assesses to which extent this potential was actually used.

The results obtained for the 1997-2003 period as a whole indicate that the most significant contribution to the total loss came from the market share effect, corresponding to approximately 6 p.p. Such a negative market share effect over this period

suggests some deterioration of the relative competitiveness of Portuguese exports in the community market vis-à-vis its major competitors. It should also be noted that the effective losses in the community market were chiefly concentrated in the 1997-2000 subperiod, since in aggregate terms, there was a slight effective gain in the market share in the last three years. In addition, the product composition of exports also made a significant contribution to the strong loss in the global market share occurred in the period, of approximately 4.6 p.p. This resulted from an unfavourable starting point in terms of structure and from the lack of voluntary structural changes capable of inverting this fact. In particular, we concluded that the negative impact of the productive specialisation on this period as a whole resulted mainly from the fact that the structure of Portuguese exports is still dominated by products that showed weaker demand buoyancy. It should also be noted that in aggregate terms, the contribution of the productive specialisation of Portuguese exports was particularly negative in the 1997-2000 subperiod, having recorded a virtually nil figure in the most recent subperiod.

From a sectoral perspective, Portuguese exports to the EU15 showed quite different behaviours in the 1997-2003 period as a whole:

i) Portuguese exports of "clothing and clothing accessories" and, to a lesser extent, "footwear" made a significant contribution to the total loss in the market share. This resulted chiefly from the considerable effective losses observed, although Portugal's specialisation in these regressive products also made a negative contribution.

ii) Exports of "transport material" also recorded some effective losses in the community market, but Portugal's specialisation in these products, with progressivity characteristics, led to a positive contribution to the structure effect in the 1997-2003 period as a whole.

iii) By contrast, exports of "machinery" and "chemicals and related products" recorded effective gains in market share over this period, although Portugal is not specialised in these progressive products.

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## ANNEX

**SECTIONS AND DIVISIONS OF THE STANDARD INTERNATIONAL TRADE CLASSIFICATION - SITC, REV. 3**

**SEC 0 FOOD AND LIVE ANIMALS**

DIV 00 LIVE ANIMALS OTHER THAN ANIMALS OF DIVISION 03
DIV 01 MEAT AND MEAT PREPARATIONS
DIV 02 DAIRY PRODUCTS AND BIRDS' EGGS
DIV 03 FISH, CRUSTACEANS, MOLLUSCS AND AQUATIC INVERTEBRATES, AND PREPARATIONS THEREOF
DIV 04 CEREALS AND CEREAL PREPARATIONS
DIV 05 VEGETABLES AND FRUIT
DIV 06 SUGARS, SUGAR PREPARATIONS AND HONEY
DIV 07 COFFEE, TEA, COCOA, SPICES, AND MANUFACTURES THEREOF
DIV 08 FEEDING STUFF FOR ANIMALS (NOT INCLUDING UNMILLED CEREALS)
DIV 09 MISCELLANEOUS EDIBLE PRODUCTS AND PREPARATIONS

**SEC 1 BEVERAGES AND TOBACCO**

DIV 11 BEVERAGES
DIV 12 TOBACCO AND TOBACCO MANUFACTURES

**SEC 2 CRUDE MATERIALS, INEDIBLE, EXCEPT FUELS**

DIV 21 HIDES, SKINS AND FURSKINS, RAW
DIV 22 OIL-SEEDS AND OLEAGINOUS FRUITS
DIV 23 CRUDE RUBBER (INCLUDING SYNTHETIC AND RECLAIMED)
DIV 24 CORK AND WOOD
DIV 25 PULP AND WASTE PAPER
DIV 26 TEXTILE FIBRES (OTHER THAN WOOL TOPS) AND THEIR WASTES (NOT MANUFACTURED)
DIV 27 CRUDE FERTILIZERS, OTHER THAN THOSE OF DIVISION 56, AND CRUDE MINERALS (EXCLUDING COAL, PETROL AND PRECIOUS STONES)
DIV 28 METALLIFEROUS ORES AND METAL SCRAP
DIV 29 CRUDE ANIMAL AND VEGETABLE MATERIALS, N.E.S.

**SEC 3 MINERAL FUELS, LUBRICANTS AND RELATED MATERIALS**

DIV 32 COAL, COKE AND BRIQUETTES
DIV 33 PETROLEUM, PETROLEUM PRODUCTS AND RELATED MATERIALS
DIV 34 GAS, NATURAL AND MANUFACTURED
DIV 35 ELECTRIC CURRENT

**SEC 4 ANIMAL AND VEGETABLE OILS, FATS AND WAXES**

DIV 41 ANIMAL OILS AND FATS
DIV 42 FIXED VEGETABLE FATS AND OILS, CRUDE, REFINED OR FRACTIONATED
DIV 43 ANIMAL OR VEGETABLE FATS AND OILS, PROCESSED; WAXES OF ANIMAL OR VEGETABLE ORIGIN; INEDIBLE MIXTURES OR PREPARATIONS OF ANIMAL OR VEGETABLE FATS OR OILS, N.E.S.

**SEC 5 CHEMICALS AND RELATED PRODUCTS, N.E.S**

DIV 51 ORGANIC CHEMICALS
DIV 52 INORGANIC CHEMICALS
DIV 53 DYEING, TANNING AND COLOURING MATERIALS
DIV 54 MEDICINAL AND PHARMACEUTICAL PRODUCTS
DIV 55 ESSENTIAL OILS AND RESINOIDS AND PERFUME MATERIALS; TOILET, POLISHING AND CLEANSING PREPARATIONS
DIV 56 FERTILIZERS MANUFACTURED (OTHER THAN THOSE OF DIVISION 27)
DIV 57 PLASTICS IN PRIMARY FORMS
DIV 58 PLASTICS IN NON-PRIMARY FORMS
DIV 59 CHEMICAL MATERIALS AND PRODUCTS, N.E.S.

**SEC 6 MANUFACTURED GOODS CLASSIFIED CHIEFLY BY MATERIAL**

DIV 61 LEATHER, LEATHER MANUFACTURES, N.E.S., AND DRESSED FURSKINS
DIV 62 RUBBER MANUFACTURES, N.E.S.
DIV 63 CORK AND WOOD MANUFACTURES (EXCLUDING FURNITURE)
DIV 64 PAPER, PAPERBOARD AND ARTICLES OF PAPER PULP, OF PAPER OR OF PAPERBOARD

DIV 65 TEXTILE YARN, FABRICS, MADE-UP ARTICLES, N.E.S., AND RELATED PRODUCTS
DIV 66 NON-METALLIC MINERAL MANUFACTURES, N.E.S.
DIV 67 IRON AND STEEL
DIV 68 NON-FERROUS METALS
DIV 69 MANUFACTURES OF METALS, N.E.S.

**SEC 7 MACHINERY AND TRANSPORT EQUIPMENT**

DIV 71 POWER-GENERATING MACHINERY AND EQUIPMENT
DIV 72 MACHINERY SPECIALIZED FOR PARTICULAR INDUSTRIES
DIV 73 METALWORKING MACHINERY
DIV 74 GENERAL INDUSTRIAL MACHINERY AND EQUIPMENT, N.E.S., AND MACHINE PARTS, N.E.S.
DIV 75 OFFICE MACHINES AND AUTOMATIC DATA-PROCESSING MACHINES AND EQUIPMENT
DIV 76 TELECOMMUNICATIONS AND SOUND-RECORDING AND REPRODUCING APPARATUS AND EQUIPMENT
DIV 77 ELECTRICAL MACHINERY, APPARATUS AND APPLIANCES, N.E.S., AND ELECTRICAL PARTS THEREOF
DIV 78 ROAD VEHICLES (INCLUDING AIR-CUSHION VEHICLES)
DIV 79 OTHER TRANSPORT EQUIPMENT

**SEC 8 MISCELLANEOUS MANUFACTURED ARTICLES**

DIV 81 PREFABRICATED BUILDINGS; SANITARY, PLUMBING, HEATING AND LIGHTING FIXTURES AND FITTINGS, N.E.S.
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**SEC 9 COMMODITIES AND TRANSACTIONS NOT CLASSIFIED ELSEWHERE IN THE SITC**

Source: National Statistical Institute of Portugal (INE).

# REAL-TIME QUARTERLY NATIONAL ACCOUNTS*

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## 1. INTRODUCTION

In the context of macroeconomic policy and analysis, National Accounts play an extremely important role, offering an overview of economic activity. Their timely, complete and accurate publication is crucial for a large number of users and purposes. They are particularly important for the definition of the fiscal policy by governments, of monetary policy by central banks, and for investment decisions by entrepreneurs; thus, they generally influence the behaviour of the various economic agents.

For reasons of timeliness, statistical data are first released as preliminary, being subsequently revised when new base information becomes available. In addition, part of the revisions is due to methodological changes aimed at following more appropriate technical procedures. As a consequence, revisions are, to a certain extent, inevitable, when trying to produce National Accounts that bring a more accurate understanding of the underlying reality(1). However, the existence of a systematic pattern in revisions, or a rather high dispersion of the average of these revisions, can be a sign of methodological problems or of basic statistical sources that undermine the usefulness of certain variables.

This paper presents a set of statistics illustrating revisions to the Quarterly National Accounts published by the National Statistical Institute of Portugal (*INE*), which allow for a better assessment of the quality of these accounts.

The study is organised as follows. Section 2 briefly describes the series used and their sample period. Section 3 shows the methodology used to assess revisions. Section 4 discusses the most relevant aspects of the main aggregates of the Quarterly National Accounts as regards the characteristics of revisions to year-on-year rates of change. Finally, Section 5 concludes.

## 2. DATA

The series used in this study correspond to the main variables of the Quarterly National Accounts published by *INE*. Thus, representative series of the various expenditure and value added components were collected in real time at both constant and current prices.

In an attempt to simulate a real-time database, as had already been done in other countries, by for instance Croushore and Stark (2001) for the US, all publications of the Quarterly National Accounts have been gathered since the beginning of their release in the fourth quarter of 1991. Early publications were in accordance with the European System of Accounts (ESA) 79, and from the second

* The views expressed in this article are those of the author and do not necessarily coincide with those of Banco de Portugal. The author thanks Pedro Duarte Neves, Carlos Coimbra, António Rua and José Ferreira Machado for their suggestions and comments.

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(1) Morgenstern (1950) was one of the first to criticise the inconsistency and lack of reliability of National Accounts. This still leads researchers nowadays to seek solutions for these problems. Some studies have been focusing on the implications of data revisions on policy decisions. See, for example, Maravall and Pierce (1986), or Boschen and Grossman (1982) on economic agents' expectations.

quarter of 2000 onwards, they started to be in accordance with ESA 95. It should be noted that the number of observations for the ESA 79 format is low due to a number of interval periods in INE's publications. Moreover, the periodicity of publication of the Quarterly National Accounts decreased in the fourth quarter of 2002 from 120 to 70 days, thereby increasing the precarious nature of the basic information used to calculate the first estimates. Throughout the sample period there were also minor methodological changes, namely in external trade variables. For the purposes of this study, the sample period ends in the first quarter of 2004. These aspects make it difficult to obtain homogeneous and sufficiently long statistical series that allow drawing firm conclusions on the revisions to Quarterly National Accounts. Thus, the results shown in this study must be analysed with greater caution.

## 3. METHODOLOGY

This paper examines revisions to both year-on-year rates of change and quarter-on-quarter rates of change[2], albeit with a greater focus on the analysis of the results for the former.

Revisions are defined as the difference between the latest available estimate and the preliminary estimate for the corresponding rate of change in each quarter. Thus, the first revision is defined as the difference between the second and the first estimates, the second revision is the difference between the third and the second estimates and so on, up to the fourth revision. For example, the first estimate for the first quarter of 2001 is released for the first time in the publication for this quarter. In the second quarter of 2001 a new estimate is published for the first quarter – which has already undergone revision – corresponding to the second estimate. The first revision corresponds to the difference between these two estimates. The difference between the fifth and the first estimate was classified as year-end revision, as a proxy of the total revision[3]. It is thus assumed that the year-end estimate already includes sufficient information to be rather close to the final estimate. Positive revisions imply an underestimation of estimates, with preliminary estimates above the latest estimates available, while negative revisions indicate an overestimation.

The analysis consists of a set of measures aimed at quantifying the scope and dispersion of revisions as well as other features. To this end, the following measures were calculated: average, average of absolute values (m(ABS)), modal class, standard deviation, Noise-Signal ratio, the frequency of positive revisions and the maximum (Max) and minimum value (Min) of the revisions observed.

The average is a simple arithmetic mean of the values observed for revisions. An alternative measure is the m(ABS), i.e. the average of revisions in absolute terms. By comparing the average with m(ABS) it is possible to see whether revisions cancel each other out in the case of some variables, i.e. whether positive revisions are later offset by negative revisions or vice versa, or if, on the contrary, they are always revised in the same direction. Still within the scope of central trend measures, the modal class was also calculated by considering intervals with an amplitude of one percentage point that allows ascertaining in which interval revisions occur more frequently. The standard deviation was also calculated, so as to allow a better perception of the dispersion of revisions. However, it does not denote whether this dispersion is truly significant, i.e. it does not take into account the dispersion of the variable itself. The Noise-Signal ratio solves this question and corresponds to the ratio of the standard deviation of revisions to the standard deviation of the rate of change in the respective variable. The frequency of positive and negative revisions, quantifies the number of times that preliminary estimates are underestimated or overestimated. The maximum and minimum values help to assess the dispersion of revisions to the different variables, highlighting the higher and lower historical value recorded in the sample period under consideration.

It would also be interesting to investigate whether the rate of change influences the revisions to the respective variables, given that a number of empirical studies have shown that for some variables there is pro-cyclicality between revisions and the respective variable growth, underestimated in

(2) Excluding changes in inventories, which are expressed as a percentage of GDP.

(3) For the year-end revision, it was possible to consider 19 observations.

the upward phase and overestimated in the downward phase. In particular, the assumption that there is no correlation between revisions and the business cycle is being tested.

It is also possible to test if the average of revisions is statistically different from zero. With this purpose, use is made of two statistics, depending on whether or not there is an autocorrelation in revisions[4].

## 4. RESULTS

The results obtained for revisions to year-on-year rates of change at constant prices of Quarterly National Accounts are shown in Table 1. It is also relevant to analyse revisions to the chain rates of change, since these are subject to greater attention at international level. However, we focused more intensely on year-on-year rates of change, given that in Portugal it is usual to favour the observation of these rates due to the irregular nature of chain rates of change (Charts 1 and 2). This irregularity is strongly influenced by the external component, which has a significant weight on the economy[5].

### i) Frequency of revisions

With regard to the frequency of revisions, reference should be made to external trade items and GFCF, in particular GFCF in metal products and equipment in the group comprising the most revised variables. Preliminary estimates for these variables are subject to a higher number of revisions, judging by the average of absolute values of revisions, similarly to other countries: see, for example, Akritidis (2003) for the United Kingdom and Öller and Hansson (2002) for Sweden. Therefore, since Portugal is a small open economy, the high number of revisions to the external trade components is largely reflected in GDP estimates, given their weight in the latter.

Chart 1
**YEAR-ON-YEAR RATES OF CHANGE**

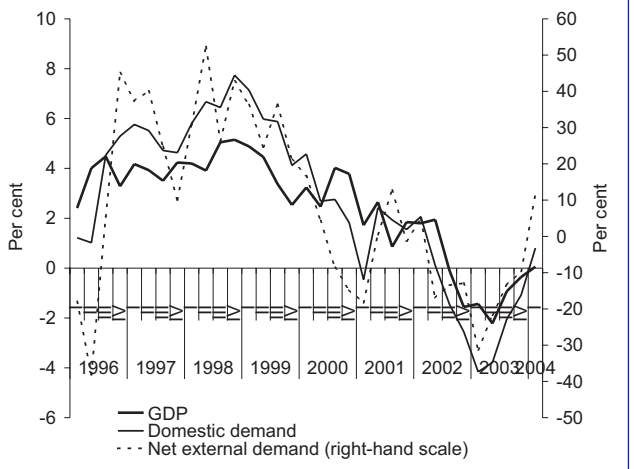
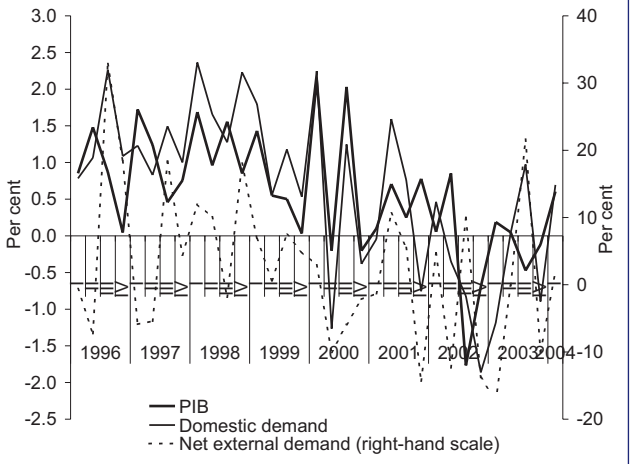



Chart 2
**CHAIN RATS OF CHANGE**




### ii) Sign of revisions

The great majority of variables are generally revised upwards, with the exception of GVA in industry and financial intermediation services indirectly measured (FISIM), which indicates an underestimation of preliminary estimates for most items. As for expenditure components, stress should be laid on GFCF in construction and exports, with 79% positive revisions, and on GVA in agriculture, forestry and fishing and GVA in construction, with 84% and 79% respectively.

(4) According to Symons (2001) and Priestley (1981), if revisions are strongly correlated with the rate of change in the variable, an autocorrelation is to be expected in revisions.

(5) This excessive volatility associated with the external component does not occur exclusively in the Portuguese case, it is also evident in other quite open European economies, as in the Netherlands, which shows a standard deviation in the chain rate of change in GDP of 0.6 and 11.7 for net external demand, compared with 0.8 and 12.4 in Portugal respectively.

Table 1

## TOTAL YEAR-END REVISION TO THE YEAR-ON-YEAR RATE OF CHANGE (AT CONSTANT PRICES)

| | Average | t | t adjusted[a] | m(ABS) | Max | Min | Mode | Standard Deviation | Noise-Signal Ratio | % Positive Revisions | Correlation Coefficient[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GDP** | -0.08 | -0.346 | -0.381 | 0.62 | 2.60 | -2.10 | ]-0,50;0,50] | 0.99 | 0.49 | 0.53 | 0.245 |
| PRIVATE CONSUMPTION | 0.06 | 0.283 | 0.196 | 0.51 | 1.70 | -3.10 | ]-0,50;0,50] | 0.89 | 0.43 | 0.63 | 0.466* |
| COLLECTIVE CONSUMPTION | 0.38 | 1.717 | 1.291 | 0.76 | 2.30 | -1.70 | ]-0,50;0,50] | 0.96 | 0.54 | 0.74 | 0.324 |
| GROSS CAPITAL FORMATION | 0.39 | 1.163 | 1.712 | 1.11 | 3.40 | -1.80 | ]-0,50;0,50] | 1.46 | 0.21 | 0.58 | 0.41* |
| GFCF CONSTRUCTION | 0.60 | 2.161** | 1.644 | 0.79 | 3.90 | -1.10 | ]-0,50;0,50] | 1.21 | 0.18 | 0.79 | 0.505** |
| GFCF METAL P. AND EQUIPMENT | 0.15 | 0.333 | 0.400 | 1.20 | 4.30 | -4.50 | ]-0,50;0,50] | 1.93 | 0.21 | 0.63 | 0.232 |
| EXPORTS | 0.96 | 1.623 | 1.207 | 1.86 | 7.00 | -4.30 | ]0,50;1,50] | 2.57 | 0.56 | 0.79 | 0.381 |
| IMPORTS | 0.69 | 1.666 | 1.700 | 1.43 | 4.20 | -2.80 | ]-1,50;-0,50] | 1.82 | 0.29 | 0.68 | 0.378 |
| CHANGE IN INVENTORIES[c] | 0.12 | 0.873 | 0.693 | 0.36 | 1.50 | -1.30 | ]-0,50;0,50] | 0.59 | 1.86 | 0.71 | -0.403* |
| **SUPPLY (GVA)** | -0.04 | -0.426 | -0.434 | 0.27 | 0.80 | -1.20 | ]-0,50;0,50] | 0.43 | 0.26 | 0.58 | 0.074 |
| AGRIC.FORESTRY FISHING | 1.17 | 1.877* | 3.268** | 2.19 | 6.20 | -4.80 | ]1,50;2,50] | 2.71 | 0.43 | 0.79 | 0.257 |
| ELECT., GAS, WATER | 0.49 | 1.123 | 0.959 | 0.89 | 7.10 | -3.00 | ]-0,50;0,50] | 1.92 | 0.62 | 0.68 | 0.325 |
| INDUSTRY.. | -0.30 | -1.023 | -1.708 | 0.71 | 1.30 | -3.70 | ]-0,50;0,50] | 1.28 | 0.38 | 0.47 | 0.047 |
| CONSTRUCTION | 0.76 | 1.947* | 1.954* | 1.03 | 5.50 | -2.20 | ]-0,50;0,50] | 1.71 | 0.24 | 0.84 | 0.571** |
| MARKET AND NON-MARKET SERVICES | -0.16 | -0.714 | -0.552 | 0.75 | 1.20 | -1.80 | ]0,50;1,50] | 0.96 | 0.41 | 0.58 | -0.244 |
| FISIM | -1.34 | -0.855 | -0.725 | 5.31 | 12.30 | -11.00 | ]-11,5;-10,50];]-0,50;0,50] | 6.82 | 0.45 | 0.47 | 0.200 |
| TAXES+DISCREPANCIES | -1.79 | -0.941 | -0.623 | 4.53 | 8.30 | -28.20 | -[c] | 8.28 | 0.83 | 0.53 | -0.020 |

Table 2

## TOTAL YEAR-END REVISION TO THE YEAR-ON-YEAR RATE OF CHANGE (AT CURRENT PRICES)

| | Average | t | t adjusted[a] | m(ABS) | Max | Min | Mode | Standard Deviation | Noise-Signal Ratio | % Positive Revisions | Correlation Coefficient[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GDP** | 0.11 | 0.411 | 0.256 | 0.74 | 3.00 | -2.30 | ]-0,50;0,50] | 1.14 | 0.35 | 0.60 | 0.389* |
| PRIVATE CONSUMPTION | 0.01 | 0.020 | 0.017 | 0.55 | 1.90 | -4.30 | ]-0,50;0,50] | 1.12 | 0.35 | 0.70 | 0.041 |
| COLLECTIVE CONSUMPTION | 0.54 | 1.628 | 1.193 | 1.17 | 3.30 | -2.40 | ]-0,50;0,50] | 1.47 | 0.35 | 0.65 | 0.246 |
| GROSS CAPITAL FORMATION | 0.66 | 1.869* | 2.356** | 1.21 | 4.70 | -2.00 | ]-0,50;0,50] | 1.58 | 0.21 | 0.65 | 0.354 |
| GFCF CONSTRUCTION | 0.62 | 1.665 | 0.870 | 1.26 | 4.40 | -2.30 | ]-0,50;0,50] | 1.66 | 0.23 | 0.75 | 0.438* |
| GFCF METAL P. AND EQUIPMENT | 0.55 | 0.934 | 0.746 | 1.86 | 6.10 | -5.40 | ]-1,50;-0,50];]-0,50;0,50] | 2.61 | 0.26 | 0.60 | 0.433* |
| EXPORTS | 0.56 | 1.345 | 0.724 | 1.55 | 3.60 | -3.90 | ]1,50;2,50] | 1.85 | 0.28 | 0.70 | 0.605** |
| IMPORTS | 0.31 | 0.764 | 0.751 | 1.49 | 3.50 | -3.40 | ]-1,50;-0,50];]1,50;2,50] | 1.81 | 0.26 | 0.55 | 0.300 |
| CHANGE IN INVENTORIES[c] | -0.12 | -0.066 | -0.039 | 2.97 | 23.10 | -24.80 | ]-0,50;0,50] | 8.24 | 24.25 | 0.67 | 0.068 |

* The nil hypotheses for a significance level of 10% is rejected.

** The nil hypotheses for a significance level of 5% is rejected.

(a) t adjusted given by:

$t_{adj} = \frac{x}{\sqrt{S_x^2}}$ where, $S_x^2 = \sigma_x^2 \frac{(1+\alpha)}{T(1-\alpha)}$ and $\alpha$ is the first-round correlation coefficient.

(b) Correlation coefficient between revisions and the rate of change.

(c) Variable expressed as a percentage of GDP.

### iii) Magnitude of revisions

The results obtained for the "t-ratio" illustrate that the average revision to the great majority of variables is not statistically significant. The exceptions for revisions to both year-on-year rates of change and chain rates of change are GFCF in construction, GVA in construction and for revisions to year-on-year rates of change, GVA in agriculture, forestry and fishing. These results are basically confirmed by the "t-ratio" adjusted for a possible autocorrelation.

The modal class for most variables is centred at around zero. However, there are clear exceptions, such as the external trade components for revisions to both rates, GVA in agriculture, forestry and fishing for revisions to year-on-year rates of change and GVA in construction for revisions to chain rates of change[6].

Revisions to FISIM, exports and GVA in agriculture, forestry and fishing are highly volatile. However, the Noise-Signal ratio suggests that this volatility may be largely due to the high volatility of the variables themselves. For revisions to chain rates of change, GFCF, in particular in metal products and equipment, is highly volatile, as seen in the case of the United Kingdom. Also notice that with regard to GDP, the standard deviation of revisions is higher than the standard deviation of the rate of change in GDP.

The average of revisions to most expenditure components is higher than the average of GDP revisions, suggesting that some revisions tend to cancel each other out across the components, as had been observed by Barklem (2000) in the case of the United Kingdom.

### iv) Correlation of revisions

For most variables, the nil hypothesis of the correlation of revisions with the rate of change in the variable being equal to zero is not rejected. However, there are exceptions, such as private consumption, GFCF, GFCF in construction and GVA in construction. In the case of revisions to chain rates of change, only GFCF in construction is statistically significant.

Over time, a few possible reasons have been brought forward as to the possibility of correlation between revisions to National Accounts and economic activity. According to Richardson (2002), this correlation can be explained if growth in the economy is mainly driven by small and emerging companies, whose results are not initially included in the National Accounts. Thus, their contribution to growth is only revealed at the end of the year. Still according to this author, methodological changes can also be of a cyclical nature, given that there is an interval between structural changes in the economy that occur with the cycle and the development of statistical instruments to measure them. However, it is important to stress that the correlation coefficient as a measure of cyclicality is rather sensitive to the sample period chosen. Given the rather low number of observations between the fourth quarter of 1991 and the second quarter of 2000, i.e. in ESA 79 format, these results must be interpreted with some caution.

Mork (1987) puts forward another interpretation: "*Suppose for example that the available observations and other information indicate 9% growth. By releasing an estimate of, say 6%, the BEA*[7] *can both signal strong growth and hedge against a potential embarrassment should the current signals turn out to be misleading*."

In an attempt to identify the main reason for the existence of revisions, it becomes important to identify when most of them take place. Charts 3 and 4 show the importance of different revisions for the total year-end revision[8] for the revisions to year-on-year rates of change and to chain rates of change respectively . The bars above the axis represent positive revisions and those below the axis represent negative revisions. The chart clearly illustrates that revisions tend to partially cancel each other out over time. For example, in Chart 4, GDP was revised upwards in the first quarter of 2002 by 0.1 percentage point in the 1st Revision, then it was subject to a downward revision of 0.6 percentage point in the 2nd Revision, and it was further revised upwards by 0.6 percentage point in the 3rd Revision. Finally, it was revised downwards by 0.01 percentage point in the 4th Revi-

(6) The same results are obtained in qualitative terms if the magnitude of the intervals considered is halved.

(7) Bureau of Economic Analysis, responsible for the publication of National Accounts in the United States.

(8) The sample period shown refers to that available in ESA 95.

Chart 3

**REVISIONS TO THE YEAR-ON-YEAR RATE OF CHANGE**

(At constant prices)

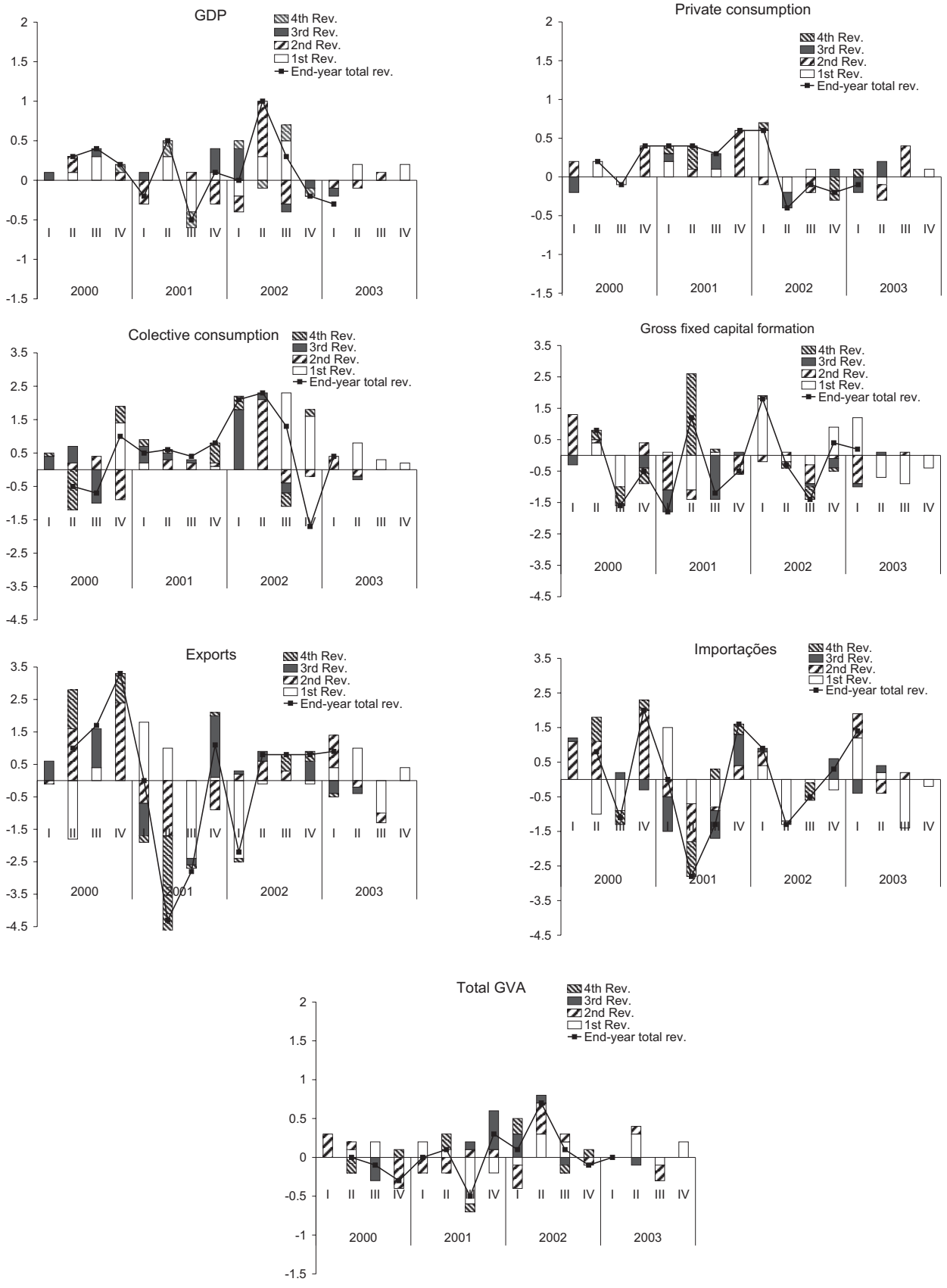


Chart 4

**REVISIONS TO THE CHAIN RATE OF CHANGE**

(at constant prices)

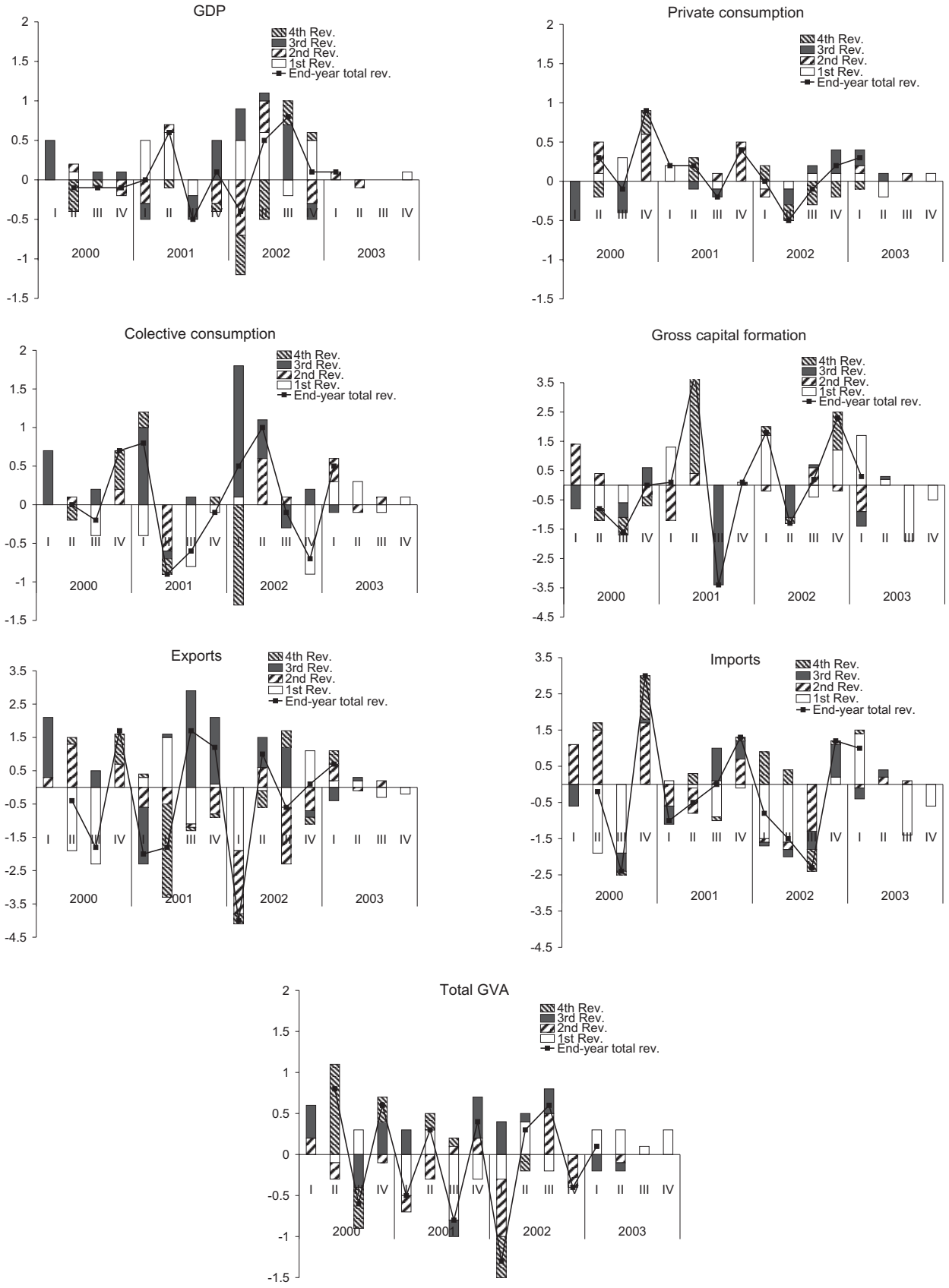
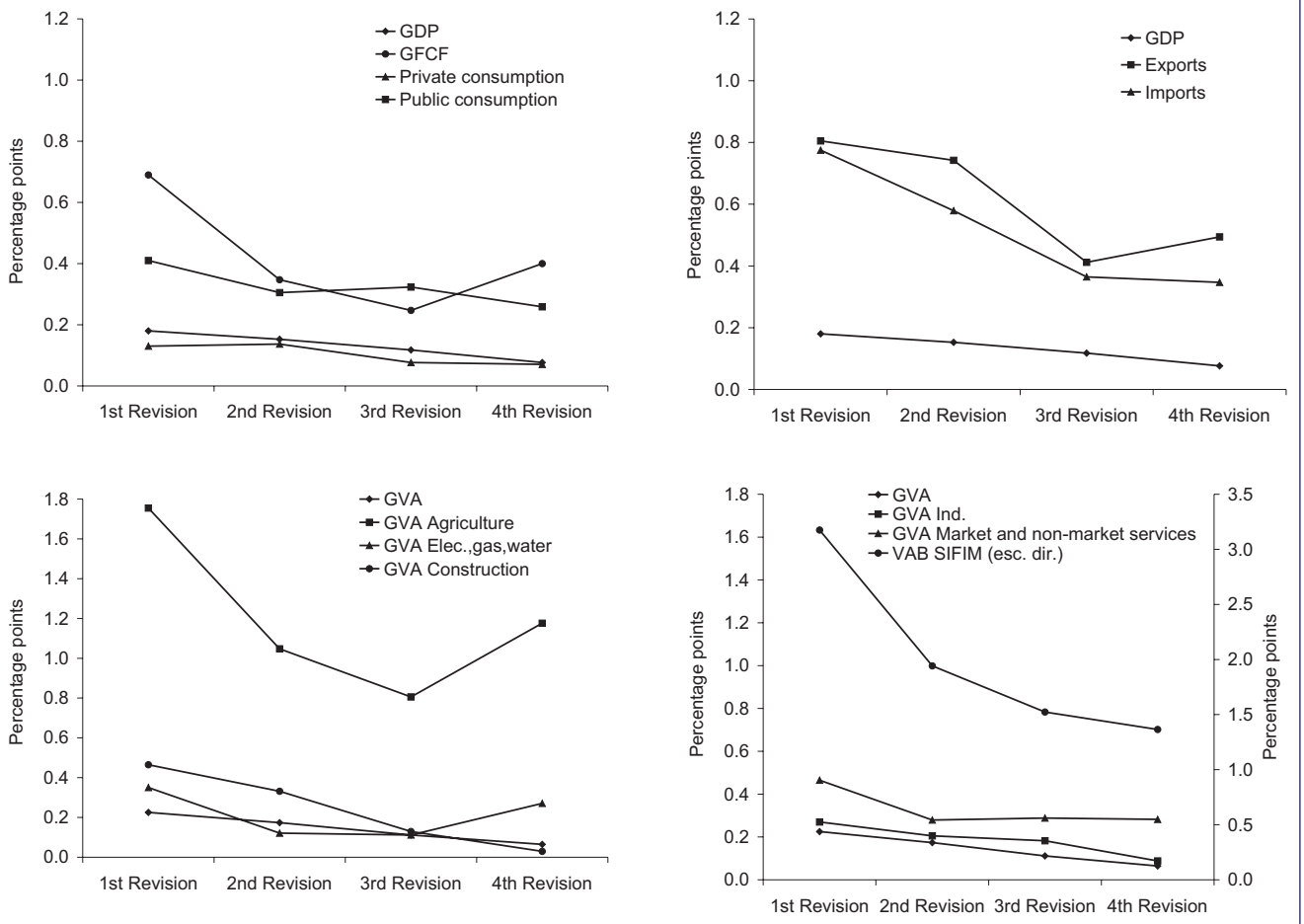


Chart 5
**AVERAGE OF ABSOLUTE VALUES OF REVISIONS TO THE YEAR-ON-YEAR RATE OF CHANGE**
(at constant prices)




sion, and ultimately subject to a year-end revision of only -0.03 percentage point vis-à-vis the first estimate.

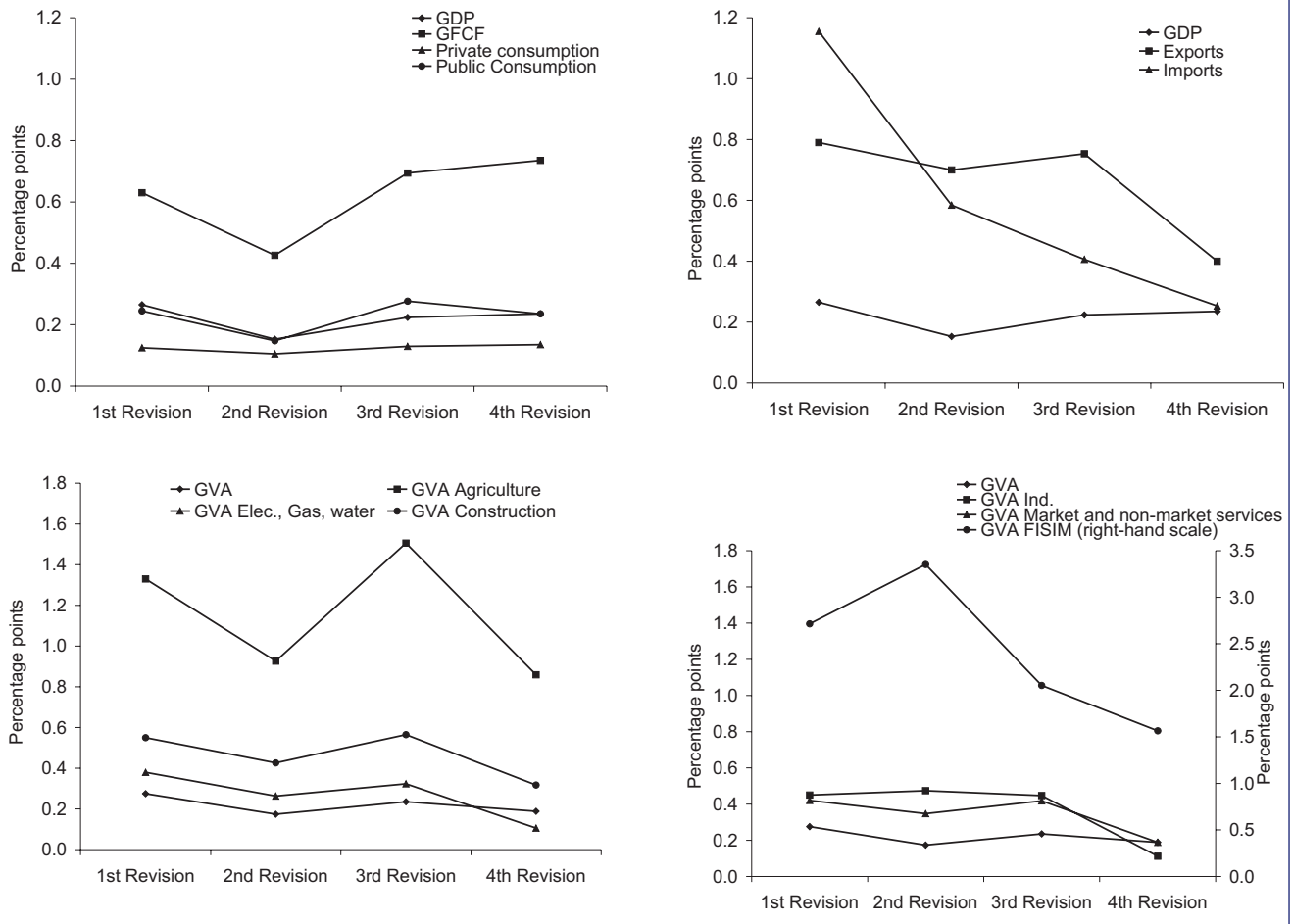
It would be plausible to expect a downward trend in the magnitude of the revisions over time, given the increasingly less provisional nature of estimates. Chart 5 shows the average of the absolute values of revisions referring to the four revisions implied in the total year-end revision for a number of expenditure and supply variables. In fact, there is some evidence that the magnitude of revisions to both GDP and GVA follows a downward trend, in line with some of their components, namely imports, GVA in construction, industry and FISIM. However, for private and public consumption, the magnitude of average absolute revisions does not seem to have declined. It may even be observed that the 4th Revision is higher in average absolute terms for GFCF, exports, GVA in agriculture, forestry and fishing and GVA in electricity, gas and water. The magnitude of revisions to both GDP and GVA is generally lower than that of their components, indicating that they cancel each other out. On the other hand, for revisions to year-on-year rates of change and chain rates of change, the magnitude of average absolute revisions to both GVA in agriculture and GVA in FISIM is rather significant, compared with total GVA and the remaining components (Chart 6). Only imports show evidence of a downward trend, as regards revisions to chain rates of change.

For some countries, such as Sweden, revisions have been declining over time, while for other countries they have remained unchanged. In the Portuguese case, it is not yet possible to ascertain whether the quality of quarterly statistics has been improving, due to the reduced sample period.

Chart 6

**AVERAGE OF ABSOLUTE VALUES OF REVISIONS TO THE CHAIN RATE OF CHANGE**

(At constant prices)




However, there seems to be faint evidence of a better quality of estimates which can be due partly to methodological changes introduced when the adoption of the ESA 95.

In qualitative terms, the same results are obtained for revisions to both year-on-year rates of change and chain rates of change at current prices. The main results are shown in Tables 2 and 4. However, there are some exceptions. Similarly to the case at constant prices, the average revision of most variables is not statistically different from zero, except for GFCF in the case of revisions to year-on-year rates of change and imports for revisions to chain rates of change. Also at current prices, for most variables the modal class is centred at around zero, with the exception of external trade components and GFCF in metal products and equipment, possibly explained by the high import content of this item. At current prices, most variables are generally revised upwards, showing an underestimation of estimates, seen at constant prices, with the exception of imports for revisions to chain rates of change. Likewise, most variables do not show a significant correlation coefficient, except for revisions to year-on-year rates of change in GDP, GFCF in construction, GFCF in metal products and equipment and exports. For revisions to chain rates of change only for GFCF is there a statistically correlation coefficient. In contrast to the situation at constant prices, the magnitude of revisions to private consumption and public consumption at current prices has been following a downward trend over time.

## 5. CONCLUSIONS

The aim of this study is to characterise revisions to Quarterly National Accounts, which are

Table 3

## TOTAL YEAR-ON-YEAR REVISION TO THE CHAIN RATE OF CHANGE (AT CONSTANT PRICES)

| | Average | t | t adjusted[a] | m(ABS) | Max | Min | Mode | Standard Deviation | Noise-Signal Ratio | %Positive Revisions | Correlation Coefficient[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GDP** | -0.03 | -0.088 | -0.097 | 0.59 | 2.20 | -4.80 | ]-0,50;0,50] | 1.31 | 1.13 | 0.63 | 0.050 |
| PRIVATE CONSUMPTION | 0.05 | 0.352 | 0.374 | 0.35 | 0.90 | -2.00 | ]-0,50;0,50] | 0.59 | 0.64 | 0.74 | -0.104 |
| COLLECTIVE CONSUMPTION | 0.09 | 0.777 | 0.704 | 0.40 | 1.00 | -0.90 | ]-0,50;0,50] | 0.53 | 1.42 | 0.53 | 0.034 |
| GROSS CAPITAL FORMATION | 0.69 | 0.984 | 1.397 | 1.97 | 7.30 | -6.00 | ]-0,50;0,50] | 3.06 | 0.83 | 0.74 | 0.084 |
| GFCF CONSTRUCTION | 0.64 | 2.229** | 2.833** | 0.86 | 3.80 | -1.30 | ]-0,50;0,50] | 1.25 | 0.41 | 0.74 | 0.496** |
| GFCF METAL P. AND EQUIPMENT. | 1.04 | 0.549 | 1.056 | 4.41 | 17.00 | -24.20 | ]-0,50;0,50] | 8.27 | 1.09 | 0.63 | 0.150 |
| EXPORTS. | 0.28 | 0.636 | 0.999 | 1.46 | 3.80 | -4.00 | ]0,50;1,50] | 1.91 | 0.74 | 0.63 | 0.290 |
| IMPORTS. | 0.20 | 0.511 | 0.686 | 1.30 | 3.00 | -2.40 | ]0,50;1,50] | 1.71 | 0.64 | 0.58 | -0.018 |
| CHANGES IN INVENTORIES. [c] | -0.11 | -0.629 | -0.500 | 0.40 | 0.90 | -2.30 | ]-0,50;0,50] | 0.73 | 2.15 | 0.65 | 0.391 |
| **SUPPLY (GVA)** | 0.01 | 0.025 | 0.056 | 0.94 | 5.90 | -4.40 | ]-0,50;0,50] | 1.83 | 2.20 | 0.53 | -0.213 |
| AGRIC, FORESTY, FISHING | -0.42 | -0.696 | -0.882 | 1.78 | 4.90 | -5.40 | ]-0,50;0,50] | 2.60 | 1.25 | 0.58 | 0.173 |
| ELECT, GAS, WATER | 0.39 | 0.478 | 0.611 | 1.75 | 13.00 | -5.90 | ]-0,50;0,50] | 3.60 | 1.93 | 0.63 | 0.062 |
| INDUSTRY. | 0.12 | 0.328 | 0.643 | 0.99 | 3.10 | -3.20 | ]-0,50;0,50] | 1.54 | 0.97 | 0.79 | -0.025 |
| CONSTRUCTION. | 0.68 | 1.923* | 4.672** | 1.24 | 3.50 | -2.00 | ]0,50;1,50] | 1.55 | 0.35 | 0.74 | 0.197 |
| MARKET AND NON-MARKET SERVICES. | 0.21 | 0.795 | 0.925 | 0.79 | 3.30 | -1.60 | ]-0,50;0,50] | 1.13 | 1.28 | 0.68 | 0.211 |
| FISIM. | 1.73 | 1.376 | 1.180 | 3.93 | 16.10 | -7.90 | ]-0,50;0,50] | 5.48 | 0.81 | 0.68 | 0.328 |
| TAXES+DISCREPANCIES | -2.71 | -0.652 | -0.647 | 7.84 | 14.90 | -69.40 | ]1,50;2,50] | 18.14 | 0.94 | 0.65 | -0.764** |

Table 4

## TOTAL YEAR-ON-YEAR REVISION TO THE CHAIN RATE OF CHANGE (AT CURRENT PRICES)

| | Average | t | t adjusted[a] | m(ABS) | Max | Min | Mode | Standard Deviation | Noise-Signal Ratio | % Positive Revisions | Correlation Coefficient[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP | 0.11 | 1.480 | 1.542 | 0.28 | 0.60 | -0.90 | ]-0,50;0,50] | 0.35 | 0.30 | 0.76 | -0.057 |
| PRIVATE CONSUMPTION | 0.00 | 0.103 | 0.111 | 0.14 | 0.50 | -0.50 | ]-0,50;0,50] | 0.21 | 0.20 | 0.71 | 0.131 |
| COLLECTIVE CONSUMPTION | 0.00 | -0.044 | -0.056 | 0.34 | 1.00 | -1.10 | ]-0,50;0,50] | 0.49 | 0.60 | 0.62 | 0.067 |
| GROSS CAPITAL FORMATION | 0.15 | 0.690 | 0.687 | 0.71 | 2.10 | -1.80 | ]-0,50;0,50] | 1.01 | 0.27 | 0.62 | -0.414** |
| GFCF CONSTRUCTION | 0.06 | 0.456 | 0.465 | 0.37 | 1.50 | -1.10 | ]-0,50;0,50] | 0.57 | 0.19 | 0.67 | -0.100 |
| GFCF METAL P. AND EQUIPMENT. | 0.10 | 0.212 | 0.372 | 1.66 | 4.70 | -4.00 | ]-2,50;1,50] | 2.27 | 0.29 | 0.67 | 0.256 |
| EXPORTS. | -0.15 | -0.892 | -0.778 | 0.54 | 1.60 | -1.40 | ]-1,50;0,50] | 0.76 | 0.25 | 0.52 | -0.030 |
| IMPORTS. | -0.54 | -2.111** | -1.398 | 0.87 | 1.50 | -2.90 | ]0,50;1,50] | 1.17 | 0.40 | 0.43 | -0.310 |
| CHANGES IN INVENTORIES[c] | 0.02 | 0.461 | 0.579 | 0.12 | 0.80 | -0.30 | ]-0,50;0,50] | 0.24 | 0.69 | 0.76 | -0.070 |

* The nil hypotheses for a significance level of 10% is rejected.
** The nil hypotheses for a significance level of 5% is rejected.
(a) t adjusted given by:
$t_{adj} = \frac{\bar{x}}{\sqrt{S_x^2}}$ where, $S_x^2 = \sigma_x^2 \frac{(1+\alpha)}{T(1-\alpha)}$ and $\alpha$ is the first-round correlation coefficient.
(b) Correlation coefficient between revisions and the rate of change.
(c) Variable expressed as a percentage of GDP.

particularly important in monitoring developments in economic activity. To this end, an analysis was conducted to the revisions made to several items on both the expenditure and the supply side, and a real-time database was constructed.

Thus, the analysis of the features of these revisions enabled to conclude that:

a) The most revised variables are exports, imports and GFCF, namely in metal products and equipment. The study thus suggests that relying on the improvement of preliminary estimates for external trade variables would translate into a significant reduction of revisions to GDP;

b) For most variables the average of revisions can be considered nil, although variables are mostly revised upwards, suggesting an underestimation of preliminary estimates;

c) There seems to be evidence that revisions between the components of GDP and GVA tend to cancel each other out;

d) In most cases, no correlation was found between revisions and developments in the respective variable;

e) There seems to be some evidence of a downward trend of the magnitude of the successive revisions to year-on-year rates of change in GDP and some of their components, although this is not the case for revisions to chain rates of change which can be due partly to methodological changes introduced when the adoption of the ESA 95;

f) In general, the results obtained are in line with those for other countries.

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# *Chronology of major financial policy measures*

## January

- ***12 January (Regulation no. 12/2003 of the Stock Market Commission 12/2003, Official Gazette no. 9, Series II)*** — Establishes the rules on the assessment of assets integrating the wealth of risk capital funds, as well as on the data reporting by the latter and risk capital companies to the Stock Market Commission. This regulation enters into force on 1 January 2004.

- ***12 January (Notice of Banco de Portugal no. 14/2003, Official Gazette no. 9, Series I - B)*** — Defines the new contribution system for the Mutual Agricultural Credit Guarantee Fund by the Central Agricultural Credit Bank and Mutual Agricultural Credit Banks. Revokes Notice no. 4/99, of 5 May.

- ***15 January (Law no. 3/2004, Official Gazette no. 12, Series I - A)*** — Approves the outline law for public institutions. Establishes principles and rules governing services and funds with legal personality that integrate the indirect administration of the State and Autonomous Regions. It acknowledges the existence of special regimes, given the specificity of the objectives pursued by certain types of public institutions, including, inter alia, the Banco de Portugal and funds operating with it. This law enters into force on the 1st of the month following its publication.

- ***16 January (Regulation no. 13/2003 of the Stock Market Commission, Official Gazette no. 13, Series II)*** — Establishes, pursuant to the provisions set forth in article 4, 2), (b) of Decree-Law no. 319/2002, of 28 December, the regime governing the accounts of risk capital funds. This regulation enters into force on 1 January 2005.

- ***17 January (Regulation no.14/2003 of the Stock Market Commission, Official Gazette no. 14, Series II)*** — Defines the contents of the prospectus of issuance and admission to trading of risk capital fund units, in compliance with article 4, 2), (d) of Decree-Law no. 319/2002, of 28 December.

- ***19 January (Decision no. 2097/2004, Official Gazette no. 25, Series II)*** — Pursuant to the provisions set forth in article 67, 2) of Law no. 107-B/2003, of 31 December, authorises the Portuguese Government Debt Agency to conduct repos based on securities representing the direct public debt quoted in the special public debt market (MEDIP – *mercado especial de dívida pública*) up to 2,500,000,000 euros.

- ***21 January (Regulation no. 15/2003 of the Stock Market Commission, Official Gazette no. 17, Series II)*** — Regulates several matters laid down in the legal framework of undertakings for collective investment (UCI) approved by Decree-Law no. 252/2003, of 17 October. It standardises and systematises, in a single law, the set of rules applicable to mutual funds and establishes the legal framework of a new type of UCI – the special investment funds (SIF). It also stipulates a transitional regime applicable to UCI previously set up. This law enters into force on 1 January 2004.

- ***26 January (Regulation no. 16/2003 of the Stock Market Commission, Official Gazette no. 21, Series II)*** — Establishes the regime governing the accounts of undertakings for collective investment (UCI), whose legal framework was approved by Decree Law no. 252/2003, of 17 October. This regulation, apart from the exception envisaged in it, enters into force on 1 January 2004.

- ***27 January (Circular Letter of Banco de Portugal no. 3/2004/DMR)*** — Provides information on timetables of reserve maintenance periods and on notification dates for 2004 (monthly reporting), following changes in the operational framework of the Eurosystem monetary policy made by Regulations ECB/2003/9, of 12 September, and ECB/2003/10, of 18 September. Revokes Circular Letter no. 31/DMR, of 20 October 2000.

- ***28 January (Circular Letter of Banco de Portugal no. 4/2004/DMR)*** — Informs that the rate of return of the Certificates of Deposit, Series B, to prevail in the quarter started on 4 February 2004, is set at 2.02%.

## February

- ***13 February (Circular-Letter of the Banco de Portugal no. 14/04/DSBDR)*** — Provides information on the understanding of the Banco de Portugal as to the accounting of autonomous warrants, which are equivalent to derivative financial instruments and should be dealt with similarly to option contracts.

- ***16 February (Circular-Letter of the Banco de Portugal no. 2/2004/DMR)*** — Provides information on the reserve maintenance period calendar, as well as on the dates of notification in 2004 (monthly report). Revokes Circular Letter no. 31/2000/DMR, of 20 October 2000.

- ***16 February (Instruction of the Banco de Portugal no. 1/2004)*** — Determines the terms of access to the information relating to cheques users who may offer risk, for the purposes of credit risk evaluation of natural or legal persons.

- ***16 February (Instruction of the Banco de Portugal no. 2/2004)*** — Determines the obligations for the collection and/or supply of information to the Banco de Portugal, within the scope of the limitations to credit granting established in Articles 85 and 109 of the Legal Framework of Credit institutions and Financial Companies.

- ***19 February (Circular-Letter of the Banco de Portugal no. 5/DMR)*** — Informs of the changes introduced in Instruction no. 1/99 (Money Markets - Intervention Operations Market), which is enclosed in attachment in full version with the changes introduced, and will be effective as of 8 March 2004.

## March

- ***5 March (Circular-Letter of the Banco de Portugal no. 18/04/DSBDR)*** — Informs that the Banco de Portugal will raise no objections that institutions, if they so wish, may recognise beforehand as income of the parent undertaking the dividend to be distributed by their subsidiaries during the fiscal year when the profits are generated, provided that certain requirements are fulfilled, according to the International Accounting Standard "IAS18".

- ***10 March (Regulation (EC) no. 501/2004 of the European Parliament and of the Council, OJ L no. 81)*** — Adopts measures on quarterly financial accounts for general government.

- ***10 March (Decree-Law no. 50/2004, Official Gazette no. 50, Series I, A)*** — Introduces changes in articles 8 to 11, 53 and 55 of the Organic Law of the Banco de Portugal, approved by Decree-Law no. 5/98, of 31 January.

- ***24 March (Decree-Law no. 66/2004, Official Gazette no. 71, Series I, A)*** — Introduces changes in the Stock Market Code, approved by Decree-Law no. 486/99, of 13 November.

- ***24 March (Circular-Letter of the Banco de Portugal no. 25/2004/DSB)*** — Recommends that credit institutions and financial corporations shall examine with particular care the operations contracted with natural or legal persons, resident or established in certain countries and territories, within the scope of money laundering preventive measures. Revokes Circular-Letter no. 70/2003/DSB, of 28 July 2003.

- ***25 March (Decree-Law no. 68/2004, Official Gazette no. 72, Series I, A)*** — Lays down the requirements governing advertising and information to consumers in the context of house purchase.

- ***25 March (Decree-Law no. 69/2004, Official Gazette no. 72, Series I, A)*** — Sets forth the rules governing monetary securities known as commercial paper. This Decree-Law enters into force 30 days following its publication.

- ***25 March (Decree-Law no. 70/2004, Official Gazette no. 72, Series I, A)*** — Introduces changes in the legal system governing autonomous warrants, laid down in Decree-Law no. 172/99, of 20 May, which is published again, in attachment, with the amendments introduced.

## April

- ***20 April (Decree-Law no. 88/2004, Official Gazette no. 93, Series I - A)*** — Transposes into Portuguese law Directive 2001/65/EC of the European Parliament and of the Council of 27 September as regards the valuation rules for the annual and consolidated accounts of certain types of companies as well as of banks and other financial institutions. This Decree-Law shall be applicable to the accounts and management reports of the fiscal years started on or after 1 January 2004.

- ***21 April (Guideline of the European Central Bank (2004/501/EC) OJ L 205)*** — Amends Guideline ECB/2001/3 on a Trans-European Automated Real-Time Gross settlement Express Transfer system (TARGET). This guideline is addressed to the national central banks of participating Member States and comes into force on 1 May 2004 (ECB/2004/4).

- ***29 April (Commission Directive 2004/72/EC, OJ L 162)*** — Adopts measures regarding the implementation of Directive 2003/6/EC of the European Parliament and of the Council as regards accepted market practices, the definition of inside information in relation to derivatives on commodities, the drawing up of lists of insiders, the notification of managers' transactions and the notification of suspicious transactions. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 12 October 2004 at the latest. This Directive shall enter into force on the day of its publication in the Official Journal of the European Union.

- ***29 April (Circular Letter of the Banco de Portugal no. 7/04/DMR)*** — Informs that the rate of return of the Certificates of Deposit, Series B, to prevail in the quarter started on 4 May 2004, is set at 2.00%.

- ***29 April (Resolution of the Assembly of the Republic no. 35/2004, Official Gazette no. 101, Series I - A)*** — Approves for ratification, the decision of the Council of 21 March 2003, meeting in the composition of Heads of State or Government, as regards an amendment to Article 10.2 of the Statute of the European System of Central Banks and of the European Central Bank.

- ***30 April (Circular Letter of the Banco de Portugal no.38/04/DSB)*** — Makes known the understanding of the Banco de Portugal as regards the deadlines for the revaluation of real estate acquired in repayment of own claims.

- ***30 April (Circular Letter of the Banco de Portugal no.39/04/DSB)*** — Clears doubts on the provisioning system of credit default swaps.

## May

- ***6 May (Regulation No. 1/2004 of the Stock Market Commission, Official Gazette no. 122, Series II - A)*** — Implements the legal framework of commercial paper, as amended by Decree-Law No. 69/2004 of 25 March, establishing a simplified treatment of public offers and of the compulsory means used by the issuers in compliance with their duty to disclose information.

- ***6 May (Regulation No. 2/2004 of the Stock Market Commission, Official Gazette no. 121, Series II)*** — Fixes the rate to be applicable on the simplified prior registration of the public offer of commercial paper.

- ***8 May (Decree-Law No. 105/2004, Official Gazette no. 108, Series I - A)*** — Approves the legal framework of financial collateral arrangements and transposes into Portuguese law Directive 2002/47/EC of the European Parliament and of the Council of 6 June 2002 on financial collateral arrangements. This Decree-Law also stipulates that the common or special regimes should be subsidiarily applied to other types of pledge or reporting. This Decree-Law shall enter into force on the 30th day following its publication.

- ***12 May (Circular-Letter of the Banco de Portugal No. 41/04/DSBDR)*** — Informs that according to the understanding of the Banco de Portugal, the risks of *Entidade Gestora de Reservas Estratégicas de Produtos Petrolíferos*, E.P.E. (EGREP) (management entity of strategic oil reserves), may be subject to a 0% weighting, for the purposes of the calculation of the solvency ratio and of the limits to large exposures.

- ***17 May (Instruction of the Banco de Portugal no. 11/2004)*** — Lays down the rules governing the acquisition of transferable securities by mutual guarantee companies for their own portfolio.

- ***24 May (Notice of the Banco de Portugal no. 2/2004, Official Gazette no. 137, Series I, B)*** — Amends part I (5) of the annex to Notice no. 1/93, of 8 June, in the wake of the publication of Commission Directive 2004/69/EC, of 27 April, which introduced changes in the list of multilateral development banks for the purpose of risk weighting for the calculation of the solvency risk, adding the Multilateral Investment Guarantee Agency to the list in question.

- ***27 May (Regulation of the Stock Market Commission no. 3/2004, Official Gazette no. 136, Series II)***

  Regulates the changes introduced in the Stock Market Code, as regards the disclosure of post-business and market fostering data, by Decree-Law no. 66/2004, of 24 March, which establishes a system for market safety (establishing a separation between market management functions, on the one hand, and central counterpart and clearing house functions, on the other hand).

- ***27 May (Regulation of the Stock Market Commission no. 4/2004, Official Gazette no. 136, Series II)***

  Updates the overall framework of the media suitable for the compulsory disclosure of information; reporting requirements shall be listed according to the nature of the respective issuing corporation. Amended by Rectification no. 1181/2004, of 11 June, Official Gazette no. 146, Series II, of 23 June 2004.

- ***27 May (Regulation of the Stock Market Commission no. 5/2004, Official Gazette no. 136, Series II)***

  Updates the system governing autonomous warrants, following the changes introduced in the respective system by Decree-law no. 70/2004, of 25 March, which amended Decree-Law no. 172/99, of 20 May.

## June

- ***1 June (Notice no. 6670/2004, Official Gazette no. 143, Series II)***

  Within the scope of article 27 of Decree-Law no. 349/98, of 11 November, under the rewording laid down in Decree-Law no. 320/2000 of 15 December, and in tandem with the provisions laid down in no. 10, b) of Executive Order no. 1177/2000, of 15 December, it communicates to the public that the reference rate for the calculation of interest relief grants to be in force as from 1 July 2004 is set at 3.651%.

- ***9 June (Circular-Letter of the Banco de Portugal no. 48/04/DSBDR)***

  Clarifies doubts on the provisioning system of "credit default swaps", established in Circular-Letter no. 39/04/DSBDR, of 30 April.

- ***21 June (Circular-Letter of the Banco de Portugal no. 7/2004/DET)***

  Recommends that credit institutions should take the necessary measures with a view to eliminating irregular proceedings in taking deposits in cash and over-the-counter operations. The Bank is willing to provide information and/or training sessions on the good recognition of euro banknotes.

- ***29 de June (Decree-Law no. 151/2004, Official Gazette no. 151, Series I, A)***

  Introduces changes in Decree-Law no. 319/2002 of 28 December, which regulates the setting up and the activity of risk capital companies and risk capital funds.

- ***29 June (Circular Letter of the Banco de Portugal no. 52/04/DSBDR)***

  Informs that the report on the internal control system, as well as the respective auditors' opinion, may be exceptionally sent by the financial institutions covered until the end of July 2004.

## July

- ***1 July (Guideline of the European Central Bank 2004/546/EC, Official Journal of the European Union no. 241, Series L)***

  Guideline of the European Central Bank on the Eurosystem's provision of reserve management services in euro to non-European Union central banks, countries outside the European Union and international organisations (ECB/2004/13). This guideline enters into force on 5 July 2004, its provisions becoming effective as from 1 January 2005.

- ***1 July (Notice of the Ministry of Finance/Portuguese Government Debt Agency no. 7527/2004, Official Gazette no. 165, Series II)***

  Informs institutions holding perpetual loan certificates of the real value of these certificates in the period from 1 July to 31 December 2004.

- ***8 July (Instruction of the Banco de Portugal no. 14/2004 (distributed with Circular Letter no. 60/04/DSBDR))***

  Introduces changes in Instruction no. 120/96 and, following the extension period granted under Article 114 of the Legal Framework of Credit Institutions and Financial Companies approved by Decree-Law no. 298/92 of 31 December, shortens the deadline for the deduction from own funds of the value (net of provisions) of real estate received in repayment of own credit. This Instruction enters into force on 14 July, from which date the changes

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| | referred to will apply to new authorisations to be granted by Banco de Portugal. |
| • *8 July (Circular Letter of the Banco de Portugal no. 61/04/DSBDR)* | Informs that the extension period of the deadline for the disposal of real estate received by credit institutions in repayment of own credit may be shortened to one year, as laid down in Article 114 of the Legal Framework of Credit Institutions and Financial Companies approved by Decree-Law no. 298/92 of 31 December. This change shall be effective with regard to extension requests to be submitted to the Banco de Portugal after the date of issue of this Circular Letter. |
| • *9 July (Notice of the Banco de Portugal no. 3/2004, Official Gazette no. 160, Series I - B)* | In use of the powers conferred on it by Article 3 of Decree-Law no. 163/94 of 4 June, the Bank sets forth the minimum ratio of the amount of wealth managing companies' own funds to the overall amount of the portfolios they manage, defining the valuation criteria of these portfolios. Replaces Executive Order no. 422-C/88 of 4 July. |
| • *16 July (Law no. 27/2004, Official Gazette no. 166, Series I - A)* | Introduces changes in Article 48 of Law no. 11/2004 of 27 March, which sets up the preventive and repressive system regarding money laundering. |
| • *17 July (Law no. 29/2004, Official Gazette no. 167, Series I - A)* | Authorises the Government to regulate the liquidation of credit institutions and financial companies. These legislative powers shall prevail for 120 days. |
| • *26 July (Circular Letter of the Banco de Portugal no. 68/04/DSBDR)* | Provides information on the position of the Banco de Portugal as to the demarcation of activities allowed to credit institutions and financial companies within the scope of the trading of non-financial products. |
| • *28 July (Circular Letter of the Banco de Portugal no. 8/DMR)* | Following Circular Letter no. 347/DMR of 27 October 1999, informs that the rate of return of the Certificates of Deposit, Series B, to prevail in the quarter started on 4 August 2004, is 2.00 %. |
| • *28 July (Circular Letter of the Banco de Portugal no. 69/04/DSBDR)* | Recommends that credit institutions and financial companies carefully examine operations conducted with natural or legal persons residing or established in certain countries or territories, within the scope of measures to prevent money laundering. Revokes Circular Letter no. 25/04/DSB of 24 March. |
| • *30 July (Circular Letter of the Banco de Portugal no. 70/04/DSB)* | Informs that the document issued by the Official Auditors' Association in Circular no. 44/04 on the "Report on the Internal Control System of Financial Entities - guidelines on the work to be done and the report to be issued" must be understood as guidance for its members, and cannot interfere with the responsibilities the Law confers upon them in their capacity as auditors. |

## August

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| • *28 July (Notice of Banco de Portugal no. 4/2004, Official Gazette no. 188, Series I - B)* | Extends into 2004 the possibility envisaged in Notice no. 4/2002 of 25 June of certain provisions being registered against reserves. |
| • *4 August (Circular Letter of Banco de Portugal no. 11/2004/DET)* | Makes known the creation by Banco de Portugal of a regular institutional communication channel, for the disclosure of qualified information on euro banknotes, and asks the parties concerned to appoint contact persons for this purpose. |
| • *6 August (Circular Letter of Banco de Portugal no. 72/04/DSBDR)* | Makes known the understanding of Banco de Portugal regarding pre-contractual information to be provided by credit institutions, within the scope of financing requests channelled by suppliers of goods and services subscribed by their customers. |
| • *13 August (Circular Letter of Banco de Portugal no. 73/04/DSBDR)* | Informs the institutions that wish to use the possibility envisaged in Notice no. 4/2004 of 11 August, that they can annul the registration, in the profit |

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| | and loss account, of the provisions set up in the first half of this year, registering them simultaneously against reserves. |
| • *16 August (Instruction of Banco de Portugal no. 16/2004 )* | In order to guarantee the consistency of information disclosed to the public, credit institutions should include a minimum set of indicators whenever they publish quantitative information on the issues to which such indicators refer. |
| • *24 August (Instruction of Banco de Portugal no. 17/2004)* | Establishes information requirements on portfolios of assets managed by wealth management companies and by mutual fund management companies. Revokes Instruction no. 80/96, published in BNBP no. 1 of 17 June 1996. |
| • *24 August (Instruction of Banco de Portugal no. 18/2004)* | Defines the periodical notification and information requirements on securitisation transactions. Revokes Instruction no. 29/2001, published in BNBP no. 12 of 17 December 2001. |
| • *31 August (Executive Order no. 1018/2004, Official Gazette no. 220, Series II)* | Implements the broadly based relief of stock market continuous supervision rates. The present Executive Order enters into force on 1 October 2004. |

## September

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| • *8 September (Regulation of the Stock Market Commission no. 6/2004, Official Gazette no. 222, Series II)* | Introduces changes in Regulation no. 7/2003, which changed the system governing the rates applicable to the services provided by the Stock Market Commission. The present regulation enters into force on 1 October 2004. |
| • *15 September (Instruction of the Banco de Portugal no. 19/2004)* | Informs that institutions shall report immediately any situation deemed to be relevant within the carrying on of their activity and having an impact on their profitability and financial soundness. |

## October

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| • *7 October (Notice of Banco de Portugal No. 5/2004, Official Gazette No. 236, Series I - B)* | Sets at 0.0375% the base contributory rate for the calculation of annual contributions to the Deposit Guarantee Fund for 2005. |
| • *15 October (Instruction of Banco de Portugal No. 21/2004, BNBP No. 10/2004)* | Sets at 33% the limit for the irrevocable payment commitment to be applied in contributions to the Deposit Guarantee Fund for 2005. |
| • *15 October (Circular Letter No. 89/2004/DSB)* | Clarifies reporting requirements for transactions with other entities of a financial group. |

## November

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| • *29 November (Circular-Letter of the Banco de Portugal No. 10/DMR)* | Provides information, according to the provisions laid down in Article no. 5 (4) of the Regulation of the European Central Bank of 12 September on the application of minimum reserves (BCE/2003/9), on the time limits for notification and the calendars of maintenance periods for minimum reserves in 2005 (monthly reporting). |
| • *29 de November (Circular-Letter of the Banco de Portugal No. 11/DMR)* | Provides information, according to the provisions laid down in Article no. 5 (4) of the Regulation of the European Central Bank of 12 September on the application of minimum reserves (BCE/2003/9), on the time limits for notification and the calendars of maintenance periods for minimum reserves in 2005 (quarterly reporting). |

*Working papers*

## WORKING PAPERS

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