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OUTLOOK FOR THE PORTUGUESE ECONOMY IN 2003 AND 2004

1. INTRODUCTION

This article presents the Banco de Portugal's macroeconomic projections for the years 2003 and 2004. These projections were developed within the scope of the Eurosystem's Autumn forecasts, jointly prepared by experts from the European Central Bank and National Central Banks. The major results for the euro area were published in the December issue of the *Monthly Bulletin* of the European Central Bank (ECB). The preparation of these projections was based on information available up to mid-November. This is the first time that the Banco de Portugal publishes forecasts for Portuguese economy with a two-year projection horizon, which fully corresponds to the projection period considered in the Eurosystem's Autumn exercise. In terms of presentation, however, this article will especially focus on projections for 2003, given the higher uncertainty surrounding a two-year forecast.

Banco de Portugal's projections for 2003 point to an output growth ranging between ¼ and 1¼ per cent (Table 1 and Chart 1). For 2004, output is projected to grow between 1 and 2½ per cent.

As regards the path for inflation, the annual average change of the Harmonised Index of Consumer Prices (HICP)[1] is projected to stand between 2.4 and 3.4 per cent in 2003 and between 1.4 and 2.9 per cent in 2004.

Table 1

PROJECTIONS OF THE BANCO DE PORTUGAL

Percentage rates of change

		Current projection			Memo item: EB June / 2002	
	2001	2002[a]	2003	2004	2002	2003
Private consumption	1.0	[0 ; ¾]	[¼ ; 1¼]	[1 ; 2½]	[½ ; 1½]	[¼ ; 2¼]
Public consumption	2.9	1.5	-1.0	-0.5	0.9	0.1
Gross fixed capital formation	-0.4	[-5 ; -3]	[-4¼ ; -¼]	[-2¼ ; 3¾]	[-5 ; -3]	[-2 ; 2]
Domestic demand	1.1	[-¾ ; -¼]	[-¾ ; ¼]	[¼ ; 1¾]	[-¾ ; ¼]	[-¼ ; 1¾]
Exports	1.7	[1 ; 2]	[5 ; 6½]	[6 ; 8½]	[1 ; 2½]	[5¾ ; 8¾]
Overall demand	1.3	[-¼ ; ¼]	[½ ; 1½]	[1¾ ; 3¼]	[-¼ ; ¾]	[1 ; 3]
Imports	0.1	[-2¼ ; -¼]	[¼ ; 3¼]	[2 ; 6½]	[-1½ ; ½]	[2 ; 6]
GDP	1.8	[¼ ; ¾]	[¼ ; 1¼]	[1 ; 2½]	[0 ; 1]	[½ ; 2½]
Current account+ Capital account (%) GDP	-8.4	[-6½ ; -5½]	[-6;-4]	[-5½ ; -2½]	[-6½ ; -5]	[-6½ ; -3½]
Harmonised Index of Consumer Prices	4.4	3.7	[2.4 ; 3.4]	[1.4 ; 2.9]	[3.5 ; 4.5]	[2.0 ; 4.0]

Note:

(a) The estimates for 2002 presented in this table do not correspond exactly to those published in the September issue of the *Economic Bulletin*, which were based on data available up to 16 October. The small differences are chiefly explained by the incorporation of new information on the general government, therefore not corresponding to an overall revaluation of the estimates. That revaluation will be carried out in the March issue of the *Economic Bulletin*.

Chart 1
GDP
Percentage rates of change

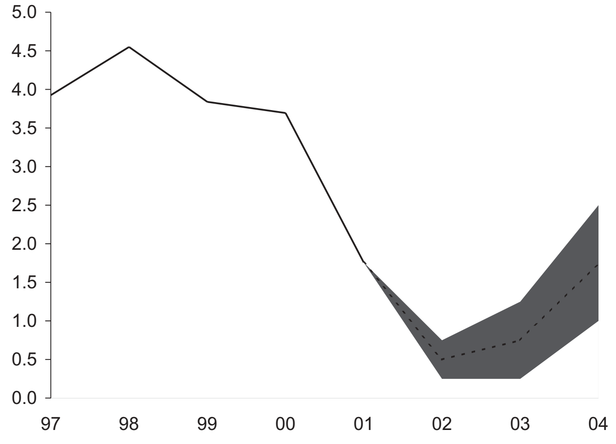
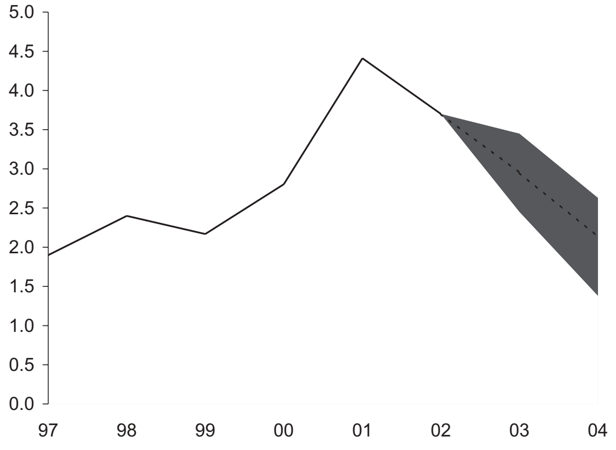


Chart 2
HARMONISED INDEX OF CONSUMER PRICES
Percentage rates of change



These values represent a clear decline from the inflation rate observed in 2002, which will likely stand at approximately 3.7 per cent (Chart 2). Behind the expected decline in inflation are both the cyclical position of Portuguese economy, which will likely affect the trend of profit margins and wages, and the relatively favourable hypotheses of the Eurosystem's exercise, particularly regarding the effects associated with the trend of prices of imports of consumption goods in 2002 and 2003. In the course of 2003, the decline in the inflation rate is projected to be also influenced by base effects, since the year-on-year rates of change will cease to include the upward impact on prices associated with the process of conversion of prices in escudos into euros in early 2002, and the impact on prices of the increase in the standard VAT rate, effective as of June 2002.

GDP growth projections for 2003 are based on a further reduction of domestic demand, in real terms, although less sharp than that estimated for 2002. For 2004, however, a moderate positive growth rate of domestic demand is foreseen. Developments in 2003 reflect a marginally positive growth of private domestic demand and the hypothesis of negative changes, in real terms, in public consumption and investment, as a result of budget consolidation requirements. Exports of goods and services are expected to be the component of overall demand registering the most significant growth, ranging between 5 and 6½ per cent, chiefly reflecting the hypothesis of a significant improvement in the external conditions of Portuguese economy in 2003. As a result of the projected recovery of overall demand, imports are expected to record a positive rate of growth in 2003, in real terms, contrary to the estimations for 2002. In line with the hypothesis of a continued strengthening of external demand for Portuguese economy, a further acceleration in exports is expected for 2004. Turning to domestic demand, public consumption and investment are projected to point to a negative growth, albeit less sharp than in 2003, while private consumption and investment indicate some recovery. Import growth is projected to increase, although clearly less than export growth.

The developments forecasted for exports and imposts are likely to allow for a narrowing of the deficit of the goods and services account over the projection horizon, which is expected to contribute to a further reduction of the external borrowing requirements of the Portuguese economy. The projection for the joint deficit of the current and capital accounts stands between 4 and 6 per cent of GDP in 2003 and between 2½ and 5½ per cent of GDP in 2004. Therefore, the gradual adjustment process of the behaviour of resident private eco-

(1) These inflation projections were prepared using the current HICP series and methodology. It should be noted that the *INE* shall carry out a revision of the index structure as from the 2000 survey on household budgets. This revision will be effective as of January 2003, wherefore it is not possible to anticipate its impact as yet.

nomic agents (households and corporations) started in 2000 is expected to continue in 2003 and 2004. This process has been particularly reflected in the growth of private domestic demand at a rate below that of output and in a slowdown in the pace of increase of gross indebtedness by those economic agents, after the significant increase observed in the late 1990s. Moreover, the impact of this adjustment process on economic growth is strengthened, in the short and medium term, by the need to consolidate public finance.

Compared with projections for 2003 presented in the June issue of the *Economic Bulletin*, the present projections correspond to a downward revision of economic growth, as can be observed in Chart 3. This revision is very significant — approximately ¾ percentage points (p.p.), when considering the central values of the June and December forecast ranges. The revision of output growth projections is explained by three major factors. First, one of the crucial hypothesis in this forecast exercise is related to the growth of the external markets of Portuguese economy. As can be seen in the next section, as a result of a deterioration of the external conditions for the Portuguese economy, there was a downward revision of export growth. Second, the inclusion of new information on public finance and the need to ensure that the general government accounts deficit will stand below 3 per cent of GDP have determined a significant downward revision of public consumption and investment for 2003. Finally, it should be mentioned that, although the present estimates for economic growth in 2002 are close to those published in the June issue of the *Economic Bulletin*, there have been changes in terms of expenditure composition, stress being laid on the downward revision of private domestic demand — in particular as regards consumption of durable goods and investment — and on the upward revision of general government final expenditure.[2] The new estimates for the trend of macroeconomic aggregates in 2002 have carry-over effects on projections for 2003, which, in general, are reflected in identical revisions of projections for 2002. On the contrary, General Government expenditures were equally revised downwards, against a background of fiscal consolidation, although in 2002 they have recorded a higher growth rate.[3]

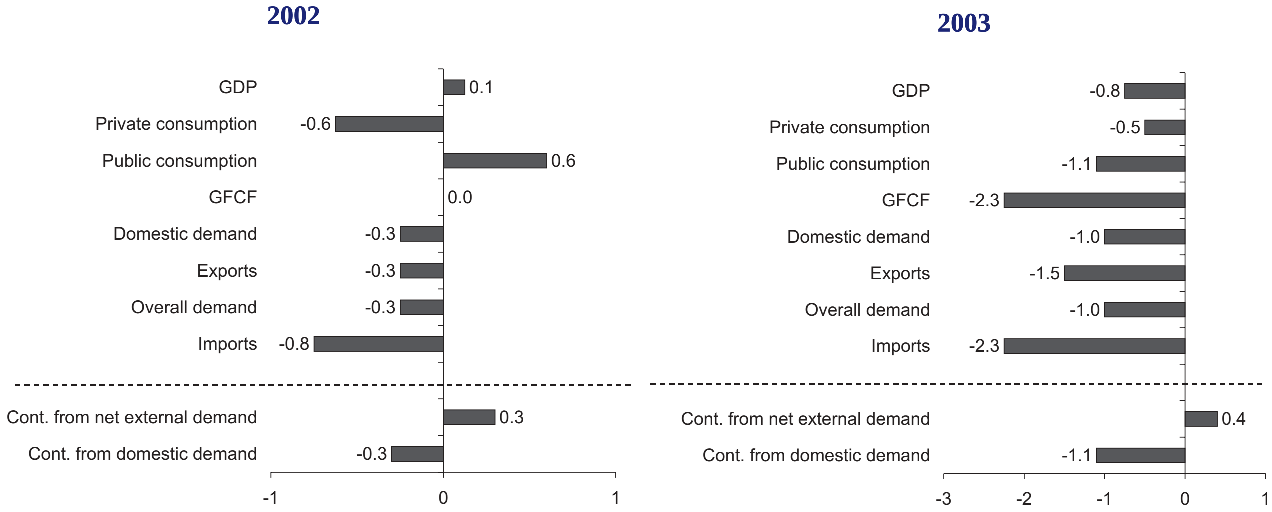
2. HYPOTHESES UNDERLYING THE PROJECTIONS

The present projections for Portuguese economy were prepared within the scope of the Eurosystem's autumn macroeconomic projection exercise, jointly produced by experts from the ECB and the euro area national central banks. A summary of the projections for the euro area was published in the December 2002 issue of the ECB

Chart 3

REVISION OF THE PROJECTIONS PUBLISHED IN THE JUNE ISSUE OF THE *ECONOMIC BULLETIN*[a]

Percentage points



Note: Taking into account the forecast range average points.

Monthly Bulletin. These projections are based on a set of common hypotheses for interest rates, exchange rates, commodity prices, and the evolution of the world economy.[4] Turning to the short-term interest rate and the euro bilateral exchange rates, the technical hypothesis assumed is the maintenance over the projection horizon of the levels observed in the period immediately before the cut-off date for the information (mid-November). The hypothesis assumed for the long-term interest rate was based on market expectations, which is reflected in a slightly upward profile over the projection horizon. With regard to prices of major commodities in the international markets, the hypothesis assumed is based on the path implied in futures markets. Therefore, it was assumed a decline of 10 per cent in world oil prices, measured in USA dollars, over the projection horizon. In contrast, the prices of non-energy commodities were assumed to increase both in 2003 and in 2004, thus reversing the marked decrease observed in 2001.

Turning to the international framework, this projection exercise assumed that GDP growth outside the euro area has reached approximately 3 per cent in 2002, which is higher than the 2.3 per cent growth rate observed in 2001. It is projected to increase further to 3.5 per cent in 2003 and to 4.5 per cent in 2004. In the United States, growth is expected to strengthen gradually in 2003 and to remain strong in 2004, albeit likely at rates below those observed in the late 1990s. The behaviour of the Japanese economy does not suggest any significant changes over the projection horizon, while a more robust growth is expected for the United Kingdom, as well as for the most part of the remaining developed economies. Among emerging markets, the Asian economies are expected to continue their rapid expansion. On the contrary, in Latin America, economic growth is projected to remain relatively weak. The EU accession countries and other transition economies are expected to continue to grow at a relatively strong pace. Consistently with the hypotheses on the trend of economic activity, growth in the euro area's external export markets is projected to pick up gradually in the course of 2003 to 5.5 per cent, on average annual terms, which is a significant acceleration from the figure of 2.2 per cent estimated for 2002. A further acceleration to about 7 per cent is expected for 2004.

The projections for relevant external markets for Portuguese economy also take into account the expected growth for the other euro area economies that represent approximately two thirds of Portuguese external trade. It should be recalled that the present exercise ensures consistency between forecasts prepared for each national economy forming the euro area and external demand for Portuguese economy. As published by the ECB in the December issue of its *Monthly Bulletin*, GDP growth rate estimated for 2002 in the euro area reflects carry-over effects from the low growth rates experienced in the second half of 2001. Indeed, Eurosystem's projections for 2002 point to a growth of the euro area GDP within a range from 0.6 per cent to 1.0 per cent, after a growth rate of 1.5 per cent in 2001. For 2003 and 2004, Eurosystem's projections point to growth rates between 1.1 and 2.1 per cent and between 1.9 and 2.9 per cent respectively (see Table 2). Reflecting this trend, and after an apparent negative change in 2002 (between -2.4 and +0.2 per cent), imports (including intra-area trade) are expected to grow significantly, between 2.6 and 6.0 per cent in 2003 and between 4.1 and 7.5 per cent in 2004.

As a result, the external demand of goods and services relevant for Portuguese economy is estimated to have a slightly negative change in 2002, and to recover to growth rates around 5 and 6½ per cent in 2003 and 2004 respectively. In spite of

(2) Against the Spring projections, the lower contribution of domestic demand to economic growth was compensated by a higher contribution of net exports. In fact, although the growth rate of exports has been lower than projected, the growth rate of imports was significantly revised downwards, reflecting the already mentioned evolution of global demand's components with a higher import content.

(3) In the September issue of the *Economic Bulletin*, Banco de Portugal published a forecasting range between 4.5 and 4.7 per cent for the unemployment rate in 2002. Later on, the labour force survey pointed to an increase of the unemployment rate to 5.1 per cent in the third quarter of the year. Under these circumstances, the figure for the unemployment rate in 2002 will probably be slightly above the upper limit of the forecasting range presented by Banco de Portugal. However, given the factors underlying the increase of the unemployment rate, this outcome has not produced a major effect on the economic activity and expenditures estimates for 2002. On this issue, see Box 1: "*Recent behaviour of the unemployment rate*"

(4) More information on the procedures and techniques used is given in "*A guide to Eurosystem staff macroeconomic projection exercises*", June 2001, ECB.

Table 2

AUTUMN PROJECTIONS FOR THE EURO AREA

Percentage rates of change

		Projections		
	2001	2002	2003	2004
Private consumption	1.9	[0.4 ; 0.8]	[1.1 ; 2.1]	[1.5 ; 3.1]
Public consumption	1.9	[1.3 ; 2.5]	[0.7 ; 1.7]	[0.8 ; 1.8]
Gross Fixed Capital Formation	-0.4	[-2.9 ; -1.9]	[-0.6 ; 2.4]	[1.4 ; 4.6]
Exports	3.0	[-0.9 ; 1.9]	[2.4 ; 5.6]	[3.9 ; 7.1]
Imports	1.5	[-2.4 ; 0.2]	[2.6 ; 6.0]	[4.1 ; 7.5]
GDP	1.5	[0.6 ; 1.0]	[1.1 ; 2.1]	[1.9 ; 2.9]
Harmonised Index of Consumer Prices	2.5	[2.1 ; 2.3]	[1.3 ; 2.3]	[1.0 ; 2.2]

Source: December issue of the ECB *Monthly Bulletin.*

this recovery, it should be noted that the growth rate now projected for 2003 stands approximately 1 p.p. below the value considered in the Eurosystem's Spring exercise.

In addition to the hypotheses on the external framework, another set of hypotheses was considered on public finance variables, to a large extent based on information contained in the State Budget for 2003, although taking into account the difference between the macroeconomic scenario presented in the State Budget and that now published by the Banco de Portugal. Other additional hypotheses were considered for 2004, in order to ensure that the general government deficit will stand below 3 per cent of GDP in that year. For 2003, stress should be laid on the possibility of implementation of the increase in the Tax on Oil Products envisaged in the State Budget for 2003, given its effect on inflation projections.

3. OUTLOOK FOR THE PORTUGUESE ECONOMY IN 2003

3.1. Economic activity

The projections in this *Economic Bulletin* assume that, in 2003, Portuguese economy may present, in annual average terms, a rate of growth similar to that estimated for 2002, although, in intra-annual terms, an acceleration of activity is implied in the course of 2003. These prospects of very moderate growth chiefly reflect the lack of buoyancy in domestic demand. Exports, in turn, are likely to show a significant pace of growth, should a recovery in relevant external demand for the Portuguese economy gain momentum, as envisaged in the technical hypotheses of the Eurosystem projections. For 2003, and as a result of developments in 2002, forecasts point to a negative contribution from domestic demand and a positive contribution from net external demand to economic growth, quantitatively close to those registered in the previous year.

Projections for 2004 point to a recovery in the output growth rate to a range from 1 to 2½ per cent. An important contribution to this trend is given by the acceleration in exports, should the hypotheses on the external framework of Portuguese economy materialises. The growth rate of domestic demand will likely continue to be lower than that of GDP, while private consumption and investment are expected to present clearly positive changes. However, the need to proceed the budget consolidation process shall determine further reductions, in real terms, in public consumption and investment, albeit less markedly than in 2003.

The factors constraining the recent expansion of domestic demand will still be present in 2003 and, to a lesser extent, in 2004. Among these, stress should be laid on the need to promote budget consolidation, due to its effects on the trend of domestic demand. In addition, the adjustment of the household and corporate financial situation, after a period of strong expansion in investment and consumption, together with precautionary expenditure, against a background of less favourable economic prospects, will tend to prevent a sharper acceleration of private consumption and the recovery of private investment to positive levels as soon as in 2003.

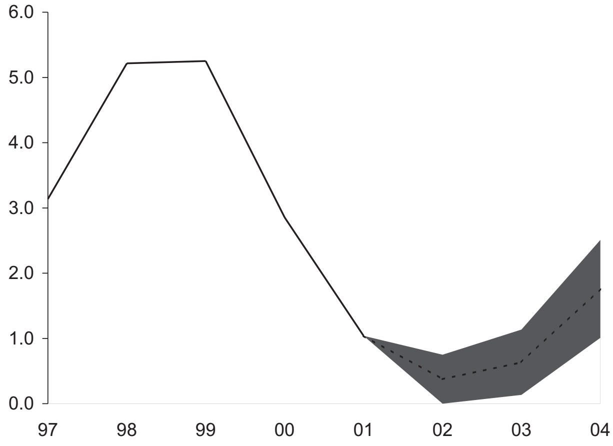
Exports will tend to show some buoyancy, as the external framework of the Portuguese economy peaks up, in line with the technical hypotheses of the projection. This development will chiefly reflect the trend of recovery of external demand, which is expected to be more significant in the second half of 2003. The development of exports will tend to exert a positive influence on private consumption and investment, and will be the major force behind the slight acceleration of output resulting from these projections. In effect, in intra-annual terms, projections for economic growth in 2003 imply an acceleration of economic activity in the course of the year.

According to developments projected for private consumption in 2003, the pace of growth will continue to be rather moderate, only slightly above that observed in 2002 (Chart 4). This slight acceleration results from the combined effect of a small slowdown in current consumption and a decline in consumption of durable goods, albeit less marked than in 2002. The continued reduction in consumption of durable goods is one of the most striking characteristics of private expenditure adjustment process, resulting from the strong expansion observed in the late 1990s.

The weak growth projected for private consumption in 2003 has implied a small increase in disposable income, in real terms, and a stabilisation of the household savings rate. The behaviour projected for the disposable income is associated with a stabilisation of the level of overall employment in the economy, interrupting the upward trend observed since 1994. In addition, and also affecting the trend of disposable income, real wages per worker are expected to decelerate in 2003, chiefly reflecting a deterioration of the unemployment rate and budget consolidation requirements. It should also be noted that, as a contribution for curbing the growth of disposable income, a higher growth is expected in direct taxes payable by households, chiefly as a result of a decline in personal income tax repayments in 2003.(5)

Notwithstanding the weak growth of disposable income, this projection points to a stabilisation of the savings rate in 2003. The evolution of the savings rate reflects, on the one hand, some cause for concern among households, associated with a deterioration of labour market conditions, in particular as regards the foreseeable increase in the unemployment rate. In addition, the high rate of growth of household indebtedness in the recent past implies that a share of disposable income must be allocated to the corresponding repayments. These factors are reflected in economic agents expectations, as suggested by confidence indicators. Chart 5 presents the trend of the confidence indicator(6) in Portugal and in the euro area, illustrating some important aspects of the present consumer sentiment in Portugal. First, it should be stressed that, in the Portuguese case, this indicator registered quite a significant and somewhat sudden fall in May and June, when awareness seems to have arisen on the inevitability of the budget consolidation process. In effect, some measures

Chart 4
PRIVATE CONSUMPTION
Percentage rates of change



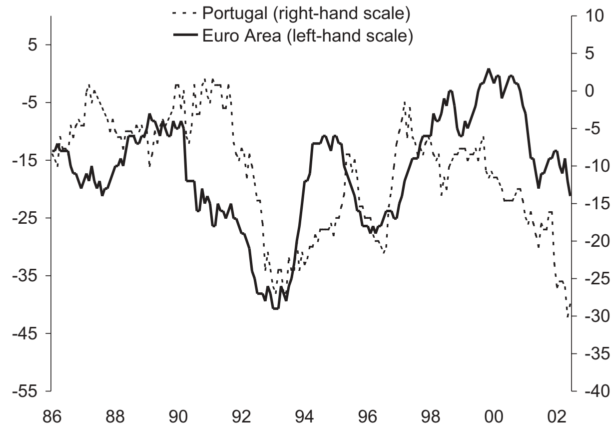
(5) In January 2002, the 8 per cent update in the withholding tax of the personal income tax, without any effective measures intended to cut this tax, led to a decrease in receipts in 2002. In turn, this effect will determine an increase in receipts from the personal income tax in 2003, since net repayments payable by the State will be lower.

(6) The European Commission publishes, on a monthly basis, the results of a survey carried out in every Member State, intended to evaluate consumer economic sentiment. Based on the replies to four prospective questions of that survey (financial situation, overall economic situation, unemployment expectations and savings over the next 12 months) the Commission compiles the consumer confidence indicator.

Chart 5

CONSUMER CONFIDENCE INDICATOR

Balance of respondents – seasonally adjusted

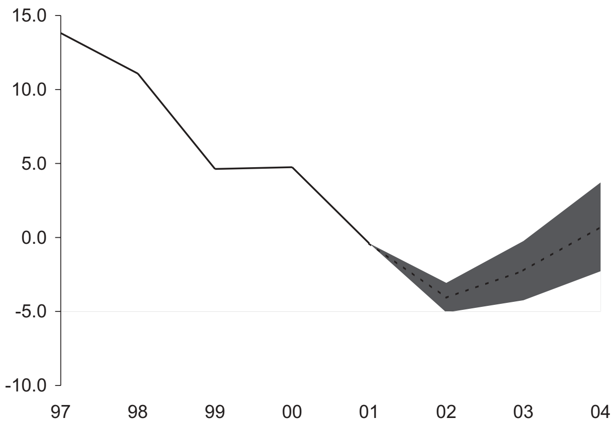


Source: European Commission.

Chart 6

GROSS FIXED CAPITAL FORMATION

Percentage rates of change



were then announced, namely the increase in the standard VAT rate from 17 to 19 per cent. Second, the consumer confidence indicator in Portugal reached the lowest values of the series in October and November 2002, suggesting a more negative evaluation by consumers than in the 1993 recession.[7] Finally, it is worth mentioning that this less favourable evaluation by consumers, although broadly based across the four components of the indicator, is particularly significant as regards unemployment expectations over the next 12 months, clearly illustrating a plainly unfavourable evaluation by households as regards the labour market development during that period.

(7) On the contrary, the values observed for the euro area as a whole are only slightly below the average for the indicator.

Table 3

RESIDENTIAL BUILDING

Average percentage of replies

	No obstacle	Insufficient demand	Lack of qualified staff
1999	39	31	55
2000	32	42	62
2001	21	49	53
2002[(a)]	18	65	42

Note: (a) January to October.

The present projections point to a further fall of investment, in real terms, in 2003, albeit less sharp than that estimated for 2002 (Table 1 and Chart 6). This forecast incorporates a significant reduction in public investment, after a positive change in 2002, as well as a decline in private investment, although less pronounced than that estimated for 2002, in both housing investment and entrepreneurial investment.

The persistence of negative developments in residential investment in 2003 reflects, to a large extent, the same type of factors affecting the behaviour of private consumption, and is also one of the main characteristics of the adjustment process of Portuguese economy. It should be recalled that in the recent past household investment presented very high and unsustainable growth rates, as a result of the transition process towards lower inflation and interest rates. Chart 7 shows that the prospective segments in the *INE's* construction survey relating to the residential sector present markedly negative trends. Moreover, it is interesting to note, in the same survey, a change in replies on obstacles to activity by corporations of the sector. There is a clear predominance of corporations mentioning insufficient demand as an obstacle to their activity while, in the recent past, the lack of qualified staff was the most frequently mentioned obstacle (Table 3).

The negative change of corporate investment projected for 2003 is based on the duration of the effect of a set of previously identified factors, namely the need to readjust the capital stock at

Chart 7
CONSTRUCTION – QUALITATIVE INDICATORS

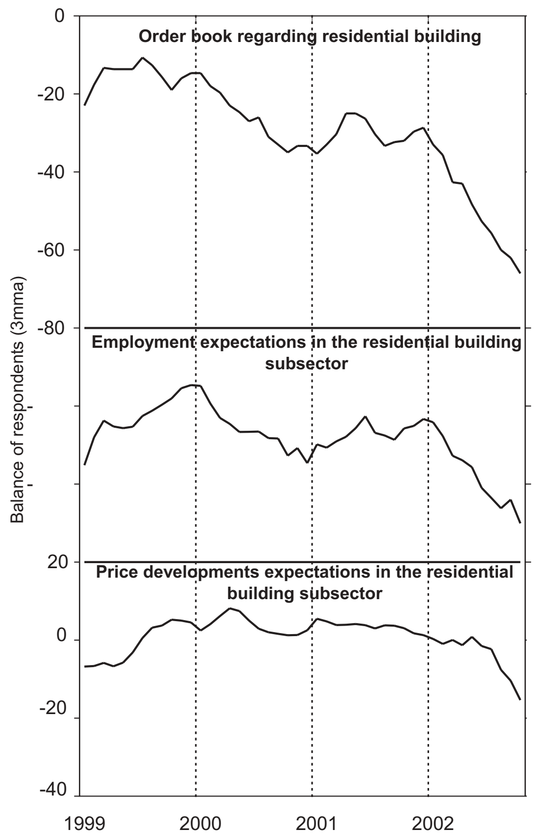


Chart 8
EXPORTS
Percentage rates of change

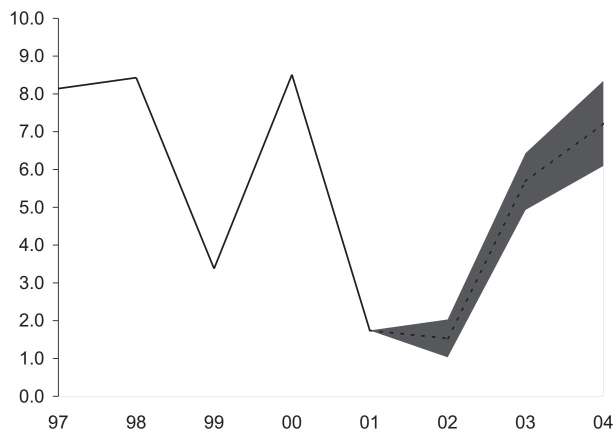
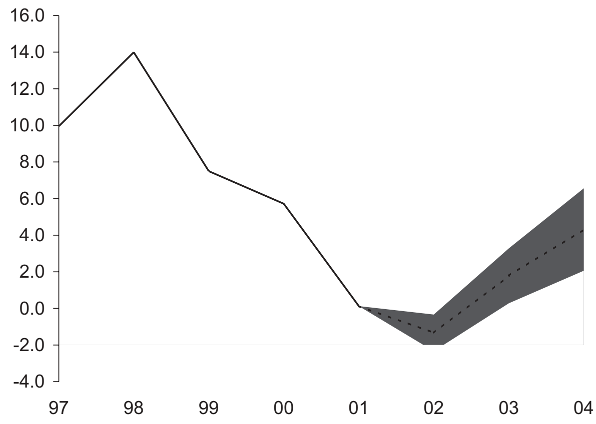


Chart 9
IMPORTS
Percentage rates of change



levels more in line with the present cyclical position of the economy, after a period of strong expansion in the late 1990s, and the need to prevent a unsustainable increase in corporate indebtedness. However, growth projections for 2003 point to a less negative change than in 2002, chiefly due to the improvement expected in the external environment of the Portuguese economy. The impact of that improvement on economic agents expectations and, chiefly, its translation into a stronger growth of exports are crucial elements for the gradual recovery of firms' investment.

The acceleration projected for exports of goods and services (Table 1 and Chart 8) chiefly reflects the hypothesis assumed for the behaviour of relevant external demand mentioned in the previous section and, to a lesser extent, a small gain in market share, below that estimated for 2002.[8] The acceleration in exports and the trend of private consumption of durable goods and firms' investment, expected to be less negative in 2003 and moderately positive in 2004, will likely lead to a positive and accelerating growth of imports of goods and services, after the decline observed in 2002 (Table 1 and Chart 9). Nonetheless, the higher relative growth of exports of goods and services, combined with a slight improvement in terms of trade, is likely to permit further reductions in the deficit of the goods and services account, both in 2003 and in 2004.

(8) In this respect, see the Article "Portuguese Economy in 2002" published in the September 2002 issue of the *Economic Bulletin*, that stresses the uncertainty regarding the revisions of preliminary results on international trade published by the *INE*. As a result, there is some risk of lack of precision regarding the estimates for 2002 on exports and imports of goods, which naturally also influences the results obtained for the projections of these variables for 2003.

Over the projection horizon, the deficit of the income account will probably continue to deteriorate. This trend is the natural impact of the increase in foreign indebtedness of domestic economic agents, which permitted, in the recent past, to finance the strong expansion of domestic demand. Anyway, the improvement in the goods and services account will more than offset the deterioration forecast for the income account, which is the major factor for the gradual decrease in borrowing requirements of Portuguese economy. The projections now published point to an improvement in the joint balance of the current and capital accounts, which is expected to range between -6 and -4 per cent of GDP in 2003, after having stood between -6½ and -5½ per cent in 2002. In 2004, borrowing requirements of the economy are expected to decline further to a range from 2½ to 5½ per cent of GDP.

3.2. Inflation

Inflation, measured by the annual average change of the HICP, is projected to decrease significantly to values between 2.4 and 3.4 per cent and between 1.4 and 2.9 per cent in 2003 and 2004, respectively. These projections reflect the cyclical position of the Portuguese economy and the absence of inflationary pressures within the international framework of the Portuguese economy. In the course of 2003, in intra-annual terms, projections point to a relatively sharp decline in the year-on-year rate of change of consumer prices, particularly in the beginning of the second half of the year. Behind this profile are special factors associated with the fading of effects that led to the increase in the inflation rate in 2002, such as, early in the year, the process of conversion of prices in escudos into euros and, in mid-year, the increase in the standard VAT rate.

After several years of high wage growth a deceleration of wages is projected over the forecasting horizon, reflecting lagged effects from the evolution of economic activity. In this context, according to the projections of the Banco de Portugal, real wage growth will stand in 2003 and in 2004 below the growth rate of 2002 and will probably be inferior to productivity growth, as opposed to what has happened in the last years.

The rate of change of import prices of consumption goods is estimated to have been virtually nil in 2002, which may have favourable lagged effects on consumer prices in 2003. For 2003, prices of imports of consumption goods are projected to increase very moderately (at nearly 1 per cent). However, this trend is partly limited by the technical hypothesis of unchanged rates of change over the projection horizon, since this hypothesis implies, in annual average terms, an effective appreciation of the euro in 2003.

Turning to special factors that may contribute to the downward trend of inflation in the course of 2003, reference should be made to the base effect associated with the process of conversion of prices in escudos into euros, which will cease to affect the year-on-year rate of change of the HICP in early 2003. Data released in the September 2002 issue of the *Economic Bulletin* indicate that the impact on the year-on-year rate of change of the Harmonised Index of Consumer Prices in the first quarter of 2002 seems to have stood at around 0.2 p.p., with especial relevance in the case of services prices (approximately 0.5 p.p. in that period).(9)

As regards the effect of the increase in the standard VAT rate that occurred in June 2002, inflation projections incorporate an impact, in annual average terms, of approximately +0.4 p.p. in 2003, compared with +0.2 p.p. in 2002. Available data suggest that the total impact of the increase in the standard VAT rate on the consumer price index seems to be lower than previously expected (0.6 vis-à-vis 0.8 per cent), which apparently reflects a non-full repercussion of the increase in the standard VAT rate (possibly associated with a decrease in profit margins in some sectors of the economy, against a background of weak private consumption). Additionally, the transmission of the VAT increase to prices was probably slower than previously envisaged, thus also contributing to a lower impact on the average inflation rate in 2002.(10) Although the present projections incorporate a higher impact in 2003, associated with the VAT increase, than in 2002, the base effect is also likely to contribute to the deceleration of prices in the course of 2003, in particular after June.

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(9) See Article “Analysis on the impact of the conversion of escudos into euros”, September 2002 issue of the *Economic Bulletin*.

(10) See “Box 2: *Inflation in 2002 - Deviation from the previous projection*” in the article on Portuguese economy in the September 2002 issue of the *Economic Bulletin*.

Inflation projections presented in this *Bulletin* include an increase in consumer prices of energy products in 2003 above that recorded in 2002. To a large extent, this result is associated with the possible implementation of the increase in the Tax on Oil Products envisaged in the State Budget, given that the current exercise, in line with the indications of the respective futures market, incorporates the hypothesis of some reduction of crude prices in dollars. Mention should also be made to the possibility that prices of goods and services subject to administrative procedures may register sharper price increases than those envisaged in this projection, due to the need to promote budget consolidation by limiting public transfers to some corporations producing these goods and services.

The reversal in the behaviour of prices in services is expected to be a crucial element for the decline in inflation in 2003. In effect, since 1999, consumer services prices have accelerated, and the respective annual average rate of change is likely to stand at around 6 per cent in 2002 (4.7 per cent in the previous year). As a result, the differential between price growth in services and goods has attained a very high value in 2002. It is a fact that the abovementioned special factors — the conversion of prices in escudos into euros and the increase in the standard VAT rate — seem to have had a particularly strong impact on services prices. However, the strong growth in services prices is difficult to conciliate with the weakening domestic demand and with the wage deceleration observed in 2002. Therefore, against a background of an economic activity slowdown, it is possible that some services markets with a relatively low degree of openness to competition may have tried with price increases to momentarily offset the deceleration of demand and/or the deterioration of the financial situation of some corporations.

4. EVALUATION OF RISK FACTORS AND CONCLUSIONS

One of the major risk factors behind economic growth projections lies in the uncertainty surrounding the trend of the international economic situation and, as a result, of the external framework of the Portuguese economy. Two elements should be stressed in this respect. On the one hand, the successive downward revisions of economic growth and world trade have been reflected in downward revisions of external demand for Portuguese economy. On the other hand, a possibility cannot be ruled out that international tension factors may deteriorate, in particular the outbreak of armed conflicts, with rather unpredictable effects on the international economic situation. Anyway, both elements suggest risks of a downward revision of external demand relevant for the Portuguese economy, with consequences for GDP growth projection, particularly in 2003 (see "Box 2: *A more unfavourable external scenario in 2003")*.

Another major risk factor for growth is associated with the effects on domestic demand of the inevitable budget consolidation effort. In particular, the recourse in 2002 to extraordinary and transitory measures with a temporary impact on the overall balance of the general government makes it imperative to adopt additional measures in 2003, should the economic growth projection presented in this *Economic Bulletin* materialise. These additional measures, in the short run, will tend to have a negative impact on economic activity.

The evaluation of risks associated with the behaviour of inflation, contrary to what happens with the development of economic activity, is more balanced. In the context of a more fragile trend of economic activity, a more moderate development of wages and domestic demand, and finally of consumer prices, should be expected. In turn, and related with budget consolidation requirements, mention should be made to the possibility that prices subject to administrative procedures should undergo higher increases than those envisaged in the central scenario of this forecast. Stress should also be laid, as an upward risk source, on the possibility of a still persisting resilience to a deceleration in prices of services, as a result of very significant increases in the course of 2002. Finally, it should be pointed out that the trend of oil prices in international markets and the possibility that prices of unprocessed food may have different developments in these projections are important uncertainty elements for the inflation projection.

Completed in December 2002, based on a projection exercise using information available in mid-November 2002.

Box 1: RECENT UNEMPLOYMENT RATE DEVELOPMENTS

As mentioned in the "Monthly Economic Indicators", the calculation of the statistical results of the Employment Survey has been subject to some changes from the first quarter of 2002 onwards, following the incorporation of the results of the 2001 Census. These changes translated, in particular, in the use of new demographic weightings for the extrapolation of the sample results obtained.

Table 1 shows the quarterly unemployment inflows and outflows, with a constant sample. In each quarter a share of the sample (1/6) is renewed, giving rise to some sample noise when evidence from the survey is analysed. In order to eliminate the effects of the noise resulting from the sample rotations, unemployment inflows and outflows have been calculated considering only the common component (5/6) in the samples of each two consecutive quarters. From the figures thus obtained, it is possible to withdraw some interesting evidence on the recent behaviour of the unemployment rate, in particular, the fact that of all the (four) flows taken into consideration — from employment to unemployment, from inactivity to unemployment, from unemployment to employment and from unemployment to inactivity — have contributed to increase unemployment in the third quarter of 2002. However, the contribution of the flow of inactivity to unemployment is clearly seen. Despite the fact that this finding can partly reflect factors of a seasonal nature, their magnitude suggests that one of the most important types of the recent rise in unemployment is related to the increased difficulty of the inactive people to get a job, namely, those who have finished or left school at the end of the previous school year. It should be noted that the negative impact on disposable income of the higher unemployment growth — more based on the shift from inactivity to unemployment than on employment to unemployment — is not significant enough to change the estimates for economic growth in 2002 and for the change in the main expenditure components, namely, private consumption.

Table 1

QUARTERLY UNEMPLOYMENT INFLOWS AND OUTFLOWS IN 2002

As a percentage of the labour force

	Q1	Q2	Q3
Inflows into unemployment[(a)]	1.7	1.7	2.2
Employment-Unemployment	0.8	0.8	1.0
Inactivity-Unemployment	0.9	0.9	1.2
Outflows from unemployment[(a)]	1.7	1.9	1.8
Unemployment-Employment	1.0	1.0	1.0
Unemployment-Inactivity	0.7	0.8	0.8
Net inflows into unemployment[(a)]	0.1	-0.1	0.4
Other factors[(b)]		0.2	0.2
Change in the unemployment rate		0.1	0.6
Memo:			
Unemployment rate	4.5	4.5	5.1

Notes:

(a) Considering the common component of the samples in quarters *t* and *t-1*, using quarter *t* weights.

(b) Obtained as residual. It includes, in particular, the effects of sampling irregularities

BOX 2: A MORE UNFAVOURABLE EXTERNAL SCENARIO IN 2003

Recent experience has shown successive downward revisions to world and euro area economic growth, hence leading also to downward revisions of the external demand relevant for the Portuguese economy, as illustrated in Chart 1. This suggests that a possible downward revision to the growth of external markets should be considered an important risk element, with potential negative effects on the Portuguese economy.

As mentioned in section 2 of the main part of the text, projections for the Portuguese economy are based on the assumption that external demand growth in 2003 will be of approximately 5 per cent. This figure is obtained by weighting the projected growth for imports of each economy, according to the respective weight in Portuguese exports.

It should be noted in this respect that taking into consideration this type of risks for activity and after completion of the Autumn 2002 Eurosystem staff macroeconomic projection exercise, the Governing Council of the ECB decided on 5 December 2002 to reduce by 0.5 percentage point (p.p.) the key ECB rates. This decision reflected the assessment that the evidence has increased that inflationary pressures are easing, against a background in which the downside risks to economic growth have not vanished. With the reduction in the key ECB rates, short-term interest rates have also fallen after the cut-off date for this publication.[(1)] In practice, this reduction started to be observed still prior to the decision of the Governing Council of the ECB (Chart 2).

The exercise presented below aims to assess the effects on the Portuguese economy of a scenario of weaker external demand in 2003. It was considered an increase of the external demand in 2003 of 2.5 per cent instead of the figure of 5 per cent assumed in the projection exercise (after a zero growth in 2003). Addi-

Chart 1
EXTERNAL DEMAND RELEVANT FOR THE PORTUGUESE ECONOMY
Percentage rates of change

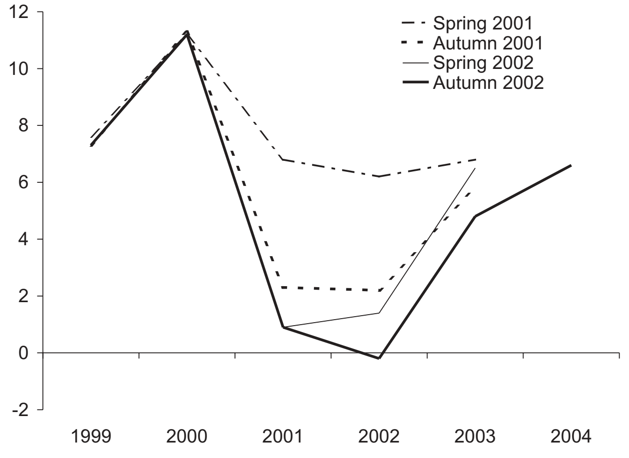
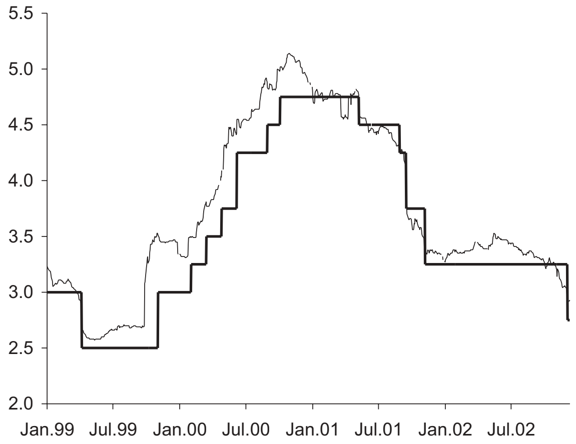
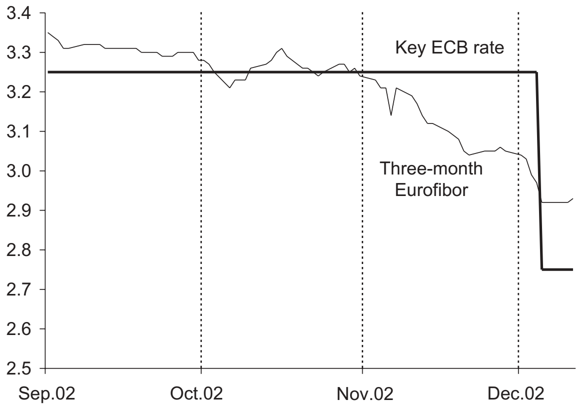


Chart 2
SHORT-TERM INTEREST RATES
Per cent





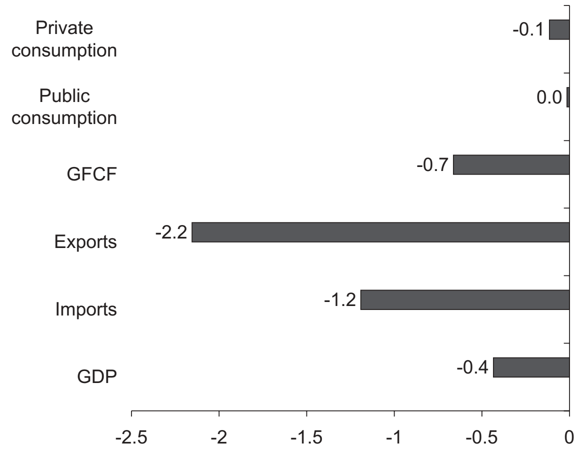
(1) As mentioned in section 2 of the main part of the text, projections are conditional on a set of technical assumptions, which were based on data available up to mid-November, namely that short-term interest rates will remain unchanged and that long-term interest rates will remain in line with the market expectations prevailing then.

tionally, it was also considered the recent change in key ECB rates. Obviously, the unfavourable effects on the economic activity of the alternative assumption of the external demand surpass the effects associated with the reduction in interest rates. Chart 3 shows the differences in percentage points between the growth rates for 2003 projected in this alternative scenario, which is broadly more unfavourable, and the projections corresponding to the baseline scenario, taking as a reference the middle figures of the projection ranges. As it can be seen, in relation to the baseline scenario, the impact of these two assumptions would lead to a reduction of 0.4 p.p. in the rate of change in Gross Domestic Product (GDP) in 2003. This difference is chiefly due to the strong downward revision of the export growth, a variable which is directly affected by the behaviour of external markets, and, secondly, also to the downward revision of the investment growth. The reaction of this variable is associated with its high sensitiveness to the output, which more than offsets the effect of the cut in interest rates. The same type of reaction can be observed in private consumption albeit more moderately. It should also be mentioned that the negative impact on overall demand leads to a downward revision of imports, making it possible to soften the rise in the financing needs of the Portuguese economy resulting from the lower export level.

Chart 3

IMPACT IN 2003 OF A DECLINE IN THE GROWTH OF EXTERNAL DEMAND BY 2.5 PERCENTAGE POINTS AND OF A REDUCTION IN SHORT-TERM INTEREST RATES BY 50 BASIS POINTS

Percentage deviation in relation to the mid point of the projection range



Articles

HEDONIC PRICES INDEXES FOR NEW PASSENGER CARS IN PORTUGAL (1997-2001)*

*Hugo Reis***
*João Santos Silva****

1. INTRODUCTION

The impact of quality changes on price indexes has become a major research topic. In fact, the Boskin Report (1996) suggested that mismeasuring the effects of quality change in a period of fast technical progress can lead to a substantial overestimation of inflation. As a consequence, the literature on the relation between quality change and prices has grown very rapidly. Recent studies in this area have addressed, for example, the effect of quality change on the prices of computers (Moch, 2001, and Pakes, 2002), housing (Bover and Velilla, 2002, and Hoffmann and Kurz, 2002), and passenger cars (Bode and Van Dalen, 2001, and Izquierdo, Licandro and Maydeu, 2001). An up-to-date summary of the main contributions to this literature can be found in Triplett (2000).

This study evaluates the effects of quality change on the price index for new passenger cars in Portugal for the years 1997-2001. The present work extends the pioneering study of Santos and Coimbra (1995) on this subject, which presents measures for the quality change for new passenger cars and quality adjusted price indexes for the period 1991-1994. However, the present study departs from the work of Santos and Coimbra (1995) in a number of aspects. Besides the distinct time period considered, we have at our disposal a richer database and benefit from all the developments in the literature on this subject over the more recent years. Of course, there are also some differences that result purely from the different preferences of the authors. The remainder of this article is organised as follows: section 2 describes the data used, section 3 discusses the main results and, finally, section 4 concludes.

2. DATA

Cars are arguably the most complex consumer goods of today. Therefore, any hedonic study(1) of the price of new cars requires a huge amount of information on the characteristics of the car models available. This section describes the main features of the data available for this study.

The information used here comes from two different sources. The prices and characteristics of the new passenger cars available in the Portuguese market were collected by Marketing Systems GmbH(2), a market research company which collects this sort of information both for the motor industry and for leading specialized magazines. The Marketing Systems files contain detailed information on the price and technical characteristics of about 1500 different versions of passenger cars available in the Portuguese market. The information on sales volumes was kindly provided by

* We are indebted to Carlos Coimbra, Pedro Duarte Neves, Rui Evangelista, José Machado, Paulo Parente, Maximiano Pinheiro, Pedro Portugal and Daniel Santos for helpful comments and suggestions. The computational assistance of João Barrambana was invaluable and Adelino Correia Martins from Marketing Systems GmbH provided many helpful insights on the data used.
The views expressed in this article are those of the authors and not necessarily those of the Banco de Portugal.
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(1) Regression analysis to account for the effects of quality change.
(2) More information on this company can be obtained at *http://www.marketingsystems.de.*

Table 1

VEHICLE CHARACTERISTICS

General	
	Body type
	Number of doors
	Boot capacity
Technical	
	Fuel type
	Engine capacity
	Max. power
	Max. power at (rpm)
	Max. torque
	Max. torque at (rpm)
	Transmission drive (front / rear / full)
	Maximum speed
	Acceleration
	Weight / power ratio
	Fuel tank capacity
	Fuel consumption urban
	Fuel consumption extra-urban
	Combined fuel consumption
	Autonomy
Equipment	
	ABS
	Steering wheel with height adjustment
	Steering wheel with telescopic adjust.
	Air-conditioning
	Alarm
	Immobilizer
	Metallic paint
	Driver air bag
	Passenger air bag
	Electric front windows
	Electric windows front and rear
	Electric door mirrors
	Central door locking
	Central door locking with remote control
	Driver seat with lumbar adjustment
	Driver seat with height adjustment
	Driver seat with electric adjustment
	Sport seats
	Leather upholstery
	Fog lights
	Alloy wheels
	Manual sunroof
	Electric sunroof
	Audio preparation
	Radio with cassette player
	Radio with CD player
	Foldable back seats
	On-board computer
	Power assisted steering

ACAP, the Portuguese automobile trade association.(3) The information on the prices and characteristics available for this study corresponds to data collected in the month of October from 1997 to 2001. Using the ACAP database, sales were registered for the months of September to November of the same years. In both cases, maker, model and version distinguish cars in the database.

Given that the information used was obtained from two different sources, it was necessary to match the two databases. This was a delicate process and great care had to be taken to ensure the correct matching. Fortunately, the ACAP files, besides identifying the different versions, provide the price and some technical characteristics of each version, and this made the matching somewhat easier. Of course, in some cases it was impossible to obtain a correct match and these observations had to be dropped from the sample. Despite this limitation, the data available corresponds to a total of 267 876 units sold in the period from September to November in the five years considered. This represents more than 90 per cent of total sales over this period. However, about 4 per cent of these observations were also lost due to incomplete data on the characteristics used in the final specification of the regression model. Therefore, the final sample used was somewhat smaller.

The full set of characteristics on which information is available in the Marketing Systems database is given in Table 1 and corresponds to those listed in Automotor, one of the leading specialized magazines.(4) Although this is a very extensive set of characteristics, it is clear that it cannot possibly account for all the attributes the consumers consider when making their decisions. For example, there are subjective aspects that cannot even be measured. Therefore, there are always important factors which cannot be included in the construction of hedonic prices for cars.

A final point is worth mentioning. The data on prices available in this database correspond to prices recommended by the manufacturers and include both the value added tax and a specific tax on the sale of new cars. This tax is a function of engine capacity and is regularly updated. In their pioneering study of hedonic price indexes for new cars in the Portuguese market, Santos and Coimbra (1995) modelled the price of the new cars net of the tax on the sale of new cars, but including

(3) For more details, see *http://www.acap.pt*.

(4) More information on this magazine can be found at *http://www.automotor.pt*.

the value added tax. In the present study, it was decided to consider the price including all taxes since variations in taxation rules are an important source of price variation in this period. Naturally, it would be preferable to have data on true transaction prices, but that would require a very different and much more expensive information gathering method.

3. HEDONIC PRICE INDEXES AND MAIN RESULTS

The method that is most often used to construct hedonic price indexes is the so-called dummy variable method, which consists in using data for several periods to estimate a model where the dependent variable is the natural logarithm of the price and which includes as regressors car quality indicators and period specific dummy variables. Using this approach, approximate estimates of the quality adjusted price variations are given by the estimates of the coefficients on the period specific dummies. However, this approach is only valid if the regression coefficients are constant for all the time periods considered, which implies that the value of the characteristics remains constant as time passes and technology evolves (see, Pakes 2002). Even if only two adjacent years are used in the estimation, this assumption can be violated if the product is changing rapidly and yearly data is used. Fortunately, it is not hard to generalise the dummy variable method to relax the coefficient stability restriction. In fact, estimating the hedonic regression model only for the base year, the estimated parameters can be used to evaluate the goods sold in a later period at the price of the base year. This approach is similar to the well known Oaxaca (1973) decomposition, which in this case is used to decompose the total variation of the average price in a part resulting only from the changes in the characteristics of the products sold and a pure price variation.(5)

As it is often the case, in this study the best regression results were obtained with models in which the dependent variable is the logarithm of the price. Since regressions of this type are only compatible with price indexes based on geometric means (see Reis and Santos Silva, 2002), all the hedonic indexes estimated here are effectively based on geometric price averages.

Using these log-linear regressions, quality corrected price indexes were constructed according to three different methodologies: the usual dummy method, using both pooled and adjacent years data, and the method based on the Oaxaca (1973) decomposition. In view of the poor performance of the models estimated using more than one year of data, the Oaxaca-type quality adjusted price index based on the year-by-year(6) regressions were preferred.

Because the data available are not a sample of prices of cars actually bought but rather it was constructed using list prices reported by the manufacturers, the market shares have to be used as weights to obtain an estimate of the average price of new cars sold in a given period.(7) When weighted averages are used, the hedonic price indexes can be computed as usual if the hedonic regressions are estimated by weighted least squares. The values of the weights used in the estimation were computed as the total sales for each model during the months of September to November of a given year, divided by the total sales of the models considered during the same period.

To obtain quality corrected indexes it is necessary to choose the set of characteristics to be included in the regression. This is a vital process because the results largely depend on the set of characteristics considered. As described in the previous section, the characteristics included in the data set used here are those detailed in a specialized magazine, and therefore should be reasonably representative of the attributes consumers look for when choosing a new car. Although the set of variables on which data is available is relatively complete and provides detailed information on the equipment of the vehicles and on their technical specifications (see Table 1 of the previous section for details), there are important characteristics that are not included in this list. For example, the styling of the car and its built quality are certainly important factors for the consumers that are not available in this study and are in general difficult to measure. In order to partially compensate for

(5) For further details see Reis and Santos Silva (2002), section 2.

(6) The estimated parameters were used to evaluate the goods sold in one period at the price of the previous year (base year).

(7) See Machado and Santos Silva (2001) for further details.

Table 2

DEFINITION OF THE REGRESSORS USED

Name	Definition
CntrlLock	1 if has central door locking
CntrlLockR	1 if has central locking with remote control
Lumb	1 if driver seat has lumbar adjustment
EltrcSR	1 if has electric sunroof
PwrS	1 if has power assisted steering
Comp	1 if has on-board computer
AirCon	1 if has air-conditioning
Immob	1 if has immobilizer
ABS	1 if has ABS
Leather	1 if has leather upholstery
TlscpcAdj	1 if has steering wheel with telescopic adjustment
EltrcW	0 if no electric windows, 1 if front only, 2 if front and rear
Fog	1 if has fog lights
Cassettes	1 if has radio with cassette player
CD	1 if has radio with CD player
Tank	Logarithm of fuel tank capacity
Cons	Combined fuel consumption
TransF	1 if front transmission drive
CC	Logarithm of engine capacity
Diesel	1 if fuel type is diesel
Pwr	Maximum power
MaxS	Maximum speed
Accel	Acceleration
Boot	Boot capacity
Doors	1 if has four or five doors
BR	1 if break
CO	1 if coupé
CA	1 if cabrio
RO	1 if roadster
OR	1 if off-roader or sports utility vehicle
MPV	1 if multipurpose vehicle
D	1 if German
S	1 if Swedish
J	1 if Japanese
K	1 if Korean
USA	1 if from the United States
E	1 if Spanish
East	1 if from an East European country
UK	1 if from the United Kingdom

the lack of these variables, a set of dummies indicating the country of origin of the manufacturer were added as regressors.(8) This set of dummies may also help to reduce the conditional dependence between observations corresponding to cars produced by the same manufacturer. The list of variables included in the final specification, as well as information on the form, in which they enter the model, is presented in Table 2.(9) It should

(8) As in Santos and Coimbra (1995), a single dummy was used for all Eastern European countries.

(9) Besides the variables included in this table, the final model also includes the products of the engine capacity (CC) by the fuel type dummy (Diesel) and by the combined fuel consumption (Cons).

Table 3

ESTIMATES OBTAINED USING THE OAXACA DECOMPOSITION

Year-on-year rate of change

	Quality	Price	Total
1998	4.72	0.94	5.71
1999	6.12	1.08	7.26
2000	5.97	0.77	6.78
2001	2.60	0.60	3.21
Average	4.84	0.85	5.73

Table 4

CONSUMER PRICE INDEX

Year-on-year rate of change

	Official data		Hedonic estimates	
	CPI new cars	CPI total	Price index for new cars	Adjusted total CPI
1998	1.72	2.78	0.94	2.72
1999	1.88	2.34	1.08	2.28
2000	2.42	2.87	0.77	2.75
2001	2.76	4.35	0.60	4.20
Average	2.19	3.08	0.85	2.98

be noted that the parameter estimates obtained are not reported here since they are not of direct interest and are difficult to interpret (see Pakes, 2002).

Table 3 presents the Oaxaca-type decomposition of the variation of sample average prices into the pure price variation and an estimate of the change in quality of the new passenger cars sold.

The analysis of these results shows that quality of new passenger cars in the Portuguese market increased on average 4.8 per cent a year between 1997 and 2001.(10) This quality improvement was particularly high in 1999 and 2000, reaching a variation of around 6 per cent.

It is also interesting to compare the estimated hedonic price index with the corresponding component of the CPI. Table 4 displays the official figures for the CPI and for its component corre-

(10) To give an idea of the importance of using weights in this sort of studies, it is interesting to notice that if the information on the sales volume was ignored, the estimate for the growth rate of the average quality would be just 1.6 per cent.

sponding to the sales of new passenger cars, as well as the hedonic estimates for this component of the price index and the adjusted values of the total CPI obtained using these estimates. It is remarkable that, despite being based on very different information and computed using a different methodology, the variation of the component of the CPI corresponding to the sales of new passenger cars is relatively close to the year-by-year hedonic price index, particularly for the first two years. However, for the last two years, the CPI clearly overstates the change in the price index for new cars. The difference between the CPI and the hedonic price index reaches a maximum of 2.16 in 2001 (1.34 on average between 1997 and 2001). In any case, and considering the values reported in Table 3, it seems clear that CPI managed to eliminate a substantial part of the impact of quality changes.

It is interesting to notice that in 1997 the methodology of the construction of the CPI was substantially revised *(Instituto Nacional de Estatística*a, 1998). In particular, since 1997, the component corresponding to the acquisition of new passenger cars is computed using information on about 20 different models divided into three categories according to the engine capacity. In each class the best selling models were considered.(11) This methodology may have worked reasonably well until 1999, but the results for more recent years are less satisfactory. In fact, taking into account that the total weight of the price index for new cars in the overall CPI is about 7 per cent, the difference between this component of the CPI and the estimates of the hedonic price index for new passenger cars is not negligible. As Table 4 shows, this difference implies that there is an overestimation of the overall CPI of approximately 0.1 percentage points (.p.p.) on average, reaching a maximum of 0.15 p.p. in 2001. This suggests that with the current methodology it is perhaps necessary to regularly update the set of models whose price is considered in the construction of the CPI in order to account for the changes in the market shares of the different models.

(11) We are grateful to Daniel Santos and Rui Evangelista of the *Instituto Nacional de Estatística* for providing this information.

4. CONCLUSION

The results of this study unequivocally show that average quality of the new passenger cars in the Portuguese market is growing at a fast pace and that this phenomenon has to be taken into consideration in the estimation of price indexes. Naturally, the complexity of a study like the one presented here makes it impractical for statistical agencies to use these methods on a regular basis to account for the changes in quality when computing price indexes. Therefore, simpler methods are often preferred.

The results described in the last section suggest that the method adopted by the *Instituto Nacional de Estatística* in the construction of the CPI was reasonably successful in accounting for the quality change of new passenger cars. However, the growing divergence between the hedonic indexes computed here and the results for the CPI suggests that the method adopted in the construction of this index needs to be regularly updated. The results of the study indicate that the CPI component corresponding to the sales of new passenger cars may have been overestimated by as much 2.2 p.p. per year. This corresponds to an overestimation of the overall CPI by about 0.15 p.p. per year. Finally, it is also possible to conclude that the quality of new cars sold in Portugal increased on average 4.8 per cent per year between 1997 and 2001.

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A NOTE ON AN "EXPLOSIVE" LAW*

*António S. Pinto Barbosa***

According to the provisions laid down in paragraph 3 of Article 24 of the Local Finance Law, of 6 August 1998:

"Annual charges with amortization and interest payments of medium and long-term loans, including debenture loans, shall not exceed the highest limit of the value corresponding to three twelfths of the Municipal General Fund and the Municipal Cohesion Fund assigned to the municipality or to 20% of the investment expenditure of the municipality in the previous year."

Is this law strict enough to discipline the indebtedness of local authorities? Or, on the contrary, unlimited and unsustainable indebtedness may possibly result despite strict compliance with the law? By examining the limits of indiscipline permitted by law, it will be shown that the latter applies.(1) For this purpose we shall analyse the extreme behaviour of a local authority with unlimited propensity for spending, and at the same time, for financing such expenditure exclusively through borrowing, always, of course, within the limits permitted by law.

Thus, let us consider a local authority that finances its investment exclusively through debt, where K_t is the debt stock (and, assuming equivalent amortization, also the capital stock) in t. Suppose that the value corresponding to three twelfths of the Municipal General Fund and the Municipal Cohesion Fund assigned to the municipality is low, so that the second limit mentioned in the law is relevant.(2) In this case we have:

$$\left(i+\delta\right)K_{t-1} \leq 0.2 I_{t-1} \tag{1}$$

where i and δ are the interest rate and the amortization rate applicable to the debt, while I_t represents the gross additional indebtedness, in the period. The left side of (1) thus represents the debt service, while the right side represents the limit set by law. On the other hand, we have the relationship,

$$K_t = I_t + \left(1-\delta\right)K_{t-1}. \tag{2}$$

Using (2) in (1) we obtain

$$\left(i+\delta\right)K_{t-1} \leq 0.2K_{t-1} - 0.2\left(1-\delta\right)K_{t-2} \tag{3}$$

or, assuming $i+\delta < 0.2$,

$$K_{t-1} \geq \frac{0.2\left(1-\delta\right)}{0.2-i-\delta}K_{t-2}. \tag{4}$$

which implies an explosive dynamics for K given that $0.2\left(1-\delta\right) > 0.2-i-\delta$.

The intuition of this result may improve if (2) is used in (1) to obtain,

$$\left(i+\delta\right)\left[I_{t-1} + \left(1-\delta\right)K_{t-2}\right] \leq 0.2 I_{t-1}. \tag{5}$$

This expression puts into evidence I_{t-1} as a decision variable in period $t-1$, given the value of

* The opinions expressed in this paper are those of the author and not necessarily those of the Banco de Portugal.

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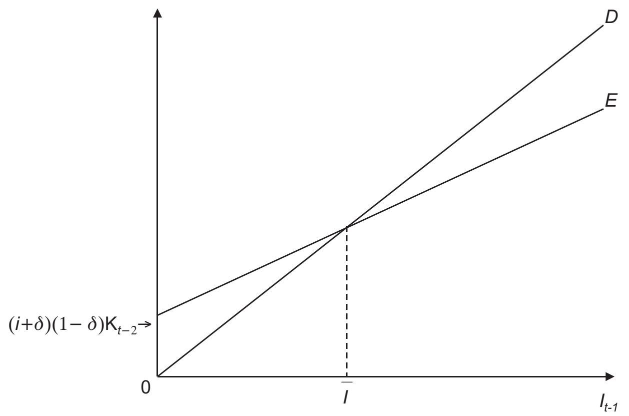
(1) It should be noted that the dynamic problems of the law discussed in this paper were already present in the Decree-Law no. 98, of 29 March 1984.

(2) Further below in this paper, it will become clear that this assumption is actually not restrictive.

K_{t-2} inherited from the past. The choice of I_{t-1} has an impact on the two sides of the inequality and should therefore be made taking it into account. Lines E and D in the chart below show respectively the left and right sides of the inequality, as functions of I_{t-1}, given K_{t-2}.



Only a value of I_{t-1} higher than $\bar{I}$ can satisfy the inequality. This positive value of investment means that the initial capital stock will increase in the following period, $K_{t-1} > K_{t-2}$. The straight line E, will move upwards, in the following period, (since its intercept is now $(i+\delta)(1-\delta)K_{t-1}$), which, in turn, will imply a rise in the lower bound $\bar{I}$ to the investment in that period. This means that we have an explosive dynamics.(3)

If we assume instead, that $i+\delta > 0.2$, we have:

$$K_{t-1} \leq \frac{0.2(1-\delta)}{02 - i - \delta} K_{t-2}, \tag{6}$$

a condition impossible to be fulfilled since it implies negative values for K.

To sum up, either there is an explosive dynamics of the debt, or a condition impossible to be fulfilled.

We have admitted in inequality (1) that the debt service in period t would apply to the debt stock at the beginning of the period, K_{t-1}. However, an alternative could be considered in which in addition to K_{t-1} investment in period, I_t leads to debt service. In this case, (1) should read

$$(i+\delta)(I_t + K_{t-1}) \leq 0.2 I_{t-1} \tag{7}$$

and, again using (2), we obtain, with the proper substitutions,

$$K_t + K_{t-1}\left(\delta - \frac{0.2}{i+\delta}\right) + \frac{1-\delta}{i+\delta} 0.2 K_{t-2} \leq 0. \tag{8}$$

This expression, taken in the limit of equality, is a second-order difference equation, which can be expressed in canonical form as

$$\left(1 - t_1 L - t_2 L^2\right) K_t = 0, \tag{9}$$

where L is the lag operator and, in this case,

$$t_1 = \frac{0.2}{i+\delta} - \delta, \qquad t_2 = \frac{\delta - 1}{i+\delta}. \tag{10}$$

For plausible values of the parameters i and δ, an explosive dynamics for the debt stock is obtained. Thus, for example, with $i = 0.05$ and $\delta = 0.07$, which will lead to $t_1 = 1.6, t_2 = -1.55$, we obtain an explosive behaviour for K_t, with oscillations and negative values.

The question may arise as to whether debt growth may, simultaneously produce faster growth of the local economy and, thereby, of the respective collateral, so that the explosive behaviour of debt is after all not so serious. In fact, if as a result of the investment financed through the debt, the local economy grows faster, the risk of default may be reduced. But can it be eliminated?

Let us consider the variable that seems to be relevant in this context: the debt / local output ratio, $B = K / Y$ where Y is the output of the local authority.(4) Let us admit that this is simply described by the Cobb-Douglas production function

$$Y = K^{\gamma} N^{1-\gamma} \qquad 0 < \gamma < 1, \tag{11}$$

where it is admitted that the debt is entirely channelled to the accumulation of productive capital stock. In turn, N generically indicates all other productive factors (e.g., labour) used in production, which are supposed to grow annually at the constant rate n. Thus, the evolution of ratio B can be described through its growth rate, b, as given by

(3) This proves that, should the alternative limit set by law (three twelfths of Municipal Funds) initially prevail, the explosive dynamics of investment will eventually become dominant (obviously within plausible values for the growth of Municipal Funds), causing this restriction to be exceeded by the alternative limit $0.2I_{t-1}$ which we have been analysing.

(4) No external effects are considered.

$$b = k - y, \tag{12}$$

where lower case represents the growth rates of the corresponding variables in upper case. The growth rate of local production is in turn, given by

$$y = \gamma k + (1-\gamma) n. \tag{13}$$

and, substituting (13) in (12),

$$b = (1-\gamma)(k - n). \tag{14}$$

The debt/output ratio will grow unbounded unless $k = n$. Taking, for example, expression (4) above,[5] the minimum value for k is readily obtained as

$$k = \frac{0.2(1-\delta)}{0.2 - i - \delta} - 1, \tag{15}$$

and, with the plausible values i=0.05 and $\delta = 0.07$ used above, we obtain $k = 133\%$. That is, the other productive factors would have to grow (at least) at this implausible annual rate so that a collateral commensurable with (explosive) developments in the debt might be generated.

In conclusion, the above analysis is not at all reassuring regarding the stability of the debt over time. The present law contains some severe shortcomings and it should therefore be modified. The key issue here is not to prove that it may be possible to avoid instability through recourse to other healthier financing sources, such as taxes or other effective revenue of the local authority. The critical point is that strict compliance with law may nevertheless give rise to an unsustainable local debt.

(5) This is the relevant case, since the alternative dynamics described by (6) and (8) involve, as mentioned above, negative values for the capital stock.

THE ANALYSIS OF CALENDAR EFFECTS ON THE DAILY RETURNS OF THE PORTUGUESE STOCK MARKET: THE WEEKEND AND PUBLIC HOLIDAY EFFECTS*

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*Nuno C. Martins***

1. INTRODUCTION

The purpose of this article is to analyse, using the PSI Geral index, the presence of calendar effects on the daily returns of the Portuguese stock market.

In most cases, stock exchanges are closed from Friday to Monday. If the market return-formation process is carried out continuously, returns should be expected to be threefold on Mondays compared to those recorded on the remaining days of the week. This hypothesis is known as "calendar hypothesis". If, however, the return-formation process is based on trading days, returns should be expected to be equal on every day of the week. This is known as "trading-day hypothesis". Contrary to the two above hypothesis, several empirical results in different stock exchanges present evidence of a close-of-business effect. According to this effect, daily returns are positive before the close of business and tend to be negative after reopening. This behaviour of returns is apparent both before and after a weekend or on days close to public holidays.[(1)] According to Board and Sutcliffe (1988), the effect tends to fade away, while for Arsad and Coutts (1997) this effect tends to persist over time.

This article analyses some persisting effects on returns of the PSI Geral index, the Portuguese stock market index. As from the late 1980s the increase in portfolio investment together with the privatisation process has significantly changed the structure and size of the Portuguese capital market. Since 1997, the Portuguese capital market has been considered by the World Bank as a developed market. The fast change in the Portuguese market and its growing integration suggest the relevance of a study of market anomalies and an analysis of a possible persistence over time.

When analysing the period from 1988 to 2001, the results of this article show no sign of a significant close-of-business effect. Nonetheless, the incipient structure characterising the Portuguese market in the late 1980s seems to coincide with the differences observed in the behaviour of PSI Geral index returns over weekdays. This effect decreases over time and does not exist at all for the 1997-2001 period.

This paper also analyses the behaviour of PSI Geral index returns on days close to public holidays. The results observed are consistent with other empirical studies, such as Lakonishok and Smidt (1988). For the 1988-2001 period, on average, returns on days before public holidays seem to be significantly higher than on days after public holidays, with an average daily change of 0.184 per cent on days before public holidays and 0.008 per cent on regular days.

This article is organised as follows: Section 2 presents a brief description of the behaviour of the Portuguese stock market and of the PSI Geral index, as from its creation in January 1988 to the end of 2001. Sections 3 and 4 study the effects of weekdays and public holidays on index returns. Section 5 presents the major conclusions.

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* The views expressed in this article are those of the authors and not necessarily those of the Banco de Portugal.

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(1) See, for instance: French (1980), Board and Sutcliffe (1988), Lakonishok and Smidt (1988), Arsad and Coutts (1997).

Chart 1
THE PSI GERAL INDEX
The Portuguese stock market index

2. THE PORTUGUESE STOCK MARKET AND THE PSI GERAL INDEX

The PSI Geral index[(2)] is available on a daily basis since 5 January 1988. This index is a weighted average of the stock of all corporations listed on the stock exchange and whose weighting factor is the stock exchange capitalisation of the same corporations. The index is adjusted by possible idiosyncratic behaviours of corporations, such as stock splits, dividend distribution or equity capital increases.

Over the 1990s, both the privatisation process and portfolio investment flows[(3)] have significantly contributed to a higher turnover and liquidity in the Portuguese stock market. Chart 1 represents the trend of the index from 1988 to the end of 2001. The year 1997 represented a historical moment for the Portuguese market, as it started to be considered as a developed market, ceasing to be included among emerging markets. In October 1997, the shares of 19 Portuguese corporations were included in the Dow Jones indices, while in December of the same year Morgan Stanley Capital International included the Portuguese share index in the group of developed market indices.

Developments in 1997 suggest a distinction between two sub-periods: 1988-1996 (Portuguese stock market as an emerging market) and 1997-2001 (Portuguese stock market as a developed market). This subdivision permits to analyse the persistence of possible anomalous effect over time.

The trend of the index in the course of its existence was rather limited by political and financial factors. Among political factors are, for instance, the Persian Gulf crisis in late 1990 and early 1991, and the Russian crisis, with the ensuing lack of confidence among investors and the effects of the substitution by lower-risk financial assets. As a result, share prices underwent significant adjustments, both in Portugal and in the rest of Europe.

(2) The Lisbon Stock Exchange and the Oporto Derivatives Exchange merged in 2000. Up to that date, this index was known as the BVL Geral index.

(3) In 1996-2000 (quarterly data), the weight of foreign investment on the stock exchange capitalisation of the Portuguese stock market sector stood, on average, at 26.1 per cent.

In the Portuguese case, the effects of this crisis were partly minimised as a result of news published in May 1998, announcing the participation of Portugal in stage three of monetary union.

3. THE WEEKEND EFFECT

This study resorted to data on the daily quotations of the PSI Geral index between 1988 and 2001. Defining P_t as the index quotation on t day, the daily returns of the index are calculated as the logarithm of the change between two consecutive trading days: $R_t = \ln(P_t \; / P_{t-1})$.[4]

In order to detect possible differences in the behaviour of returns over the days of the week, a linear regression was estimated of the daily return series on a set of five dicotomic variables, represented by D_1 to D_5, that assume the value 1 when day t is a Monday, Tuesday, ..., Friday, respectively (0 in other situations).

From January 1988 to April 1989, the Lisbon Stock Exchange used to be closed on Mondays. With a view to analysing the uniformity of returns on weekdays, this suggests that, during this period, Tuesdays are likely to show a behaviour similar to that recorded on the first day of the week, i.e., on Mondays. Thus, it is assumed that an additional dicotomic variable, represented by D^*_{2t}, assumes the value 1 if day t is a Tuesday between January 1988 and April 1989 (0 in other situations).

Board and Sutcliffe (1988) analyse the effect of the weekday on FTAS index[5] returns, including in their model the first lag of this series. The coefficient associated with this variable presents a significantly positive value. Easton and Faff (1994) analyse the effect of the weekday on the Statex-Actuaries Accumulation index, including in their model the first four lags of the corresponding return series. This study considers that the first three lags of the return series[6] and the six above defined dicotomic variables are explicative variables.[7]

To sum up, the test consists in the estimation of the following equation:

$$R_t = \sum_{i=1}^{5} \alpha_i D_{it} + \alpha_6 D^*_{2t} + \sum_{l=1}^{3} \phi_l R_{t-1} + \varepsilon_t \qquad (1)$$

With the purpose of testing the weekend effect, we used the $\alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = \alpha_5$ and $\alpha_6 = 0$[8] hypothesis (H1). Finally, the presence of autocorrelation in the residuals of the model is tested by means of Portmanteau statistics, considering 12 lags, similarly to Board and Sutcliffe (1988) in their article.

Table 1 presents the results of the estimation of equation (1). The table shows that both in all observations and in the observations for the two sub-periods of the sample, the hypothesis (H1) cannot be rejected.[9]

A more detailed analysis of the sample, however, permits to draw some additional conclusions. The coefficient associated with Tuesdays between January 1988 and April 1989 is significantly negative at the 5 per cent level, which is consistent with the results of Athanassakos and Robinson (1994).[10] The inspection of the p-values of F statistics reveals that the significance of the hypothesis of joint uniformity of the coefficients associated with the dicotomic variables (trading-day hypothesis) is more relevant in the most recent sub-period. These two results suggest that the weekday effect tends to decrease over time, which is consistent with Board and Sutcliffe (1988).[11] The coefficient associated with the first lag of the return series is significantly positive in every period, at one per cent level, which is consistent with the inspection of the autocorrelation function.

The arbitrage opportunities resulting from persisting effects do not prevail when they incorporate the estimates of the transaction costs. The magnitudes between return spreads in weekdays observed in this article are significantly below the

(4) If t is Monday, t-1 will be the previous Friday.

(5) Financial Times All Shares.

(6) Specifications with other lags were tested. However, there are no significant differences in the estimates of the variables measuring the weekday effect.

(7) The days before and after public holidays are excluded from the sample. This effect is addressed in the next section.

(8) In 1997-2001, the D^*_2 variable is eliminated, wherefore the hypothesis is represented as: $H_0 : \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = \alpha_5$.

(9) This result is consistent with Santesmases (1986). Although Santesmases (1986) has found negative average returns on Tuesdays for the Madrid Stock Exchange index, the hypothesis of uniform averages on every weekday is not rejected.

(10) According to these authors, average returns in the group of every first trading days in a week is more negative than average returns on every Monday as a whole.

(11) These authors conclude that the effect of the weekday on returns of the Financial Times Actuaries index seems to decrease after 1968.

Table 1

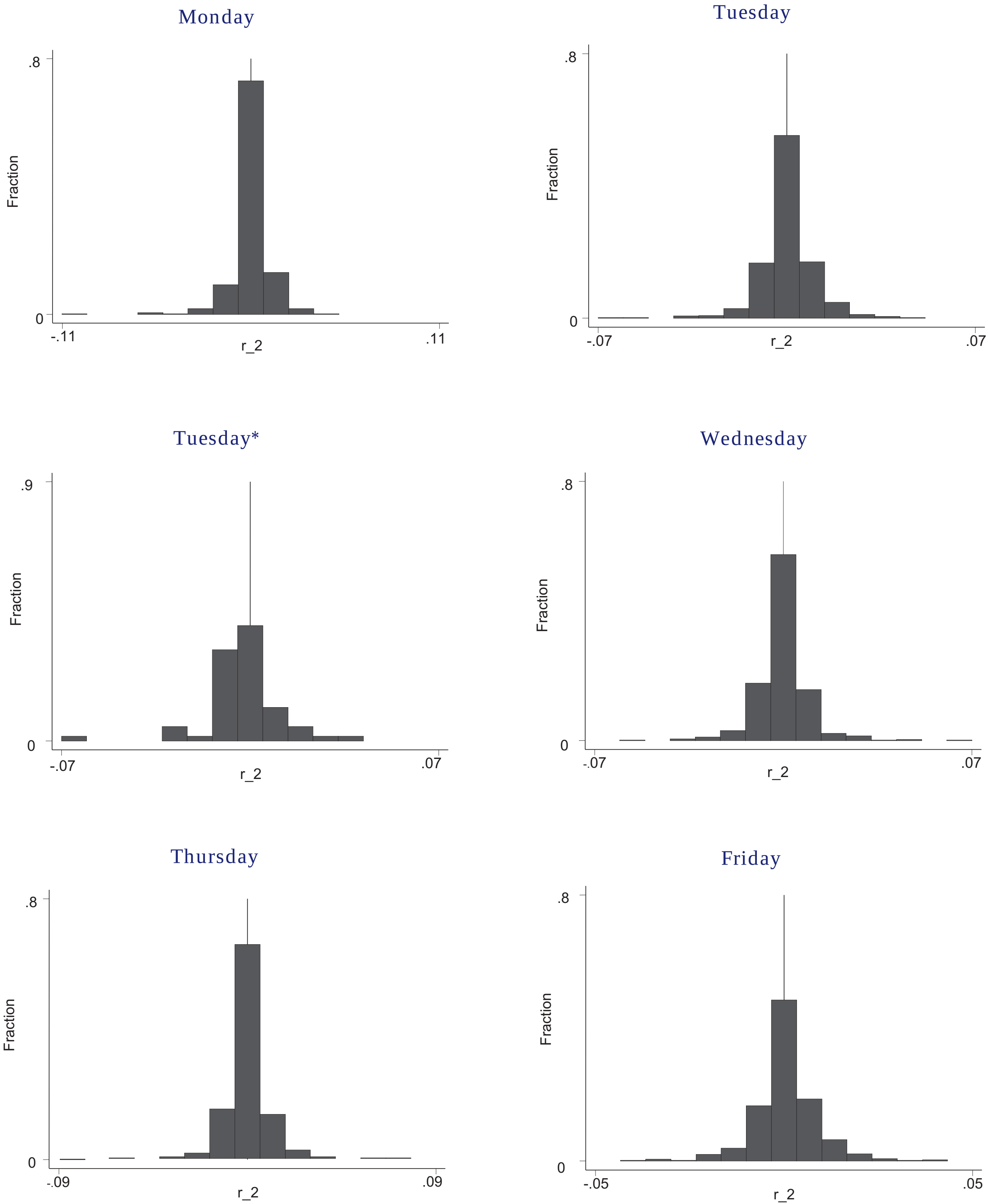
WEEK DAY EFFECT

	1988-2001					
	Coefficient	Pattern-deviation	*t* statistics	Median	Positive return (% number of observation)	Number of observation
Monday	-0.00027	0.00039	-0.68	-0.00026	47.60	565
Tuesday	0.00025	0.00039	0.65	-0.00029	47.50	630
Tuesday*	-0.00219	0.00126	-1.74*	-0.00153	36.70	60
Wednesday	-0.00041	0.00037	-1.1	-0.0003	46.90	622
Thursday	0.00003	0.00037	0.08	0.00002	50.20	629
Friday	0.00052	0.00037	1.4	0.00016	51.20	621
1st Lag	0.24316	0.0179	13.58***			
2nd Lag	0.00229	0.01853	0.12			
3rd Lag	0.02205	0.01786	1.23			
F Test: 1.33 (*P*-Value: 0.247)		R^2: 0.0638				
Portmanteau Test (12): 12.86		$P > \chi^2$ (12)=0.379				
	1988-1996					
	Coefficient	Pattern-deviation	*t* statistics	Median	Positive return (% number of observation)	Number of observation
Monday	-0.00051	0.00039	-1.32	-0.00022	47.40	346
Tuesday	0.0002	0.00039	0.53	-0.00046	44.10	406
Tuesday*	-0.00203	0.001	-2.02**	-0.00153	36.70	60
Wednesday	-0.0003	0.00036	-0.83	-0.00028	46.10	399
Thursday	0.00053	0.00036	1.5	-0.00013	48.40	407
Friday	0.00024	0.00036	0.66	0.00005	50.30	400
1st Lag	0.34293	0.02243	15.29***			
2nd Lag	0.04654	0.02358	1.97*			
3rd Lag	-0.06217	0.02202	2.82***			
F Test: 1.86 (*P*-Value: 0.098)		R^2: 0.1333				
Portmanteau Test (12): 16.92		$P > \chi^2$(12)=0.153				
	1997-2001					
	Coefficient	Pattern-deviation	*t* statistics	Median	Positive return (% number of observation)	Number of observation
Monday	-0.00001	0.00081	-0.01	-0.00046	47.90	219
Tuesday	0.00049	0.0008	0.61	0.00061	53.60	224
Wednesday	-0.00042	0.00081	-0.52	-0.00064	48.40	223
Thursday	-0.00089	0.00081	-1.11	0.00071	53.60	222
Friday	0.00087	0.00081	1.08	0.0006	52.90	221
1st Lag	0.17741	0.02978	5.96***			
2nd Lag	-0.02847	0.03059	-0.93			
3rd Lag	0.06654	0.03007	2.21**			
F Test: 0.76 (*P*-Value: 0.628)		R^2: 0.1202				
Portmanteau Test (12): 5.52		$P > \chi^2$ (12)=0.938				

Note: The table includes the results of the estimation, by means of the minimum square method, of a regression in which the dependent variable is the return series of the PSI Geral Index and the explicative variables are dicotomic variables for each day of the week, a dicotomic variable for Tuesdays between January 1988 and April 1989 — represented by Tuesday* — and the first three lags of the dependent variable. *t* statistics correspond to individual nullity tests of the regression coefficients, *F* statistics correspond to the joint equality test of the coefficients associated with the dicotomic variables, and Portmanteau statistics correspond to the autocorrelation test of the residuals. The table also includes the medians, the number of observations and the percentages of positive returns per day of the week and for Tuesdays*. Periods considered: 1988-2001, 1988-1996 and 1997-2001. Days immediately before or after public holidays are excluded. ***, ** and * represent statistical significance at the 1 per cent, 5 per cent and 10 per cent levels, respectively.

Chart 2

HISTOGRAMS FOR THE DAYS OF THE WEEK – 1988-2001



Note: The charts represents histograms for each day of the week in 1988-2001 and for Tuesdays between January 1988 and April 1989 (Tuesday*). The days before and after public holidays are excluded. The figure also includes a line identifying the change in sign of returns.

* Corresponds to D_2^* in equation (1).

sum of the fees paid to the Stock Exchange, taxes and commissions paid to brokers involved in every transaction.(12)

Table 1 also presents the average returns and the positive return percentage for every day of the week. The results show that the percentage of positive returns is below 5 per cent on Mondays, the same applying to Tuesdays up to April 1989, while the percentage of positive returns on Fridays is above 50 per cent for every period considered.

The histograms in Chart 2 complement the analysis of the differences in the behaviour of returns per weekday. The charts show that, on the whole, histograms for Tuesdays up to April 1989 are more concentrated in the negative area. For the remaining days of the week, the probability density is more concentrated in areas close to zero.

4. THE PUBLIC HOLIDAY EFFECT

The analysis of returns on days close to public holidays permits the carrying out of a new test of the close-of-business effect. Should this hypothesis occur, returns on days after public holidays should be negative while on days before public holidays they should be positive.

The average returns on days before and after public holidays are compared with the other days.(13) The results show that, for the 1988-2001 period, average returns on days after public holidays are lower than on days before public holidays, which tends to support the hypothesis of the close-of-business effect. This result is consistent with that found in Arsad and Coutts (1997). The foregoing section showed that daily returns on days before weekends tended to be positive. When compared, the weekend and public holiday effects reveal that returns on days before public holidays are even more significant than returns on the last day of the week.

For the 1988-2001 period, average returns on days before public holidays are 0.184 per cent, i.e. 23 times above average returns on regular days. These results are similar to those obtained by Lakonishok and Smidt (1988) that point to average returns of 0.220 per cent for the Dow Jones Industrial Average (DJIA) on days before public holidays. As in this article, that paper indicates that those returns are 23 times higher than average returns on regular days. For the 1988-1996 period, average returns on days before public holidays are positive, whereas they are negative on days after public holidays. This result evinces a close-of-business effect.

5. CONCLUSIONS

The linear regression model methodologies, histograms and analysis of the return averages used in this article reveal the existence of a weekend effect in the Portuguese stock market that tends to fade away over the sample period, suggesting that this anomaly will be discontinued in the future as a result of the capital market development. The evidence of the weekend effect is consistent with the reduction felt also in the changes in returns around public holidays. In general, the trend of the behaviour of returns coincides with the changes observed in the Portuguese market that has become more sophisticated and integrated in the international context.

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(10) Stock Market transaction fees are, on average, 0.275 per cent of total transaction amounts. This value is broken down into 0.25 per cent for brokerage fees, 0.015 per cent for the stock market fee and 0.01 per cent for broker commission value.

(11) The results presented here for the purpose of public holidays, as well as the broad discussion of this effect may be found in the *Working paper* no. 11/02 of the Banco de Portugal, "The Analysis of Seasonal Return Anomalies in the Portuguese Stock Market", by M. Balbina and N.C. Martins.

Table 2

ANALYSIS OF THE HOLIDAY EFFECT

		Average	Pattern-deviation	Median	Positive return (% number observation)	Number of observation
		1998-2001				
All	Before holidays	0.00184	0.0005901	0.00107	58.00	150
	After holidays	0.0013	0.0009952	-0.00062	46.00	150
Observations	Normal days	0.00008	0.0002108	-0.00017	48.70	3067
2 day	Before holidays	0.00159	0.0007608	0.00007	50.00	78
difference	After holidays	0.00095	0.0010669	-0.00059	44.90	78
≥3 day	Before holidays	0.002102	0.0009263	0.0012909	66.70	72
difference	After holidays	0.0016843	0.0016392	-0.0007149	47.20	72
		1988-1996				
		Average	Pattern-deviation	Median	Positive return (% number observation)	Number of observation
All	Before holidays	0.00025	0.0004906	0.00026	51.00	100
	After holidays	-0.00025	0.0007684	-0.00064	45.50	99
Observations	Normal days	0.00007	0.0002318	-0.00024	47.20	1958
2 day	Before holidays	0.0004	0.0006631	-0.00088	45.30	53
difference	After holidays	0.0004	0.0007858	-0.00059	46.20	52
≥3 day	Before holidays	0.0000781	0.0006605	0.0005367	57.40	47
difference	After holidays	-0.0009754	0.001213	-0.0008361	44.70	47
		1997-2001				
		Average	Pattern-deviation	Median	Positive return (% number observation	Number of observation
All	Before holidays	0.00501	0.001025	0.00449	72.00	50
	After holidays	0.00431	0.0023088	-0.00009	47.10	51
Observations	Normal days	0.00008	0.0004154	0.00031	51.30	1109
2 day	Before holidays	0.00411	0.0015574	0.00362	60.00	25
difference	After holidays	0.00203	0.0027792	-0.00088	42.30	26
≥3 day	Before holidays	0.0059068	0.0015193	0.0048371	84.00	25
difference	After holidays	0.0066846	0.0032804	0.0043567	52.00	25

Note: The table presents the averages, pattern-deviation, medians, number of observations, and percentages of daily positive returns of the PSI Geral index for the days before and after public holidays as well as on the other days. The analysis distinguishes between public holidays broken down into two, three, or more days without transactions. The pattern deviations are adjusted by the Newey-West formula. The periods considered are 1988-2001, 1988-1996 and 1997-2001. The difference between the number of observations on days before and after public holidays for the 1988-1996 and 1997-2001 period is due to the 1997 New Year’s day.

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Chronology of major financial policy measures

January*

7 January (Regulation no. 8/2001 of the Stock Market Commission, Official Gazette no. 299, Supplement, Series II)	Pursuant to the provisions set forth in subparagraph n) of Article 9 and Article 26 of the Statute of the Stock Market Commission, approved by Decree-Law no. 473/99, of 8 November, and in subparagraph b) of paragraph 1 of Article 353 of the Stock Market Code, approved by Decree-Law no. 486/99, of 13 November, sets the rates to the paid to the Stock Market Commission. Revokes Regulation no. 35/2000, of 14 December. This Regulation takes effect on 1 January 2002.
7 January (Circular Letter of Banco de Portugal no. 1/2002/DET)	Informs about the process of exchanging banknotes and coins denominated in escudos for banknotes and coins denominated in euro, namely about the provisions set forth in Articles no. 3, 4 and 6 of Decree-Law no. 117/2001, of 17 April. The afore-mentioned exchange cannot be subject to restrictions that are not provided for by law. It also makes known that the charging of fees or any other type of commissions is against the legal tender status of the currency.
15 January(Decree-Law no. 8-D/2002, Official Gazette no. 12, 2nd Supplement, Series I - A)	Amends Decree-Law no. 394/99 of 13 October, which approved the legal framework of managing companies of transferable securities markets and related systems, publishing it again.
23 January (Decision no. 1598/2002, Official Gazette no. 19, Series II)	Under the terms laid down in paragraph 1 of article 63 of Law no. 5/98 of 31 January, approves the introduction of adjustments in the Chart of Accounts of Banco de Portugal which shall be applied to the 2001 fiscal year accounts.
23 January (Circular Letter of Banco de Portugal no. 8/02/DSBDR)	Clears doubts on the prudential framework of securities with a higher degree of subordination, issued within the scope of securitisation operations, held by entities which, albeit belonging to the group of the institutions which has originally sold the assets, are not subject to the provisions set forth in Notice no. 10/2001 of 6 November.
26 January (Council Regulation (EC) no. 134/2002, OJEC L 24)	Amends paragraph 2 of article 7 of Council Regulation (EC) No. 2531/98 of 23 November 1998 concerning the application of minimum reserves by the European Central Bank.

February

4 February (Circular Letter of Banco de Portugal no. 2/DMR)	Following Circular Letter no. 347/DMR of 27 October 1999, fixes the rate of return of Deposit Securities, Series B, at 3.34%, for the quarterly accounting period to start on 4 February 2002.
5 February (Regulation no. 1/2002 of the Stock Market Commission, Official Gazette no. 30, Series II)	Pursuant to the provisions set forth in paragraph 1 of article 36 of Decree-Law no. 453/99, of 5 November, establishes a regime to which the accounts of the credit securitisation funds must adhere.
6 February (Executive Order no. 113-B/2002, Official Gazette no. 31, Supplement, Series I - B)	In accordance with paragraph 3 of article 1 of Decree-Law no. 88/94, of 2 April, establishes that government debt securities issued pursuant to the provisions set forth in Cabinet Resolution no. 9-A/2002, of 12 January, shall be added to the list published in Executive Order no. 377-A/94, of 15 June.
9 February (Regulation no. 4/2002 of the Stock Market Commission, Official Gazette no. 34, Series II)	Pursuant to the provisions set forth in subparagraph b) of paragraph 1 of article 353 of the Stock Market Code, and in accordance with paragraph 2 of article 47-A and article 47-B, which form part of Decree-Law no. 276/94, of 2 November, lays down the terms and conditions on which entities managing securities investment funds may constitute index-linked funds and guaranteed funds.

* The chronology for monetary measures of the Eurosystem can be found in the Monthly Bulletin of the European Central Bank.

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

March

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

April

5 April (Decree-Law no. 82/2002, Official Gazette no. 80, Series I - A)	Introduces changes in articles 4 to 7, 12, 16, 17, 19, 23, 27, 28, 34, 37 and 38 and in Chapters III and IV of Decree-Law no. 453/99, of 5 November, which defines the system governing the securitisation of credit. Decree-Law no. 453/99, as amended by Decree-Law no. 82/2002, shall be republished in attachment.
26 April (Circular Letter of Banco de Portugal no. 6/DMR)	Following Circular Letter no. 347/DMR of 27 October 1999, fixes at 3.30%, the rate of return of the Certificates of Deposit, Series B, to prevail in the quarter started on 4 May 2002.

30 April (Executive Order no. 505/2002, Official Gazette no. 100, Series I - B)	Pursuant to the provisions laid down in article 5 of Decree-Law no. 232/96 of 5 December, and for the purposes of Council Directive 93/22/EEC, approves the list of regulated markets. Revokes Executive Order no. 27/99 of 18 January.

May

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

June

18 June (Regulation no. 8/2002 of the Stock Market Commission, Official Gazette no. 138, Series II, Supplement)	Under the provisions of article 60 of Decree Law no. 60/2002, of 20 March, lays down a set of rules that constitute the legal framework of real estate investment funds. Revokes Regulations no. 96/03, of 29 March, no. 97/11, of 26 July, and no. 98/05, of 27 May. This Regulation takes effect on 18 June 2002.
19 June (Executive Order no. 676/2002, Official Gazette no. 139, Series I - B)	Under the provisions of paragraph 1 of article 95 and paragraph 1 of article 196 of the Legal Framework of Credit Institutions and Financial Companies, approved by Decree Law no. 298/92, of 31 December, as well as of paragraph 3 of article 40 of Decree Law no. 453/99, of 5 November,

	changes the minimum capital stock of credit securitisation funds management companies and credit securitisation companies. Revokes Executive Order no. 284/2000, of 23 May.
25 June (Notice of Banco of Portugal no. 4/2002, Official Gazette no. 144, Series I - B)	Establishes the prudential regime of capital losses inherent in financial participations (minimum provisioning levels and deductions from own funds). Introduces changes in Notices no. 3/95, of 30 June, and no. 12/92, of 29 December. This Notice takes effect on 30 June 2002.
26 June (Regulation no. 35/2002 of the Instituto de Seguros de Portugal (Rule no. 12/2002-R), Official Gazette no. 145, Series - II)	Introduces changes in the chart of accounts of pension funds. Rewords paragraph 3.2. and adds paragraphs 3.4 and 3.5 to regulatory rule no. 12/95-R, of 6 July.
26 June (Regulation no. 33/2002 of the Instituto de Seguros de Portugal (Rule no. 10/2002-R), Official Gazette no. 145, Series II)	Lays down the rules applicable to securities repurchase and lending operations carried out in pension funds by their management companies that operate in Portugal, as well as to their accounting.
26 June (Regulation no. 32/2002 of the Instituto de Seguros de Portugal (Rule no. 9/2002-R), Official Gazette no. 145, Series II)	Lays down the rules applicable to securities repurchase and lending operations carried out by insurance corporations that operate in Portugal or abroad, which are subject to the supervision of the Instituto de Seguros de Portugal (Portuguese Insurance Institute), as well as to their accounting.
26 June (Regulation no. 30/2002 of the Instituto de Seguros de Portugal (Rule no. 7/2002-R), Official Gazette no. 145, Series II)	Lays down the rules applicable to the use and accounting record of derivative instruments by insurance corporations that operate in Portugal or abroad, which are subject to the supervision of the *Instituto de Seguros de Portugal*. Revokes rule no. 15/98-R, of 20 November.
26 June (Regulation no. 31/2002 of the Instituto de Seguros de Portugal (Rule no. 8/2002-R), Official Gazette no. 145, Series II)	Lays down the rules applicable to the use and accounting record of derivative instruments in pension funds by their management companies that operate in Portugal. Revokes rule no. 16/98-R, of 20 November.
26 June (Regulation no. 34/2002 of the Instituto de Seguros de Portugal (Rule no. 11/2002-R), Official Gazette no. 145, Series II)	Introduces changes in the chart of accounts of insurance corporations, approved by regulatory rule no. 7/94-R, of 27 April, as amended by regulatory rule no. 14/95-R, of 20 July.

July

2 July (Regulation no. 9/2002 of the Stock Market Commission, Official Gazette no. 150, Series II)	Rewords article 53 of Regulation no. 10/2000, of 23 February (issues of covered warrants) of the Stock Market Commission.
8 July (Circular Letter of Banco de Portugal no. 68/2002/DSB)	Informs that loans collateralised by mortgage on owner-occupied housing and granted until the entry into force of Notice no. 1/2001 (2001/02/14), may benefit from the previous weighting with regard to the solvency ratio, provided that the respective assessments are made within 3 years as from the date mentioned.
10 July (Circular Letter of Banco de Portugal no. 69/2002/DSB)	Recommends credit institutions and financial corporations to carefully examine operations carried out with natural or legal persons residents in certain countries or territories, within the framework of preventive measures of money laundering. Revokes Circular Letter no. 36/2001/DSB, of 17 October 2001.
11 July (Council Recommendation 2002/549/CE, OJ L 182)	Council Recommendation on the broad guidelines of the economic policies of the Member States and the Community.
15 July (Guideline of the European Central Bank no. 2002/07/15, OJ L 185)	Amends to Guideline ECB/2000/7 on monetary policy instruments and procedures of the Eurosystem (ECB/2002/2).

19 July (Regulation no. 10/2002 of the Stock Market Commission, Official Gazette no. 165, Series II)	Defines the value of the rate on services provided by the Stock Market Commission related to the registration of real estate assessors. Adds sub-paragraph h) to Article 5 (1) of Regulation no. 8/2001, of 28 December.
19 July (Notice of the European Central Bank No. 2002/C 173/02, OJ C 173)	Publishes the competent national authorities designated by the Member States to prevent and combat money counterfeiting, referred to in Article 2 (b) of Council Regulation (EC) no. 1338/2001 and also in accordance with Council Regulation (EC) no. 1339/2001, which extended the effects of that regulation to those Member States which have not adopted the euro as their single currency.
22 July (Circular Letter of Banco de Portugal no. 71/02/DSBDR)	Waives the preparation and report to the Banco de Portugal of the report on economic provisions foreseen in Circular Letter no. 17/02/DSBDR for brokers, foreign-exchange and money-market mediating companies, wealth managing companies, investment-fund managing companies, group-purchase managing companies, exchanges offices and credit securitisation fund management companies.
24 July (Executive Order no. 866/2002, Official Gazette, no. 169, Series I)	Introduces changes, in accordance with the provisions laid down in Article 95 (1) and Article 196 (1) of the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law no. 298/92, of 31 December, into no. 1 (h) and (i) of Executive Order no. 95/94, of 9 February (determining the minimum equity capital of credit institutions and financial corporations). Introduces changes into the minimum equity capital of dealers and brokers, which should be fully paid up by 30 September 2002. Revokes Executive Order no. 102/2002, of 1 February.

August

9 August (Instruction no. 1/2002 of the IGCP, Official Gazette no. 183, Series II)	Determines, in accordance with the provisions laid down in Article 10 (1) (c), of Decree-Law no. 122/2002, of 4 May, the value of rates on the provision of services related to operations on savings certificates.
9 August (Circular Letter of the Instituto de Seguros de Portugal (the Portuguese Insurance Institute) no. 31/02, Official Gazette no. 183, Series III, Part A)	Publishes the list, as at 17 July 2002, of insurance companies and pension fund managing companies registered in *Instituto de Seguros de Portugal* and, therefore, authorised to carry on their respective activity.
14 August (Circular Letter of Banco de Portugal no. 73/02/DSBDR)	Clears some doubts on the obligation to send to Banco de Portugal a report prepared by the external auditor of each institution, quantifying the economic provisions required for the coverage of risk implicit in the corresponding credit portfolio, as referred to in Circular Letter no. 17/2002/DSB, of 14 February.
16 August (Instruction of Banco de Portugal no.22/02)	Amends Instruction no. 23/97, with regard to the list of largely diversified indices.
20 August (Notice of Banco de Portugal no. 5/2002, Official Gazette no. 191, Series I - B)	Rewords numbers 4 and 5 of paragraph 5 of Notice no. 4/2002, of 20 June.
21 August (Decree-Law no. 188/2002, Official Gazette no. 192, Series I - A)	Sets up the Credit Securitisation Guarantee Fund (*Fundo de Garantia de Titularização de Créditos* - FGTC), whose purpose is the granting of collateral within the scope of the purchase of securities representing medium-and long-term claims on small-and medium-sized companies carrying on their activity within the framework of the Operational Programme for Economic Activities.
21 August (Decree-Law no. 186/2002, Official Gazette no. 192, Series I - A)	Creates a new type of credit institution, the credit financial institution, whose purpose is the carrying out of all operations allowed to banks, except for the taking of deposits, and which are governed by this decree-law and by the provisions set forth in Decree-Law no. 298/92, of 31 December (Legal Framework of Credit Institutions and Financial Companies) and

supplementary legislation. Revokes Article 4 of Decree-Law no. 72/95, of 15 April, and paragraph 1 of Article 4 of Decree-Law no. 171/95, of 18 July.

21 August Decree-Law no. 187/2002, Official Gazette no. 192, Series I - A)

Sets up the *Fundos de Sindicação de Capital de Risco,* whose purpose is the carrying out of combined operations in the area of risk capital, by investing in holdings in companies and financing entities specialising in risk capital, for the equity increase of small-and medium-sized companies carrying on their activity within the framework of the Operational Programme for Economic Activities.

24 August (Regulation no. 11/2002 of the Stock Market Commission, Official Gazette no. 195, Series II)

Establishes the accounting system to be complied with by real estate investment funds. This Regulation takes effect on 1 August 2002. For accounting purposes, in particular, with respect to the monthly reporting of data, funds built up and operating at the date on which this Regulation takes effect may continue to comply with the provisions set forth in Regulation no. 96/16 of the Stock Market Commission, of 13 December, which will remain in force up to 31 December 2002.

24 August (Regulation no. 12/2002 of the Stock Market Commission, Official Gazette no. 195, Series II)

Defines the elements that may integrate credit securitisation companies' own funds and lays down the accounting rules applicable to this type of companies. Amends Regulation no. 10/2000 of the Stock Market Commission, of 10 February and revokes Articles 4, 48 and 49 of the same regulation.

26 August (Regulation no. 13/2002 of the Stock Market Commission, Official Gazette no. 196, Series II)

Introduces changes to Article 1, adds Article 8-A and revokes subparagraph b) of paragraph 2 of Article 3 of Regulation no. 11/2000 of the Stock Market Commission, of 23 February 2000 (Reporting obligation).

September

16 September (Circular Letter no. 72/2002/DSB)

Informs that the establishment of value dates related to debit and credit entries in demand deposit accounts will no longer be subject to regulations issued by Banco de Portugal, and that the Bank will thus revoke Instruction no. 50/96 and introduce changes in Notice no. 1/95.

16 September (Instruction of the Banco de Portugal no. 24/2002)

Determines that branches established in Portugal of credit institutions and financial companies having their head office in another EU Member State must prepare a report on the money laundering prevention system.

17 September (Executive Order no. 1403/2002, Official Gazette no. 215, Series II)

Pursuant to the provisions laid down in paragraph 1 of Article 95 of the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law no. 298/92 of 31 December, sets forth that the minimum capital stock of credit institutions shall not be lower than 10 million.

26 September (Decree-Law no. 201/2002, Official Gazette no. 223, Series I - A)

Introduces changes in the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law no. 298/92 of 31 December. Redefines the types of credit institutions and financial companies (e.g. creates credit financial institutions and no longer includes group-purchase managing companies in financial companies, although it envisages a transitional regime for those currently existing). Revises the prudential framework of credit institutions and financial companies, in particular within the scope of the authorisation regime for their setting-up and the acquisition of qualifying holdings, as well as the registration of the members of the management and auditing boards. Enhances the effectiveness of supervisory methods, in line with the internationally accepted standards. Introduces changes in the financial reorganisation process, namely by enabling greater intervention by the Banco de Portugal, the Deposit Guarantee Fund and other financial system entities.

28 September Notice of the Banco de Portugal no. 6/2002, Official Gazette no. 225, Series I - B)

Lays down a set of reporting requirements aimed at improving transparency and fairness in the promotion and negotiation of structured savings collection instruments (*instrumentos de captação de aforro estruturado* - ICAE). This notice takes effect 60 days after its publication.

October

15 October (Circular Letter of the Banco de Portugal no. 74/2002/DSB)	Clears doubts about the interpretation of the transitory regime applicable to capital losses inherent in financial participations calculated on the date of entry into force of Notice no. 4 / 2002, of 25 June 2002.
15 October (Instruction of the Banco de Portugal no. 26/2002)	Sets a limit for the irrevocable payment commitment to be applicable to contributions to the Deposit Guarantee Fund in 2003.
15 October (Instruction of the Banco de Portugal no. 27/2002)	Sets the basic contributory rate to be applicable to the calculation of the annual contributions to the Deposit Guarantee Fund by participating institutions in 2003.
15 October (Instruction of the Banco de Portugal no. 28/2002)	Lays down that the holding companies whose subsidiaries are mainly investment companies shall adopt the Chart of Accounts for the Banking System, from the start of the 2003 fiscal year onwards (Amends Instruction no. 4 / 96).
17 October (Circular Letter of the Banco de Portugal no. 82/2002/DSB)	Following the entry into force of Decree-Law no. 201 / 2002, of 26 September, amending the Legal Framework of Credit Institutions and Financial Companies, calls the attention to the new concept of qualifying holding, as well as to the communications that must be made to Banco de Portugal for registration purposes. It also calls the attention to the communication that shall be made to Banco de Portugal of the acts or facts mentioned in paragraph 4 of Article 102 of the Legal Framework referred to above.
25 October (Instruction of the Banco de Portugal no. 30/2002)	Creates and regulates an electronic communication system called Bpnet.
30 October (Circular Letter of the Banco de Portugal no. 15/DMR)	Following Circular Letter no. 347 / DMR, of 27 October 1999, fixes at 3.28% the rate of return of Deposit Securities, Series B, for the quarterly interest calculation period to start on 4 November 2002.
31 October (Decree-Law no. 228/2002, Official Gazette no. 252, Series I - A)	Revises the taxation regime of income on capital gains derived from the sale of transferable securities, as well as the regime applicable to income on investment funds in terms of tax benefits. Introduces changes in Articles 10, 22, 43, 55, 72 and 101 of the Personal Income Tax Code (*Código do IRS*), approved by Decree-Law no. 442-A / 88, of 30 November, and Article 22 of the Tax Benefit Statute (*Estatuto dos Benefícios Fiscais*), approved by Decree-Law no. 215 / 89, of 1 July. This Decree-Law takes effect from 1 January 2003 onwards.

November

2 November (Law no. 25/2002, Official Gazette no. 253, Series I - A)	Authorises the government to introduce changes in Decree-Law no. 454 / 91, of 28 December (which lays down rules governing the use of cheques), granting to all credit institutions access to the information made available by Banco de Portugal on cheque users who may offer risk. This legislative authorisation is granted for a period of 180 days.
6 November (Circular Letter of Banco de Portugal no. 91/02/DSBDR)	Recommends that credit institutions and financial companies must analyse with particular care the operations negotiated with natural or legal persons residing in certain countries or territories, within the scope of the measures targeted at preventing money laundering. Revokes Circular Letter no. 69 / 2002 / DSB, of 10 July 2002.
6 November (Circular Letter of Banco de Portugal no. 92/02/DSBDR)	Makes known that GAFI - *Grupo de Acção Financeira contra o Branqueamento de Capitais* (Financial Action Task Force on Money Laundering) has decided to submit to a public consultation a proposal for an Interpretative Note to Recommendation VII (relating to funds transfers), within the scope of the special Recommendations on the fight against the financing of terrorism, approved in October 2001.

21 November (Regulation no. 16/2002 of Stock Market Commission, Official Gazette no. 269, Series II, Supplement)

In accordance with the provisions laid down in paragraph 2, of Article 1 of the Securities Market Code, recognizes Credit Linked Notes. Adds to Chapters 0 and 2 of Annex II to Regulation no. 10/2000, schemes B and G, respectively.

21 November (Regulation no. 15/2002 of the Stock Market Commission, Official Gazette no. 269, Series II, Supplement)

In accordance with the provisions laid down in paragraph 2, of Article 1 of the Securities Market Code, recognizes reverse convertibles and compulsorily convertible securities. Rewords Chapter 0 and adds schemes E and F to Chapter 2 of Annex II to Regulation no. 10/2000.

December

2 December (Regulation no. 14/2002 of the Stock Market Commission, Official Gazette no. 278, Series II)

Provides for the terms and conditions under which entities managing investment funds shall be required to inform the Stock Market Commission on the way in which voting rights, conferred by shares held by the funds administered by the said entities, are exercised, as well as on the acquisition of shares by their responsible staff.

16 December (Instruction of Banco de Portugal no. 33/2002, BNBP no. 12/2002)

Introduces changes in Instruction no. 73/96 relating to the accumulation of posts in credit institutions and financial companies.

16 December (Instruction of Banco de Portugal no. 34/2002, BNBP no. 12/2002)

Introduces changes in Instruction no. 102/96 relating to the establishment of branches and to the provision of services, in particular, regarding the establishment of branches in non-EC Member States.

17 December (Regulation no. 46/2002 of the Instituto de Seguros de Portugal, Official Gazette no. 291, Series II)

In accordance with the provisions set forth in paragraph 1, of Article 31 of Decree-Law no. 475/99, of 9 November, as worded by Decree-Law no. 292/2001, of 20 November, lays down a set of rules governing the composition of the assets of pension funds, as well as a set of principles to be complied with by their managing entities in the definition, implementation and control of the investment policy of pension funds. With the entry into force of this regulation, the provisions relating to the placements by pension funds mentioned in Decree-Law no. 415/91, of 25 October and in Executive Order no. 293/99, of 28 April are revoked.

18 December (Circular Letter of Banco de Portugal no. 108/02/DSBDR)

Gives some explanations on the calculation formula of the Effective Annual Rate (Taxa Anual Efectiva), by interpreting the provisions laid down in Article 4 of Decree-Law no. 220/94, of 23 August.

24 December (Instruction no. 3/2002, Official Gazette no. 297, Series II)

Pursuant to the provisions set forth in subparagraphs f) and g), of paragraph 1 of Article 6 of the IGCP (Portuguese Government Debt Agency) by-laws, approved by Decree-Law no. 160/96, of 4 September, and in Article 11 of Decree-Law no. 280/98, of 17 September, lays down the rules that govern the issue of Treasury bonds, as well as the access conditions and the rights and obligations of financial agents operating in the primary market. Revokes Instruction no. 1/2001, as amended by Instruction no. 2/2001 (Series II), taking effect on 1 January 2003.

27 December (Regulation no. 48/2002 of the Instituto de Seguros de Portugal, Official Gazette no. 299, Series II)

In accordance with the provisions set forth in Decree-Law no. 94-B/98, of 17 April, as amended by Decree-Law no. 8-C/2002, of 11 January, lays down a set of rules to be complied with in the field of complementary supervision of insurance companies having their head office in Portugal, belonging to insurance groups (calculation of the so-called "adjusted solvency"). This regulation takes effect immediately, being applicable for the first time to the supervision of the 2002 annual accounts.

28 December (Decree-Law no. 319/2002, Official Gazette no. 300, Series I - A)

Regulates the setting up and the activity of risk capital companies and risk capital funds. Revokes Decree-Law no. 433/91, of 7 November, as amended by Decree-Law no. 175/94, of 27 June and by Decree-Law no. 230/98, of 22 July, Decree-Law no. 58/99, of 2 March, and subparagraph p), of paragraph 1 of Executive Order no. 95/94, of 9 February. Also revokes subparagraph h), of paragraph 1 of Article 6 of Decree-Law no.

298/92, of 31 December and amends paragraph 3, of Article 101 of the Executive Order referred to above. The most salient features of the new legislation focus in particular the simplification of the setting up and operation of risk capital companies and their non-eligibility as financial companies.

30 December (Law no. 32-B/2002, Official Gazette no. 301, Series I - A, 2nd Supplement)

Approves the State Budget for 2003.

31 December (Notice of Banco de Portugal no. 7/2002, Official Gazette no. 302, Supplement, Series I - B)

Introduces changes in Notice no. 12/2001 (regulatory framework relating to the coverage of liabilities with retirement and survivorship pensions), in particular in the repayment system of actuarial gains and losses resulting from differences between actuarial and financial assumptions used and the values actually recorded.

31 December (Regulation no. 17/2002 of the Stock Market Commission, Official Gazette no. 302, Series II)

Harmonises the rules applicable to financial intermediaries, in the exercise of financial intermediation activities, with the specific rules governing the transferable securities markets in which they operate, regarding orders by clients and respective period of validity. Amends Article 58 of the Regulation no. 12/2000 of the Stock Market Commission, of 10 February, published in the Official Gazette no. 45, Supplement, Series II, of 23 February 2000.

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