Banco de Portugal

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Economic Research Department
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1150-012 Lisboa

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Introductory note

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There is no broad consensus among economists regarding the concept of "Financial Stability". There are several definitions, most of them referring to the non-existence of "stability" or to the idea of "instability". However, it can be said that financial stability, in addition to implying the resilience of financial intermediaries (in particular banks) to adverse shocks and the need for an analysis of the behaviour and financial situation of the key counterparties of these intermediaries, also requires "that the key markets are stable, in that participants can confidently transact at prices that reflect fundamental forces and that do not vary substantially over short periods when there have been no changes in fundamentals"[1].

The purpose of the financial stability report, which will be published annually by Banco de Portugal, is to assess the risks emerging in the Portuguese markets and financial system. This involves identifying adverse shocks and their probability of occurrence, as well as measuring the consequences of such shocks on the stability of the financial system.

These consequences depend on the exposure of banks to the different types of risk (market, liquidity and credit risk), on the starting conditions that may influence developments resulting from the materialisation of risks (namely, the financial situation of households, companies and banks), as well as on the mechanisms to prevent the emergence of sporadic problems having systemic repercussions.

In Portugal three distinct and independent authorities supervise the national financial system: Banco de Portugal, *Comissão do Mercado de Valores Mobiliários* (Securities Market Commission) and *Instituto de Seguros de Portugal* (Portuguese Insurance Institute)[2]. Banco de Portugal is the main body responsible for the stability of the financial system. It is entrusted with the prudential supervision of credit institutions and financial companies, including investment companies as defined in the Legal Framework of Credit Institutions and Financial Companies.

This report focuses its analysis on the institutions subject to the supervision of Banco de Portugal, while trying to relate it to the recent (and expected) developments of its key counterparties, namely households and non-financial corporations (while also taking into account the impact of other financial and non-financial sectors). To this end, the analysis is centred on an aggregate of banking system institutions, based mainly on consolidated activity data that reflect their economic situation as companies. The accounts of the institutions are thoroughly analysed, regardless of the region in which they operate.

In addition to using consolidated accounting and prudential data on the different institutions, the analysis also uses solo basis accounts or Monetary and Financial Statistics (MFS) aggregates, in order to obtain a breakdown by sector or by instrument, where rele-

1. Andrew Crockett in "Why is financial stability a goal for public policy?", Maintaining Financial Stability in a Global Economy, Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming, August 28-30, 1997.
2. Co-operation and co-ordination between these three authorities lies with the *Conselho Nacional de Supervisores Financeiros* (National Council of Financial Supervisors), created by Decree-Law No 228/2000 of 23 September. This joint action is particularly important in view of the increasingly blurred borderline between the different sectors of activity. A corollary to this was the emergence of financial conglomerates.

vant. To adopt an approach as close as possible to that of the banking system on a consolidated basis, the aggregates analysed on the basis of MFS, (whenever feasible) not only consider Other Monetary Financial Institutions, but also Other Financial Intermediaries and Auxiliaries (except investment funds, securitisation funds and securitisation companies), most of which form part of the composition of consolidation of the Portuguese banking system.

Unless otherwise indicated, the aggregate considered for the Portuguese banking system refers to banks as a whole (including *Caixa Económica Montepio Geral*, a savings bank), other savings banks and mutual agricultural credit banks, excluding the banks that have their head office in the Madeira off-shore market or carry on activities exclusively on that market, and/or deal predominantly with non-residents. The branches of credit institutions having their head office in another European Union Member State are considered to be banks - except those that cannot be classified as monetary financial institutions (MFIs) - as well as the branches of credit institutions having their head office in non-EU Member States.

In some sections of the report, the analysis is focused on domestic institutions as a whole. This aggregate corresponds to the total banking system excluding the institutions under control and managed by non-resident institutions, i.e. institutions governed by Portuguese law, subsidiaries of non-resident banking groups (subject to the supervision of Banco de Portugal), or branches of credit institutions having their head office abroad. The rationale for distinguishing domestic from non-domestic institutions is related to the fact that external borrowing by non-domestic institutions, unlike domestic institutions, is obtained usually from entities with which they have a group relationship (which means the type and maturity of financing become less relevant).

P a r t I Financial System Stability

Overall assessment

Macroeconomic environment

Market risk

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Regulatory framework

1. Overall assessment

Financial stability conditions in Portugal depend critically on the situation of banking institutions, considering their importance in the context of the financial system. The Portuguese banking system has performed well during the past few years, withstanding the economic slowdown and the low interest rates environment. In 2004, there were improvements in liquidity, in asset (credit) quality and in solvency, while profitability indicators declined somewhat when compared with those of 2003 (but still well above those of 2002). The ability to adjust to recent economic developments was based in a careful control of costs, in innovative credit products, in the increase in commissions and in the use of securitisation as a mean to improve liquidity (the latter also benefiting of an increase in the maturity of external funding).

Regulatory changes implemented in the past few years aimed at favouring such evolution, both in terms of solvency and risk provisioning, and in terms of liquidity management. The Portuguese banking system compares favourably in international terms in most of the performance indicators assessed in this report.

In the present, one of the major challenges faced by the Portuguese economy is the correction of the high structural public deficit. Although output growth is expected to be affected by fiscal consolidation in the short run, fiscal consolidation is crucial for medium-term economic growth. In fact, the real convergence process with European Union countries was interrupted in the last five years and a divergence was seen in the last two years, as well as high structural public deficits. Unfavourable developments in the Portuguese economy in this period reflect several structural weaknesses, including the situation of public accounts, which have limited productivity growth and hampered, on the one hand, the adaptation to the new macroeconomic regime arising from the participation in the euro area and, on the other, the response to increased international competition. Thus, a coherent fiscal consolidation strategy is essential, so that the requirements of the Stability and Growth Pact are fulfilled.

Portugal's participation in the euro area led to the significant easing of the liquidity constraints. Hence, it is apparently easy to maintain a significant discrepancy between the growth of domestic demand and income, which is reflected in the widening of the external deficit. This deficit was accommodated by particularly favourable financing conditions in international financial markets. However, this leads to persistent and continued increase in indebtedness which, over time, will not be feasible to sustain at the same pace.

The adjustment of public accounts, by reducing pressure on domestic demand, tends to foster the reallocation of resources from the non-tradable to the tradable sector, inter alia, via lower pressure on domestic costs, thus limiting the real appreciation, with favourable consequences on the price-competitiveness of the economy. In turn, the adjustment of public accounts can also have positive effects on the efficiency of the economy and, thus, on medium-term growth, depending on the composition of the fiscal consolidation measures that will be taken.

As mentioned above, notwithstanding the favourable consequences on medium-term growth, the Portuguese economy may experience a period of relatively protracted low

growth in the coming years, which will desirably mirror the gradual adjustment to a new sustainable equilibrium. Short-term adjustment costs will be the smaller, the more flexible the economy will be in the reallocation of resources between the tradable and non-tradable sector; in this particular, it is worth noting that wage flexibility will make it possible to lessen the impact of the adjustment process of the economy on unemployment.

This is particularly relevant with regard to the repercussions on the banking system, considering that the more flexible the economy, the lower the growth of unemployment, with less serious implications on the evolution of credit default and, hence on the financial situation of banks. However, the share of real-estate-related loans in banks' portfolios introduces some vulnerability in the banking system, in a context of domestic demand restraint.

In addition, the fact that the increased international competition is a global phenomenon, which has been translated into smaller wage pressure in the euro area, despite the rise in oil prices, has favourable consequences on inflation and hence financial market participants do not foresee a rise in the key ECB interest rates before the end of the second quarter of 2006 Thus, at least at the initial stage of adjustment of the Portuguese economy no significant interest rate rises are expected in the euro area, and this will be reflected in less tight financing conditions.

Although some unfavourable impact can be anticipated on the profitability of the banking system resulting from the above-mentioned adjustment process, taking into account the increase in banks' liquidity and solvency in the past few years, these are expected to be able to absorb this negative shock without the jeopardising financial stability.

Macroeconomic environment

International economy

The world economy recorded the highest growth rate of the last three decades. The rebound in economic activity at international level has been associated with the robust growth of international trade flows as well as of foreign direct investment. However, the strong rise in oil prices in the course of 2004 led to a weaker recovery in world economic activity in the last months of the year.

The recovery in economic activity has been broadly based across the globe, being particularly strong in some geographical areas. Hence, world growth continues to be largely based on the recovery of the US and Asian economies, of which the significant growth in China is particularly relevant. The growth pace of the euro area economy also increased in 2004, despite remaining at relatively subdued levels and strongly dependent on external demand developments.

In 2005 the world economy is expected to continue to record relatively high growth levels. In the United States, output growth is estimated to be slightly lower than in 2004, albeit still remaining far higher than in the euro area, whose growth rate in 2005 is also expected to be slightly lower than in 2004. However, the world economy may be conditioned by oil price developments. In the first months of 2005, the prices of this raw material continued to increase strongly, reaching new historical highs in nominal terms.

The external and fiscal imbalances in the United States are an important risk factor to world economic developments. In fact, despite the significant growth of the US economy

in 2004, both the public and the external deficit continued to widen in the course of the year and this situation is likely to persist in 2005. The impact on the world economy, resulting from the adjustment of imbalances in the United States, may differ, depending on whether the said adjustment is gradual or abrupt. If the adjustment of demand is triggered by domestic factors (e.g. through an increase in the households savings ratio and/or the narrowing of the fiscal deficit), external borrowing requirements will likely decrease, mitigating the pressures for the depreciation of the US dollar and for the increase of long-term interest rates. However, if the adjustment is abrupt, resulting from external pressures from international financial markets participants, adjustments in the foreign exchange market and in long-term interest rates may be much stronger. In this scenario, the increased depreciation of the US dollar and the sharp rise in long-term interest rates, by means of an increase in the risk premium of US dollar-denominated assets, would induce a contraction in demand in the United States.

Developments in the Chinese economy may be an additional risk factor. Given the strong growth of this economy over the past few years (according to International Monetary Fund (IMF) estimates, gross domestic product (GDP) increased by 9.3 per cent in 2003, and 9.5 per cent in 2004), there are concerns related to an overheating in some sectors of the Chinese economy. Although a gradual slowdown of activity in China is anticipated, if the adjustment of these imbalances is abrupt, it may translate into a risk factor for the global economy.

In addition to the risk factors mentioned above, there are other risk elements that may materialise in the course of 2005. On the one hand, it is possible that inflationary pressures will intensify, in particular in the United States, what may give rise to a further monetary policy tightening. Moreover, the high indebtedness levels of the private sector, in particular of households, in the United States and in some European countries can also be risk factors, hampering the consolidation of the rebound in economic activity against a backdrop of interest rate rises.

Finally, the emergence of new participants in the world economy has increased international competition and affected differently euro area countries. For the euro area as a whole, this phenomenon, together with the appreciation of the euro, translated into loss of export market shares. This may intensify in 2005 and translate into smaller growth in the euro area. In turn, higher international competition has also mitigated wage pressure on the euro area as a whole, limiting the pass-through of oil price rises to domestic prices, with favourable consequences on the evolution of inflation. There are some indications that this situation should persist in 2005, leading to a postponement of the rise in the key ECB interest rates, which according to market expectations is not foreseen before mid-2006.

Portuguese economy

In 2004, unlike in the two previous years, the evolution of economic activity was characterised by the buoyant performance of private domestic demand, in particular of private consumption, and by a negative contribution of net external demand. The increase in the import penetration rate and the losses in export market shares should be seen in the light of the deterioration of the competitive position of the economy observed in the past few years. This has been largely accounted for by the cumulative growth of relative unit labour costs, in particular in a context of increased competition by the new participants in the world economy. Thus, despite the strong growth of domestic demand, GDP growth continued to be rather limited, being one of the lowest in the European Union (EU). This

shows that in the case of a small open economy like the Portuguese, the maintenance of its international competitiveness is essential to ensure the growth of economic activity.

Market risk

In 2004 there was a broadly based reduction in the degree of investors' risk aversion. Uncertainty levels, as measured by the volatility in financial markets, dropped to historical minimum levels, despite the strong surge in oil prices, the depreciation of the US dollar and the persistence of macroeconomic imbalances. The low volatility levels in the financial markets reflect the smooth adjustment of these markets to the start of a cycle of interest rate rises in the United States, as well as the overall recovery in the economic activity, which has led to a reduction of credit risk and to an improvement in the outlook for corporate profitability.

However, the reduced level of interest rates and the increased willingness to assume risks have encouraged investors to choose higher yield investments. This led to an increased demand for bonds from issuers with relatively low credit ratings. This type of demand has led to a progressive convergence of the spreads of issuers in different risk classes. Hence, the low spreads in the debt markets and, in particular the narrowing of the differentials between the spreads of issuers with different risk degrees, suggest that the way investors are discriminating risks may be insufficient. A possible rise in interest rates may reveal some vulnerabilities, implying financing difficulties for some issuers, in particular for companies and emerging market economies with higher risk.

Favourable developments in international financial markets in 2004 led to better financing conditions of Portuguese banks in these markets, as well as to favourable developments in their securities portfolio. Thus, there was an improvement in banks' position in terms of latent losses on financial participations. Income from banking commissions associated with capital markets also had a favourable development. In 2003, there was an increase in the coverage of pension funds of bank employees, countering the rather negative performance recorded in 2001 and 2002, which had been conditioned by unfavourable financial market developments. In 2004, financial market developments made a globally positive contribution to the valuation of the assets held by pension funds. However, notwithstanding these developments, the difficulty in assuring the coverage of some pension funds of bank employees deteriorated slightly. This derived from the immediate implementation of some principles of the International Accounting Standards, which imply an increase in the financing needs of funds' liabilities, by reducing the discount rate used in computing such liabilities.

Liquidity risk

Liquidity risk is associated with a (real or perceived) decrease in a bank's ability to ensure the financing of assets and to meet its short-term liabilities. Banks are inherently illiquid institutions, in the sense that the role they play in the transformation of maturities implies their lack of capacity to make unexpected immediate repayments of redeemable liabilities, at least with no considerable losses in the early liquidation of assets. Therefore, taking into account that the illiquid nature of banks in absolute terms is unavoidable, an assessment of their liquidity position implies that their assets and liabilities are categorised according to the nature of instruments and trading markets. It also implies taking into account different time horizons and the institutional context in which banks operate (namely if it is a domestic institution or an institution belonging to a foreign group). As such this assessment will be, to a certain extent, qualitative.

In 2004 there was an overall improvement in the liquidity position of the Portuguese banking system. The credit-to-deposit ratio showed a moderate improvement, in line with the

trend seen in the preceding year. Such decline resulted from a rebound in the growth of resources from customers and from a deceleration in credit held in banks' portfolio. This deceleration in credit resulted largely from the strong growth, albeit lower than in the preceding year, of claims sold in securitisation transactions. In turn, the coverage ratio of interbank liabilities by highly liquid assets continued to increase significantly in the course of 2004, as a consequence of the strong reduction in interbank liabilities. However, through this indicator it is not possible to internalise the replacement of financing in the interbank market with short-term securities (in terms of residual maturity), reducing the relevance of the conclusions that can be drawn from its analysis. Nevertheless, the liquidity gaps, constructed from the structure of assets and liabilities with short-term residual maturity and that, as such, internalise the mentioned replacement, also showed a more favourable performance in 2004, lending support to the two indicators referred to above. In fact, over the past few years there has been a gradual increase in the weight of medium and long-term securities issuance as a means of bank financing. This trend was strengthened in 2004, since banks benefited from particularly attractive financing conditions in medium and long-term debt markets, where spreads reached historical lows.

Considering that external borrowing by banks located in Portugal, but which belong to foreign banking groups, is generally ensured by intra-group relationships (which makes less relevant the type and maturity of the financing), it is important to assess separately the liquidity situation of the domestic institutions sub-group. Both the coverage ratio of interbank liabilities by highly liquid assets and the liquidity gaps of domestic institutions recorded overall positive developments in 2004.

Taking into account the credit-to-deposit ratio, the four major domestic banking groups as a whole continue to show a higher value than that of other European countries. As a consequence, the recourse to market financing will be relatively more important for the Portuguese banking system than for other European countries. This will therefore imply higher vulnerability to possible shocks in international financial markets, notwithstanding the increased recourse to medium and long-term borrowing in recent years.

Credit risk

In a concise way, credit risk is said to be related to the uncertainty about counterparty's ability to service debt. In this sense, the measurement of the credit risk of a specific portfolio requires knowledge about the distribution of losses, in particular about its respective expected value. This depends on the size of the exposures and on their probability of default. This, in turn, derives from the main factors impacting on credit quality.

Credit granted by Portuguese banks shows a high concentration, on the one hand, in credit related to real estate activities and, on the other, in a reduced number of large companies. The strong concentration in credit related to the real estate sector implies that the banking system is particularly sensitive to the specific developments in this sector. However, most of this credit is comprised of loans to households for house purchase, which are usually associated with a relatively low risk, given the underlying collateral and the fact that there are no signs of a speculative bubble in the real estate market in Portugal.

There is also a strong concentration of credit in a reduced number of large companies. However, the strong concentration in large companies, mainly of the services sector, at the current juncture, is relatively benign in terms of credit risk. In fact, banks have a relatively low exposure to the sectors and/or types of companies with higher risk. Riskier companies relate mainly to the tradable sector, in particular to activities with low technological

content. In these companies, profit margins were squeezed, in order to counter the loss of competitiveness, in a context of appreciation of the euro and increased international competition. In turn, the results of quoted companies show that large companies, on average, have high profitability. It should also be mentioned that there is evidence that the probability of default is inversely correlated to the company size, which also helps to reduce the risk potentially associated with the high concentration of the loan portfolio. In sum, the loan portfolio of most banking groups is concentrated in the segments in which the credit risk is relatively lower, such as loans to households for house purchase and, in the case of non-financial companies, loans to large companies of the non-tradable sector.

A relevant aspect in the assessment of the credit risk is the very high level of the indebtedness of the non-financial private sector, which reached in 2004, 83 and 102 per cent of GDP, in the case of households and non-financial corporations respectively. In this context, given the growth in the proportion of indebted agents, the non-financial private sector is more exposed in the present than it was in the past to interest rate changes. Sensitiveness to interest rates is more important in Portugal than in other European countries, considering that most bank loans are contracted at floating rates. In fact, uncertainty about the future trend of interest rates is one of the major factors with a bearing on credit risk. By contrast, the ongoing lower volatility of interest rates helps to reduce this risk.

It should also be considered that the possible rise in interest rates will tend to occur in a situation of recovery in the euro area economy, and therefore its effects in Portugal will depend on the degree of coordination between Portuguese and European business cycles, i.e. they will be stronger if a lag persists in the recovery in Portugal. Traditionally, there is a close link between the two cycles. Nevertheless, it may be countered by the imperative need of fiscal consolidation in Portugal, which may have negative consequences on short-term economic growth. However, it should be noted that the lack of fiscal consolidation may drive the economy into an unsustainable path, whose abrupt adjustment may have very serious repercussions on financial stability. Anyway, if the recovery in economic activity is slower and less intense than in previous cycles and there is no reversal of the rising trend of unemployment, an interest rate increase, in a context of high indebtedness of the non-financial private sector, may lead to a deterioration in the quality of the credit portfolio of the banking system and even to significant losses. However, according to market expectations, a rise in the key ECB interest rates is not foreseen in the near future. The main risks are associated with the persistence of unemployment that may be worsened by the loss of competitiveness of the tradable sector, which, in a context of increased international competition, has shown the structural vulnerabilities of the Portuguese economy.

In the current business cycle, the ratio of credit and interest overdue and other non-performing loans to total credit granted to the non-financial private sector remained at levels well below those recorded in the previous cyclical slump. This is closely related to the fact that currently interest rates are significantly lower both in nominal and real terms. The fact that in the current cycle the share of credit in banks' assets is far higher than in the previous cycle does not change this conclusion, as implicit in the trend of the credit overdue-to-banks' total asset ratio.

In order to assess to which extent the high indebtedness of the non-financial private sector contributes to credit risk, it is important to take also into account developments in the assets of this sector, which are particularly relevant in the case of households. Using recently

compiled information on the financial and non-financial assets of this sector, it can be seen that it also increased strongly in the past few years, to a certain extent, mitigating the impact of the increased indebtedness on risks to financial stability. However, for a correct assessment of the contribution of the non-financial private sector to the stability of the financial system it does not suffice to analyse aggregate indicators, which only represent average figures and do not duly reflect the main risk sources generally seen in extreme observations. Using disaggregated data at microeconomic level, it is possible to characterise with some detail the distribution of indicators, such as indebtedness ratios, debt burden or debt-to-asset ratio, to identify extreme cases that may be particularly relevant for the analysis of credit risk. Results obtained on the basis of household surveys' data suggest, in general, that at the level of individual households (at least until 2000) there were no serious situations in terms of the indebtedness ratio, debt burden and debt-to-asset ratio. However, the fact that households are highly indebted, especially the younger ones, makes them more sensitive to interest rate changes. In the younger groups, which tend to have lower income and higher propensity to switch to unemployment, more serious situations may occur in the case of a sharp rise in interest rates.

Finally, it should be noted that the international exposure of the domestic banking system to the non-resident sector is low, reflecting its reduced internationalisation compared with other euro area countries. On the one hand, assets and liabilities, denominated in the local currency, of branches and subsidiaries abroad of Portuguese banking groups vis-à-vis the residents in the countries in which they are located are negligible. On the other hand, international claims included in the balance sheet on a consolidated basis are, to a larger extent, on the non-resident banking institutions and, to a smaller extent, on the public sector with high sovereign rating. Thus, risks associated with the direct international exposure do not seem significant.

Profitability and solvency

In 2004 the profitability of the Portuguese banking system decreased somewhat, largely associated with a decline in extraordinary income. In fact, while gross return on assets was maintained, there were efficiency gains (measured by developments in the ratio of operational costs to gross income) and the containment of net provisions set up in the year. Similarly to the past few years, banks offset the lower contribution of the net interest income to generating earnings with increased revenue associated with the charging of commissions.

The containment of provisioning was made possible by mobilising general provisions set up in previous years (namely provisions for general banking risks). Therefore, this was compatible, in general terms, with the increase in specific provisioning or in provisioning for well-identified classes of assets. The reduction in provisions for credit overdue reflected the use of such provisions following significant write offs in credit overdue considered to be definitely uncollectable. Banco de Portugal authorised institutions to record, against capital accounts, a significant share of provisions associated with financial holdings and with the assumption and update of some costs relating to past fiscal years. Also due to this, the increase in provisioning had no impact on the profit and loss account.

The capacity of the banking system to absorb shocks also appears to have been strengthened through the improvement in its capital structure. In fact, following the developments seen since 2000, the overall capital adequacy ratio increased further in 2004, reflecting the increases in equity capital, minority interests and eligible subordinated liabilities. In addition, it benefited from the sale of some financial holdings, which contributed not only to an increase in reserves, but also to a decrease in deductions.

MAIN INDICATORS

(To be continued)

In percentage; end-of-period figures, except those marked[(a)], which refer to the whole period

	1999	2000	2001	2002	2003	2004
Macroeconomic environment						
Rate of change in real GDP						
US	4.4	3.7	0.8	1.9	3.0	4.4
Euro area	2.8	3.6	1.6	0.9	0.5	1.8
Portugal	3.8	3.4	1.7	0.4	-1.1	1.1
Consumer price index (annual rate of change)						
US	2.2	3.4	2.8	1.6	2.3	2.7
Euro area (harmonised index)	1.1	2.1	2.3	2.3	2.1	2.1
Portugal (harmonised index)	2.2	2.8	4.4	3.7	3.3	2.5
Fiscal balance (as a percentage of GDP)						
US	0.6	1.3	-0.7	-4.0	-4.6	-4.3
Euro area	-1.3	0.1	-1.7	-2.4	-2.8	-2.7
Portugal	-2.8	-2.8	-4.4	-2.7	-2.9	-2.9
excluding the effect of temporary measures	-2.8	-3.2	-4.4	-4.1	-5.4	-5.2
Current account balance (as a percentage of GDP)						
US	-3.2	-4.2	-3.8	-4.5	-4.8	-5.7
Euro area	0.6	-0.1	0.4	1.0	0.5	0.6
Portugal (combined current and capital balance)	-6.3	-8.9	-9.1	-6.0	-3.3	-5.9
EUR/USD exchange rate (annual rate of change)	-14.0	-6.3	-5.6	18.0	20.0	7.6
Nominal effective exchange rate (annual rate of change)						
Euro area	-13.7	-2.2	-1.4	10.1	12.3	3.0
Portugal	-3.3	-1.2	0.4	1.6	2.4	0.4
Market risk						
3-month Euribor	3.4	4.9	3.3	2.9	2.1	2.2
Yield on Treasury bonds – euro area	5.5	5.0	5.1	4.3	4.3	3.7
PSI Geral index (annual rate of change)	12.6	-8.2	-19.0	-20.7	17.4	18.0
PSI Financial Services index (annual rate of change)	n.d.	7.9	-14.6	-24.8	4.0	12.0
Commissions on securities charged by banking groups (annual rate of change)	42.3	20.1	-12.4	-4.5	5.5	2.9
Liquidity risk						
For domestic banks						
Credit-to-deposit ratio	99.6	112.9	119.3	123.7	122.6	125.1
Coverage ratio of interbank liabilities by highly liquid assets	106.6	86.8	93.4	98.9	123.9	136.3
Liquidity gap as a percentage of total assets net of liquid assets						
up to 3 months	n.d.	n.d.	-3.5	-3.4	0.5	0.7
up to 1 year	n.d.	n.d.	-7.8	-7.6	-6.5	-4.8
	1999	**2000**	**2001**	**2002**	**2003**	**2004**

MAIN INDICATORS[a][b]

(cont'd)

Per cent

Credit risk						
Loans granted by resident banks to the non-financial private sector						
as a percentage of assets, on a consolidated basis	48.5	51.9	52.9	57.0	54.8	54.9
Household indebtedness						
as a percentage of disposable income	83	91	97	104	110	118
as a percentage of GDP	57	64	68	72	78	83
Indebtedness of non-financial corporations as a percentage of GDP	81	90	97	98	101	102
Credit and interest overdue (on a consolidated basis)						
as a percentage of claims on customers	n.d.	2.2	2.2	2.3	2.4	2.0
as a percentage of assets	n.d.	1.4	1.4	1.6	1.6	1.3
Non-performing loans to households[c]						
as a percentage of loans to households	2.1	1.8	2.0	2.1	2.4	2.2
Non-performing loans to non-financial corporations[c]						
as a percentage of loans to non-financial corporations	3.2	2.5	2.4	2.4	2.2	1.8
International exposure (of domestic banks)						
Share of external assets in total assets	n.d.	21.7	19.8	18.1	21.6	20.5
of which:						
Local assets denominated in local currency	n.d.	2.8	1.8	1.2	1.7	1.6
International assets, by counterparty sector						
Banking sector	n.d.	12.3	10.6	8.3	14.1	14.8
Non-banking sector	n.d.	6.6	7.4	8.5	5.8	4.0
Profitability and solvency						
ROE - Return on equity[b]	14.7	15.1	14.9	11.7	13.9	12.8
ROA - Return on assets[b]	0.92	0.91	0.85	0.65	0.78	0.76
Financial margin	2.45	2.21	2.24	2.12	2.00	1.94
Credit provisioning ratio, without country risk (percentage of gross credit)	2.93	2.73	2.58	2.49	2.61	2.69
Credit provisioning, without country risk (percentage of overdue credit)	119.8	135.1	126.4	120.6	123.0	144.5
Ratio of credit and interest overdue net of specific provisions to credit net of specific provisions	n.d.	0.72	0.71	0.85	0.66	0.34
Ratio of operational costs to gross income	63.1	58.2	57.6	59.1	57.4	57.2
Overall capital adequacy ratio	10.8	9.2	9.5	9.8	10.0	10.4
For domestic banks						
ROE – Return on equity[b]	14.4	15.9	15.1	11.3	13.6	12.2
ROA – Return on assets[b]	0.92	0.99	0.89	0.66	0.79	0.76
Ratio of credit and interest overdue net of specific provisions to credit net of specific provisions	n.d.	0.66	0.67	0.86	0.76	0.44
Overall capital adequacy ratio	10.7	8.9	9.2	9.5	9.9	10.4

SOURCES: ECB, Euronext Lisboa, Bloomberg, European Commission (AMECO), Federal Reserve Board, Eurostat and Banco de Portugal.
NOTES:
(a) End-of-period figures, except those marked, which refer to the whole period.
(b) The variables and concepts mentioned in this table are described in detail in the respective chapters.
(c) Credit and interest overdue and other non-performing loans .

BALANCE SHEET OF THE BANKING SYSTEM

On a consolidated basis

	Structure as a percentage of assets							Annual rate of change (per cent)		
	1998 Dec.	1999 Dec.	2000 Dec.	2001 Dec.	2002 Dec.	2003 Dec.	2004 Dec.	2002 Dec.	2003 Dec.	2004 Dec.
Cash and claims on central banks	4.7	4.9	3.8	3.6	3.1	5.1	2.7	-12.9	76.1	-44.0
of which: cash and claims on Banco de Portugal	4.5	4.6	3.4	3.2	2.8	4.7	2.4	-12.6	82.3	-46.6
Investment in other credit institutions	16.3	12.4	11.4	12.2	10.7	10.8	11.4	-10.6	8.4	10.0
in the country	n.d.	n.d.	4.4	4.6	3.4	2.6	2.9	-25.0	-16.7	15.9
abroad	n.d.	n.d.	7.0	7.6	7.3	8.2	8.5	-1.9	20.0	8.1
Claims on customers (net of provisions)	54.3	59.9	63.9	65.2	68.6	65.6	65.5	7.0	2.7	3.6
credit overdue	n.d.	n.d.	1.4	1.4	1.6	1.6	1.3	14.3	9.4	-14.7
provisions	1.4	1.1	1.0	0.9	1.0	1.2	1.1	7.4	27.1	-2.5
Securities and financial fixed assets (net of provisions)	17.6	14.5	14.8	12.9	11.4	12.3	14.1	-10.6	16.6	18.3
Of which: securities of public issuers (gross)	n.d.	n.d.	4.3	3.9	3.4	3.2	3.4	-9.7	1.6	7.9
Non-financial fixed assets	2.3	2.1	1.8	1.7	1.6	1.5	1.4	-3.3	-0.6	-5.2
Other assets	4.8	6.0	4.3	4.4	4.6	4.7	4.9	5.1	9.9	8.5
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0	1.6	7.4	3.8
Resources from central banks	0.9	1.4	1.4	1.0	0.5	1.0	1.2	-53.6	145.0	23.9
of which: Banco de Portugal	0.7	1.2	1.3	0.8	0.4	0.9	1.0	-54.3	168.3	15.5
Other credit institutions resources	21.9	20.5	20.7	20.5	19.3	17.9	15.6	-4.4	0.1	-9.8
in the country	n.d.	n.d.	4.0	4.0	2.7	1.8	2.3	-30.0	-28.3	28.0
abroad	n.d.	n.d.	16.7	16.5	16.5	16.1	13.3	1.8	4.8	-14.1
Resources from customers	61.3	58.3	55.9	53.9	53.8	51.7	51.9	1.4	3.4	4.1
By residence of the customer:										
Deposits of resident customers	n.d.	n.d.	43.9	40.9	41.2	38.7	38.9	2.3	1.0	4.2
Deposits of non-resident customers	n.d.	n.d.	12.0	13.0	12.6	13.0	13.0	-1.6	11.0	4.0
By type of deposit:										
Demand deposit	19.8	20.3	18.8	19.0	19.3	18.3	18.2	3.0	1.9	2.9
Time and savings deposits	41.5	38.0	37.1	34.8	34.4	33.3	33.7	0.4	4.1	4.9
Liabilities represented by securities	3.5	6.0	9.2	11.8	13.7	16.4	17.8	17.3	28.8	12.8
of which: bonds	2.7	4.6	7.3	9.8	10.9	12.3	13.4	13.2	21.1	13.0
Subordinated liabilities	2.0	2.1	2.2	2.9	3.1	2.9	2.9	8.0	1.9	3.7
Provisions	1.0	1.0	1.2	1.2	1.2	1.1	1.1	4.7	-4.1	3.6
Other liabilities	3.3	4.3	3.6	3.2	2.9	3.1	3.3	-5.5	14.0	9.7
Equity capital	6.2	6.3	5.8	5.5	5.6	5.8	6.1	2.5	11.1	10.3
Total liabilities and own funds	0.7	0.7	0.7	0.7	0.5	0.6	0.6	-18.7	28.6	-0.2

NOTE: For absolute figures, see the annex.

PROFIT AND LOSS ACCOUNT[a]

On a consolidated basis

	As a percentage of average assets							Annual rate of change (per cent)		
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2002**	**2003**	**2004**
1. Interest income	6.81	6.17	6.17	6.49	5.35	4.92	4.73	-12.5	-3.4	-0.2
2. Interest expenses	4.29	3.72	3.96	4.25	3.23	2.92	2.79	-19.3	-5.2	-0.8
3. Financial margin (1-2)	**2.52**	**2.45**	**2.21**	**2.24**	**2.12**	**2.00**	**1.94**	**0.2**	**-0.8**	**0.6**
4. Income from securities	0.07	0.06	0.07	0.08	0.07	0.05	0.06	-10.7	-16.2	10.2
5. Net commissions	0.74	0.76	0.70	0.63	0.63	0.69	0.76	5.3	15.8	13.9
6. Income from financial operations	0.32	0.27	0.26	0.16	0.16	0.18	0.16	4.7	20.9	-9.0
7. Income from affiliated companies and subsidiaries excluded from consolidation (net)[b]	0.05	0.03	0.10	0.06	0.04	0.13	0.12	-23.5	229.0	-2.5
8. Other operating profits (net)	0.22	0.22	0.17	0.24	0.25	0.29	0.31	10.4	19.0	12.2
9. Other current income (4+5+6+7+8)	**1.41**	**1.33**	**1.30**	**1.17**	**1.14**	**1.34**	**1.40**	**3.8**	**22.8**	**8.8**
10. Gross income (3+9)	**3.94**	**3.77**	**3.51**	**3.41**	**3.26**	**3.34**	**3.34**	**1.4**	**7.5**	**3.9**
11. Staff costs	1.33	1.27	1.11	1.03	1.00	1.00	0.99	3.3	4.9	2.6
12. Other administrative costs	0.80	0.79	0.69	0.70	0.69	0.69	0.70	4.3	4.8	5.6
13. Administrative costs (11+12)	**2.13**	**2.07**	**1.79**	**1.73**	**1.69**	**1.69**	**1.68**	**3.7**	**4.8**	**3.8**
14. Overall gross income (10-13)	**1.81**	**1.70**	**1.72**	**1.68**	**1.57**	**1.65**	**1.65**	**-0.9**	**10.3**	**4.0**
15. Extraordinary gains	0.17	0.40	0.27	0.01	0.06	0.06	-0.01	450.1	12.8	-110.9
16. Depreciation for the year	0.32	0.31	0.25	0.24	0.24	0.23	0.22	6.8	1.5	1.2
17. Net provisions	0.57	0.66	0.63	0.45	0.61	0.57	0.55	43.8	-1.7	1.0
18. Income before taxes and minority interests (14+15-16-17)	**1.09**	**1.12**	**1.11**	**1.01**	**0.78**	**0.91**	**0.87**	**-17.6**	**22.6**	**-1.3**
19. Taxes on profit for the year	0.25	0.20	0.19	0.16	0.13	0.13	0.10	-13.5	5.4	-17.5
20. Income before minority interests[c] (18-19)	**0.84**	**0.92**	**0.91**	**0.85**	**0.65**	**0.78**	**0.76**	**-18.4**	**26.0**	**1.4**
21. Minority interests (net)	0.19	0.22	0.21	0.15	0.12	0.13	0.14	-17.1	14.8	9.2
22. Profit/loss for the year (20-21)	**0.65**	**0.70**	**0.70**	**0.69**	**0.53**	**0.65**	**0.62**	**-18.7**	**28.6**	**-0.2**

NOTES:

(a) For absolute figures, see the annex.

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

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

2. Macroeconomic environment

2.1 International economy

In 2004 the world economy continued to grow at a remarkable pace. According to the IMF, world output growth is estimated to stand close to 5 per cent, i.e. the highest growth rate of the last three decades. This development pattern resulted from a recovery in industrialised economies (most notably in the US), as well as from strong growth in the emerging market economies, in particular in China and in some Latin American countries. The growth pace of the euro area economy also increased in 2004, despite remaining at relatively moderate levels and highly dependent on external demand developments.

The rebound in international economic activity has been associated with the robust growth of industrial production, investment, international trade flows, and foreign direct investment. Besides, private consumption has been recovering sharply, accompanied by a general improvement in labour market conditions. However, in the course of 2004, the strong increase in oil prices led to a weaker recovery of the world economy in the later months of the year.

In the context of the consolidation of the economic recovery and of some inflationary pressures, some central banks raised their official interest rates in the course of 2004. In the United States and in the United Kingdom, interest rates were raised throughout the year (by 1.25 and 1 percentage points (p.p.), respectively), while the central banks of the euro area and Japan kept their official interest rates unchanged at historically low levels.

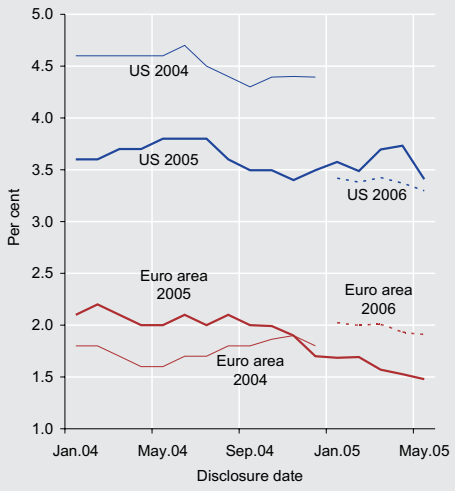
In 2005 the world economy should continue to record relatively high growth levels. In the United States, output growth is estimated to be slightly lower than in 2004, albeit remaining far higher than in the euro area, where the output growth rate is estimated to be slightly lower in 2005 than in 2004 (Chart 2.1.1). However, world economic developments may be conditioned by the trend of oil prices (Chart 2.1.2). The strong rise in oil prices was largely due to the marked growth of world demand. According to available forecasts, oil prices should remain high or may even increase. In the first months of 2005, oil prices continued to rise sharply, reaching new historical highs in nominal terms.

The external and fiscal imbalances in the United States are an important risk factor to world economic developments. Indeed, despite the significant growth of the US economy in 2004, the external deficit continued to widen throughout the year, a situation that is likely to persist in 2005 (Chart 2.1.3). These imbalances had a significant impact on foreign exchange markets, with the US dollar depreciating strongly since the beginning of 2002 (Chart 2.1.4). In 2004, the euro appreciated by approximately 8 per cent against the US dollar. On the one hand, the persistence of these imbalances may lead to an additional depreciation of the US dollar against other currencies, in particular against the euro. On the other hand, some factors may lead to an appreciation of the US currency (namely, the robust growth of the US economy, the widening of the interest rate differential between the United States and the euro area or the exchange rate policy pursued by some Asian central banks, which has supported the significant volume of capital flows required to finance the US deficits). The impact of the adjustment of the US imbalances in the world economy may differ, depending on whether this adjustment is gradual or abrupt. If the adjustment of demand is triggered by domestic factors (for instance, by an increase in the household savings rate and/or by the narrowing of the fiscal deficit) external borrowing re-

CHART 2.1.1

DEVELOPMENTS IN ECONOMIC GROWTH FORECASTS

Rate of change in GDP
United States and euro area



SOURCE: Consensus Economics.

CHART 2.1.2

OIL PRICE (BRENT)

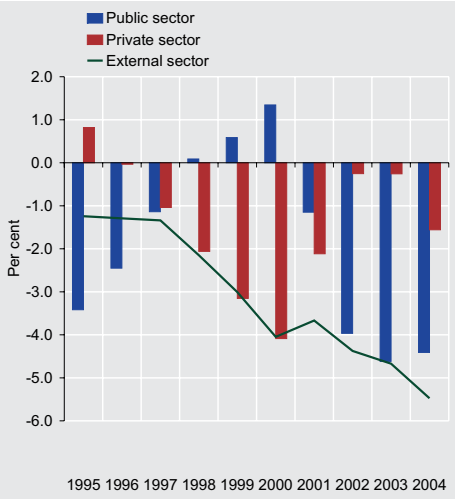
Monthly average

SOURCE: Bloomberg.

CHART 2.1.3

NET SAVINGS OF THE PUBLIC, EXTERNAL AND PRIVATE SECTOR

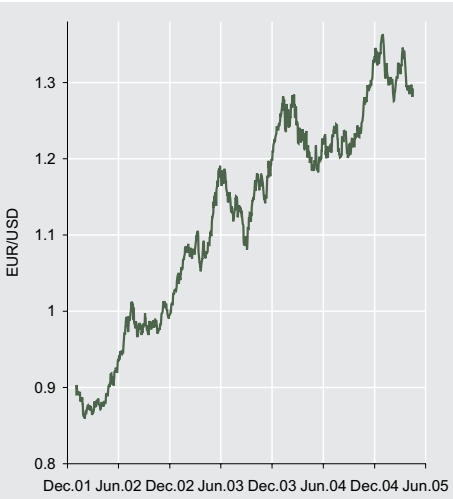
US



SOURCE: The Federal Reserve Board.

CHART 2.1.4

EUR/USD EXCHANGE RATE



SOURCE: Bloomberg.
NOTE: Latest observation 15/4/2005.

quirements are likely to decline, mitigating the pressures for depreciation of the US dollar and for the rise of long-term interest rates. However, if the adjustment is abrupt, resulting from external pressures from international financial markets participants, the foreign exchange and long-term interest rate adjustments may be much stronger. In this scenario, the increased depreciation of the US dollar and the marked rise in long-term interest rates, via an increased risk premium of US dollar denominated assets, may induce a contraction of demand in the United States.

The evolution of the Chinese economy may be an additional risk factor. Given the strong growth of this economy over the past years (according to IMF estimates, gross domestic

CHART 2.1.5

INFLATION EXPECTATIONS IMPLIED IN INFLATION-INDEXED BONDS

SOURCE: Bloomberg and Banco de Portugal.
NOTE: Latest observation 15/4/2005.

product increased 9.3 per cent in 2003 and 9.5 per cent in 2004), there are concerns related to an overheating in some sectors of the Chinese economy. Although a gradual slowdown of activity in China is anticipated, if the adjustment of these imbalances is abrupt, it may translate into a risk factor for the global economy.

In addition to the risk factors mentioned above, other risk elements may materialise in the course of 2005. On the one hand, it is possible that inflationary pressures will intensify, in particular in the United States, what may trigger a further monetary policy tightening (Chart 2.1.5). In addition, the high indebtedness levels of the private sector, in particular of households, recorded in the United States and in some European countries may also be risk factors, hampering the consolidation of the economic recovery against a backdrop of interest rate hikes.

Finally, the emergence of new participants in the world economy has increased international competition and affected differently euro area countries. For the euro area as a whole, this phenomenon, together with the appreciation of the euro, translated into a loss of exports market share. This may intensify in 2005 and translate into lower euro area growth. In turn, increased international competition has also mitigated wage pressures in the euro area as a whole, limiting the transmission of oil price rises to domestic prices, with favourable consequences on inflation developments. There are indications that this situation may likely continue into 2005, leading to a postponement of rises in the key ECB interest rates, which according to market expectations should not be seen before mid-2006.

2.2 The Portuguese economy

In 2004, unlike in the two previous years, the evolution of economic activity was characterised by the buoyant behaviour of private domestic demand, in particular of private consumption, and by a negative contribution of net external demand. The increase in the import penetration rate and the losses in exports market shares should be analysed in the light of the deterioration of the competitive position of the economy in the past few years,

which has been largely due to the cumulative growth of relative unit labour costs, in particular in a context of increased competition from the new participants in the world economy. Notwithstanding the strong growth of domestic demand, GDP growth continued to be rather limited (Table 2.2.1), corresponding to one of the lowest in the European Union (EU). This shows that in the case of a small open economy like the Portuguese, the maintenance of its international competitiveness is essential to ensure the growth of economic activity.

One of the major challenges faced by the Portuguese economy in the present and in the near future will be the correction of the high structural fiscal deficit. Although it is possible to anticipate growth costs in the short run associated with fiscal consolidation, the latter is required for the medium-term growth of the economy. Indeed, the past five years have been characterised by the interruption of the real convergence process with EU countries (in the past two years there was even some divergence), which was accompanied by high structural fiscal deficits. Unfavourable developments in the Portuguese economy in this period reflect a number of structural weaknesses, including the situation of public accounts, which limit the growth of productivity and which have made more difficult, on the one hand, to adapt to the new macroeconomic regime resulting from the participation in the euro area and, on the other, to respond to the strengthening of international competition. Thus, a coherent fiscal consolidation strategy is fundamental to meet the requirements of the Stability and Growth Pact.

The participation of Portugal in the euro area has dramatically reduced liquidity constraints. Apparently, it became possible to easily maintain a significant discrepancy between the growth of domestic demand and of income, which translates into the widening of the external deficit. This was accommodated through particularly favourable financing conditions in international financial markets. However, this leads to the persistent and sustained growth of indebtedness, which over time will require the correction of expenditure to meet increasing debt servicing costs, particularly in a context of possible interest rates hikes and/or shift in international financial markets sentiment. The postponement of the adjustment may lead to an abrupt correction with potentially very negative consequences on the economy and financial stability.

The adjustment of public accounts, while reducing pressure on domestic demand, tends to foster the shift of resources from the non-tradable to the tradable sector, inter alia, via lower pressure on domestic costs, thus limiting the real appreciation, with favourable consequences on the price-competitiveness of the economy. In turn, the adjustment of public accounts may also have positive effects on the efficiency of the economy and, therefore on medium-term growth, depending on the composition of the fiscal consolidation measures that will be taken.

As referred to above, notwithstanding the favourable consequences on medium-term growth, the Portuguese economy may experience a relatively protracted period of low growth in the coming years, which will desirably reflect a gradual adjustment to a new sustainable equilibrium. Short-term adjustment costs will be the lower, the more flexible the capacity of the economy to shift resources between the non-tradable and the tradable sectors. In this respect, it should be noted that the flexibility of wages might reduce the impact of the adjustment process of the economy on unemployment.

TABLE 2.2.1

GDP AND MAIN EXPENDITURE COMPONENTS[a]

Real rate of change, per cent

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

SOURCES: *Instituto Nacional de Estatística* (INE) and Banco de Portugal.
NOTES:
(a) Estimates of Banco de Portugal derived from INE's National Accounts for 1995 to 2003 (ESA95).
(b) Contribution to the rate of change in GDP, in percentage points.

This is particularly relevant as regards the repercussions on the banking system, since the more flexible the economy, the smaller the rise in unemployment, with less burdensome implications for the evolution of debt default and, consequently, for the financial situation of banks. On the other hand, the correction of the fiscal deficit should also be reflected in a smaller external deficit. Given the role that banks have played in the financing of the external deficit, this will translate into lower banks' external financing needs, limiting their exposure to shifts in international financial markets sentiment. However, the share of credit related to the real estate sector in banks' portfolios is a vulnerability factor of the banking system, in a context of domestic demand restraint.

In addition, the fact that the increased international competition is a global phenomenon, which has translated into lower wage pressures in the euro area despite the surge in oil prices, has favourable consequences on inflation and leads market participants to anticipate a rise in the key ECB interest rates not before mid-2006. Thus, at least in the initial adjustment stage of the Portuguese economy, no significant rises are to be expected in euro area interest rates and, therefore, tighter financing conditions are not anticipated in the short run.

Although some unfavourable impacts on the profitability of the banking system can be anticipated, derived from the above-mentioned adjustment process of the economy, taking into account the strengthening of the liquidity and solvency of banks in the past few years, these are expected to have the capacity to absorb this negative shock without jeopardising financial stability.

3. Market risk

3.1 Overall assessment

In 2004 there was a broadly based reduction in the degree of risk aversion of investors. Uncertainty levels, assessed by the volatility of financial markets, dropped to historical lows, despite the strong rise in oil prices, the depreciation of the US dollar and the persistence of macroeconomic imbalances (see Table 3.1.1). The low volatility levels in financial markets reflect the smooth adjustment of these markets to the beginning of the cycle of interest rate rises in the United States (given that the Federal Reserve had prepared the financial markets well in advance for a shift in its monetary policy), as well as the overall recovery of economic activity. Such recovery of economic activity has resulted in a reduction of credit risk and in an improvement in the outlook for corporate profitability. As a consequence, there was an overall reduction in bond spreads, as well as an improvement in the financing conditions of companies and emerging market economies, whose issuance activity increased significantly in the course of the year.

However, the low interest rate level and the increased willingness to assume risks have driven investors towards investments with higher profitability, leading to increased demand for bonds from issuers with relatively low ratings. This demand has led to a progressive convergence of spreads from issuers in different risk classes. Hence, the low levels of spreads in debt markets and, in particular, the narrowing of the differentials between spreads of issuers with different risk degrees, suggest that investors' discrimination in risk

TABLE 3.1.1

FINANCIAL INDICATORS

Changes with respect to 31/12/2004

	30-06-03	31-12-03	30-06-04	Max.[a]	Min.[a]	From 31-12-04 to 15-04-05
Stock Market						
(*rate of change, per cent*)						
Stock indices						
Dow Jones Euro Stoxx	26.2	10.0	6.0	-42.6	61.6	3.2
S&P 500	24.4	9.0	6.2	-20.7	56.0	-5.7
Nikkei 225	26.5	7.6	-3.1	-44.9	51.0	-1.0
PSI Geral	35.2	18.0	4.0	-33.8	56.8	3.7
Bond Market[b]						
(*change in levels, basis points*)						
Government debt Yields						
Europe	4.6	-42.8	-49.1	-226.9	34.4	-12.4
United States	102.1	48.9	-6.4	-305.2	130.7	23.4
Exchange Rate[c]						
(*rate of change, per cent)*						
EUR/USD	17.7	7.6	11.1			-4.6
USD/JPY	-14.3	-4.3	-5.6			5.0
Oil Price						
(*rate of change in USD, per cent*)						
Oil price (Brent)	46.3	34.0	19.3	-22.3	295.8	27.6

SOURCES: Merrill Lynch and Bloomberg.
Last observation:15-04-05.
NOTES:
(a) Maximums and minimums observed in the period 01-01-99 to 31-12-04.
(b) Merrill Lynch indices.
(c) USD depreciation is characterised by a negative sign.

pricing may be insufficient. A possible increase in interest rates may disclose some of these vulnerabilities, implying financing difficulties for some issuers, in particular for companies and emerging market economies with higher risk. In this context, it is important to understand whether the narrowing of spreads results chiefly from a real reduction of the issuers' risk (for instance, due to an improvement in the financial situation of companies) or whether it is related only to an accumulation of liquidity, resulting from the historically very low level of interest rates.

In Portugal, the volume of share and bond issuance by non-financial corporations decreased, being partially offset by the significant growth of net issuance of commercial paper. The trend of increased recourse to short-term financing, to the detriment of longer-term financing, was also seen in the United States and in the euro area. However, Portuguese financial companies opted for a different financing strategy, which led to a significant growth of medium and long-term bond issuance, with positive consequences on their liquidity indicators. In the Portuguese, like in the international stock markets, there was a rebound in both prices and transactions.

Favourable developments in international financial markets in 2004 led to better financing conditions of the Portuguese banks in these markets, as well as to favourable developments in their securities portfolios. Hence, there was an improvement in banks' latent losses on financial participations. Income from commissions charged by banks associated with capital markets also showed positive developments. Turning to the pension funds of bank employees, in 2003, there was an increase in the coverage of these funds, countering the rather negative trend seen in 2001 and 2002, which had been conditioned by unfavourable financial market developments. In 2004 financial market developments made a globally positive contribution to the valuation of the assets held by pension funds. Notwithstanding these developments, the difficulty in assuring the coverage of some pension funds of bank employees increased slightly. This derived from the immediate implementation of some principles of the International Accounting Standards, which imply an increase in the financing needs of funds' liabilities by reducing the discount rate used in computing such liabilities.

3.2 Financial markets

International financial markets

At the end of June 2004, and after a year of stability of the US official interest rates at 1 per cent, the Federal Reserve decided to start a cycle of interest rate rises, increasing interest rates (for the first time since May 2000) by 25 basis points (b.p.), to 1.25 per cent. The Federal funds rate was raised on several occasions in the following months, standing at 2.25 per cent in December[1]. The successive and gradual increases were justified by the consolidation of the recovery of economic activity and by improving labour market conditions. In the euro area, the key ECB interest rates have been kept unchanged since June 2003. Protracted signs of pick-up in economic activity, the appreciation of the euro and the maintenance of inflation expectations at a level deemed adequate have justified this behaviour. However, the ECB recognises that there may be some risks to price stability in the medium term, which may lead to a rise in the key ECB interest rates.

From mid-2004 onwards, following the decision of the Federal Reserve to raise the official interest rate, short-term interest rates increased in the United States, with a reversal in the

1. On 2 February, 22 March and 3 May 2005 this rate was further raised (by 25 b.p. on each occasion).

relationship with the comparable euro area interest rates. The latter remained relatively stable throughout 2004. In May 2005 expectations implied in futures contracts suggest that a rise in key ECB rates is not foreseen before the third quarter of 2006.

Long-term interest rates remained at historically low levels both in the United States and in the euro area. Yields on 10-year Treasury bonds in the United States and in the euro area had a rather similar behaviour in the course of 2003 and during part of 2004. The intervention of some Asian central banks, in order to prevent the appreciation of the respective currency against the US dollar, contributed to the developments seen in the US Treasury bond market. In the last quarter of 2004, when short-term interest rates in the United States were increasing, the yield on 10-year US Treasury bonds increased, deviating from the comparable euro area rate. The differential between yields in the United States and in the euro area at the end of 2004 may be related to relatively less favourable expectations about euro area growth (compared with the United States). In the first months of 2005, a significant differential persisted between the yields on Treasury bonds in the United States and in the euro area.

In the first half of 2004 some doubts were raised about the impact that a possible US monetary policy shift could have on the bond market. Similarities with February 1994, when the beginning of a cycle of interest rate hikes led to significant losses in the bond market created some uncertainty and gave rise to a temporary increase in the volatility of the bond market. However, considering that the interest rate rises had been carefully prepared by the Federal Reserve and that they were gradually introduced, markets reacted positively, with no significant disturbances. Excluding the fears that emerged about this episode, in general, 2004 was a relatively calm year, with a fall in the volatility of Treasury bond yields. At the end of 2004, the implied volatility in 10-year Treasury bonds in the United States had declined by 6 basis points from the peak reached in 2003.

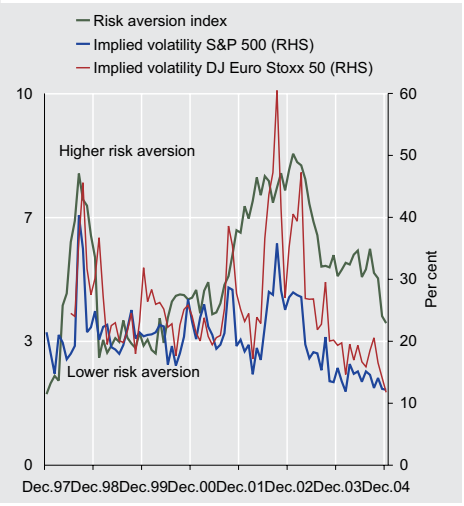
Activity in the capital markets was favoured by the recovery in economic activity in the course of 2004, as well as by lower risk aversion[2] (Charts 3.2.1 and 3.2.2). In the course of 2003 and 2004, risk aversion declined. This trend became even more marked at the end of 2004. The lower degree of risk aversion implied an increased preference by investors for assets with more volatile profitability. Hence, the lower risk aversion, which is consistent with the historically low spreads in debt markets and with the low volatility levels, has attracted investors to the capital market, adding to the creation of better financing conditions in several market segments. However, as referred to above, it may happen that investors are not demanding adequate yields to the risk levels taken. In fact, there is evidence that the discrimination between different degrees of risk has declined substantially, as debt spreads from issuers with different ratings came closer to each other.

In 2004, the net issuance of securities by euro area non-financial corporations decreased, countering the slight recovery trend seen in 2003. In turn, the volume of net issuance of US non-financial corporate debt was fairly significant in 2004, although slightly lower than in 2003. However, in the United States, borrowing by non-financial corporations expanded strongly (unlike in the euro area). As a result, debt flows of US non-financial corporate

2. The degree of risk aversion is measured using the risk aversion index of Goldman Sachs. This index is intended to be an estimate of the relative risk aversion coefficient of a representative US investor. It is constructed from an equilibrium consumption capital asset pricing model. Utility maximisation in this model imposes restrictions between consumption, returns on risky assets and returns on the risk-free asset. The relationship between these variables determines the relative risk aversion coefficient. For further details on the construction of this index, see Ades, A. and Fuentes, M. (2003), "Risk Aversion" in "The Foreign Exchange Market October 2003", Goldman Sachs.

CHART 3.2.1

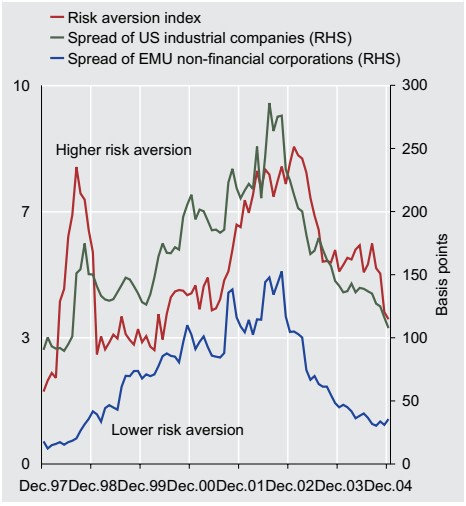
RISK AVERSION INDEX AND IMPLIED VOLATILITY IN STOCK MARKETS



SOURCES: Goldman Sachs and Bloomberg.

CHART 3.2.2

RISK AVERSION INDEX AND PRIVATE DEBT SPREADS



SOURCES: Goldman Sachs and Bloomberg.

debt (considering securities and loans) were close to the levels seen in 2001. The different developments in the total debt flow of non-financial corporations in the United States and in the euro area were in line with the differences in the recovery of economic activity in both regions. The degree of indebtedness of non-financial corporations, as a percentage of GDP, declined slightly from 2003 both in the United States and in the euro area. This ratio recorded similar developments in these two geographical areas, since although the debt increased more in the United States, output growth was also far higher in this country.

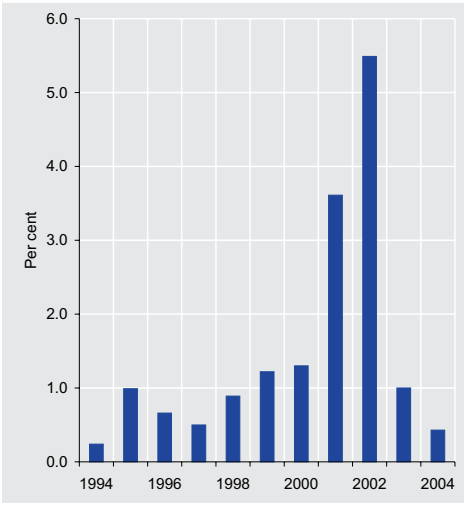
Overall, there was a rebound in the issuance volume in the primary equity market, consolidating the trend recorded in 2003. The increase in the volume of share issuance in the euro area may be partly related to the rise in the amounts involved in mergers and acquisitions, since part of these operations seem to have been financed through shares. It should be noted that although the amount involved in mergers and acquisitions was far higher in the United States, these developments were not accompanied by a similar growth in share issuance.

In the course of 2004, bond spreads of non-financial corporations continued to decline (Chart 3.2.2), although companies of the automobile sector faced some problems (with a slight widening of this sector spreads in the United States[3] and in the euro area). The broadly based narrowing of spreads, in particular of companies with worse rating, was favoured by the low interest rate levels and by the investors' increasing willingness to assume risks. Like in the previous year, investors preferred investments with higher profitability. In addition, the demand for bonds with lower ratings was favoured by the overall reduction of credit risk in bond markets, where delinquency rates were well below the peaks reached in 2002 (Chart 3.2.3). The reduction of credit risk was in line with the overall recovery in economic activity, with an improvement in corporate profits and with a slight reduction in the degree of corporate indebtedness, as a percentage of GDP.

3. In May 2005 the ratings of General Motors' and Ford's debt were downgraded by S&P. The downgrade to junk status was chiefly justified by the fall in sales and earnings in the first quarter of the year.

CHART 3.2.3

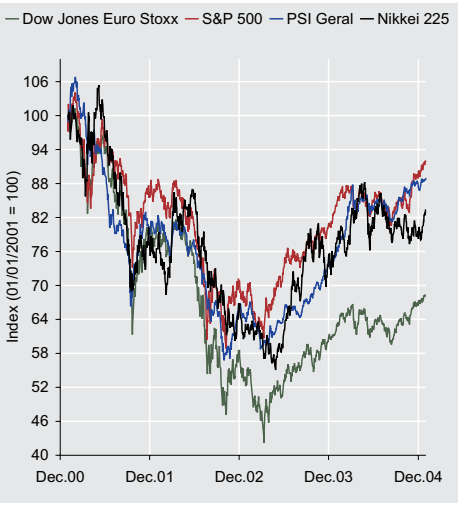
PERCENTAGE OF DEFAULTED BONDS (WEIGHTED BY VOLUME)



SOURCE: Moody's Investor Service.

CHART 3.2.4

STOCK MARKETS INDICES



SOURCE: Bloomberg.
NOTE: latest observation: 31/12/2004.

Following developments in the second half of 2003, the main stock market indices continued to show an increasing trend (Chart 3.2.4). At the end of 2004 and in view of the lower levels recorded between the end of 2002 and the beginning of 2003, the Dow Jones Euro Stoxx Index increased by 62 per cent, while the remaining indices (Nikkei 225 and S&P 500) increased 51 and 56 per cent, respectively. However, in the course of the year (and, in particular in the first half-year), concerns about the impact that the surge in oil prices might have on economic growth (more than the risk of inflationary pressure) and uncertainty about shifts in the US monetary policy had a negative effect on stock markets. Towards the end of the year, the reduction of uncertainty about the oil price led to some recovery in stock market indices, which persisted into the first months of 2005 in the euro area.

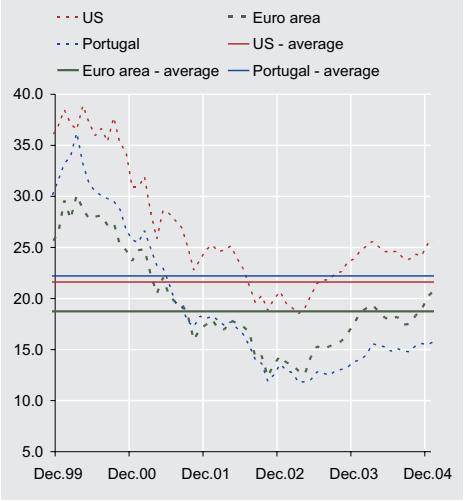
The volatility of equity markets has been decreasing since the end of 2002 (Chart 3.2.1), in part as a result of prospects of an increase in earnings and of a reduction in corporate indebtedness. However, although the volatility levels seen in 2004 were rather low compared with those recorded in the 1997-2003 period, the same does not apply when taking into account a longer period (for instance, 1990-2003).

The increase in the main stock market indices in the course of 2004 gave rise to an increase in the corresponding price-to-earnings ratios[4] (PER), notwithstanding the broadly based growth of corporate earnings (Chart 3.2.5). In the United States, this ratio increased slightly, remaining above its historical average. However, the PER derived from analysts' estimates compiled by Reuters for 2005 point to a reduction from the levels seen in 2004 (Table 3.2.1). In turn, the PER in the euro area also improved throughout the year, standing at around its historical average. Forecasts for 2005 also anticipate a reduction in the PER for euro area companies.

4. The price-to-earnings ratio (PER) represents the ratio between the market value of a company's equity and net earnings, for a certain period. In order to avoid some volatility of the series as a result of the disclosure of earnings, a moving average of the last five years earnings was taken into account.

CHART 3.2.5

PRICE TO EARNINGS RATIOS

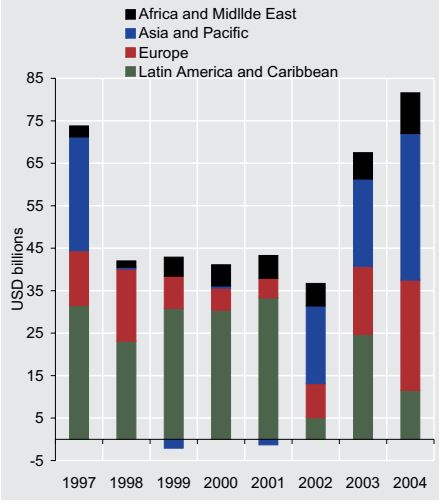


SOURCES: Thomson Financial Datastream and Banco de Portugal.
NOTE: Averages for the period from January 1983 to March 2005 (except for Portugal, where the average covers the period from January 1995 to March 2005). PER calculated as the ratio of the price index to the moving average of the last five years earnings.

CHART 3.2.6

INTERNATIONAL DEBT INSTRUMENTS ISSUED BY EMERGING MARKETS

Net issuance



SOURCE: BIS.

TABLE 3.2.1

PRICE-TO-EARNINGS RATIOS

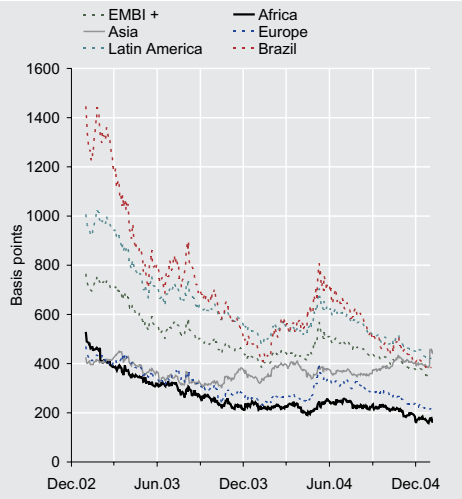
	31-12-2004[a]	2004[b]	2005[b]
Dow Jones Euro Stoxx index	14.9	13.7	12.6
Banks	13.1	12.7	11.4
Insurance companies	12.4	12.6	11.2
Financial services (other)	17.7	20.1	16.7
Technology	21.3	21.4	19.0
Telecommunications	22.2	16.5	13.8
S&P 500 index	19.2	18.0	16.4
Financial sector	14.4	13.7	12.3
Banks	13.0	13.0	12.2
Insurance companies	14.2	13.6	11.2
Technology	26.2	25.4	21.7
Telecommunications	18.5	16.7	16.3

SOURCE: Reuters.
NOTES:
(a) Taking into account the results disclosed for the last fiscal year (2003).
(b) Using estimates of earnings for the 2004 and 2005 fiscal years.

Emerging market economies continued to take advantage of the favourable financing conditions already seen in 2003. Hence, international financial flows increased, exceeding the amounts observed in 1997, i.e. before the Asian and Russian crises (Chart 3.2.6). It should be noted however that financing broken down by geographical areas differed markedly in 1997 and in 2004, with a substantial decline in Latin American and Caribbean debt flows, counterbalanced by an increase in European and Asian financing flows. In turn, spreads fluctuated throughout the year, with a sharp increase between April and May, as a result of uncertainty about changes in the US monetary policy. However, the increase in spreads was reversed and at the end of 2004 they stood quite close to the levels recorded at the beginning of the year (Chart 3.2.7). The persistence of historically

CHART 3.2.7

SPREADS BETWEEN GOVERNMENT BONDS ISSUED BY EMERGING MARKET ECONOMIES AND US TREASURY BONDS[a]



SOURCE: J.P.Morgan Chase.
NOTES: latest observation: 31/12/2004.
(a) EMBI+.

low emerging market debt spreads is consistent with the rather low levels of risk-free interest rates, making investments in assets with higher underlying risk relatively more attractive. In addition, the narrowing of the spreads in these markets seems to be also partly related to the overall improvement of the economic situation in some of these countries.

Financial markets in Portugal

In 2004 the yield on Portuguese Treasury bonds declined compared with the previous year, in line with developments in other euro area countries. The decrease in the yield on Portuguese bonds was slightly more significant than on German bonds. This led to the narrowing of the spread between the yield on Portuguese public debt securities and comparable German yields, in particular in the second half of the year, notwithstanding the Portuguese fiscal situation (Chart 3.2.8). In October, Standard & Poor's revised the outlook for Portugal from stable to negative.

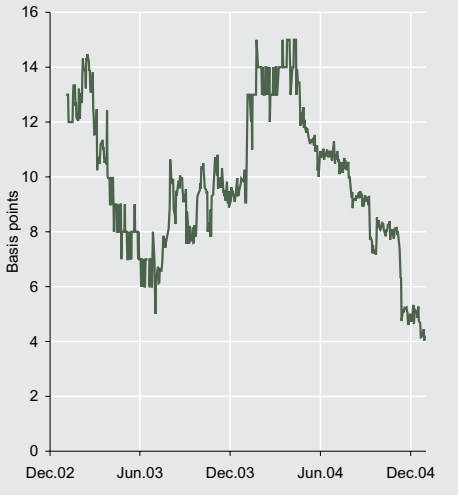
In 2004 the volume of share issuance by financial and non-financial companies listed in Portugal increased by approximately 68 per cent (Chart 3.2.9). Non-financial companies were responsible for the near entirety of the issuance volume, around half of which was related to the issuance of shares of EDP - *Energias de Portugal, S.A.* (electricity company). By contrast and unlike in the two previous years, there was no significant issuance by listed financial companies.

In line with developments in the euro area, the volume of bond issuance by Portuguese companies, in Portugal and abroad, declined significantly from the previous year (Chart 3.2.10). In particular, total net issuance by non-financial companies was negative[5]. In contrast, there was a significant growth of net issuance of commercial paper by Portuguese non-financial companies in Portugal and abroad (Chart 3.2.11). In 2003 the net issuance of these debt securities had been negative, as a result of declining borrowing require-

5. It should be noted that these values do not include issuance by subsidiaries and branches abroad; although, unlike the case of financial companies, this issuance represents a negligible share of non-financial companies' funding. These issues also recorded a strong decrease in 2004.

CHART 3.2.8

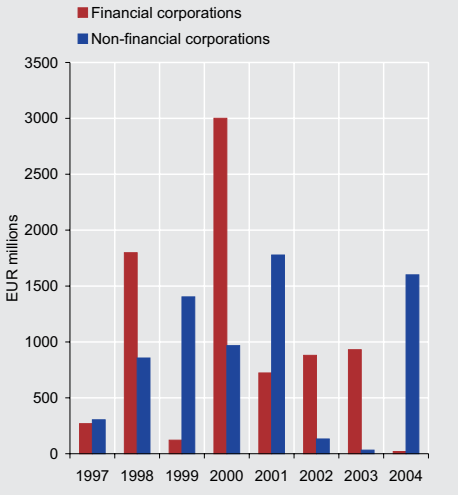
SPREAD BETWEEN THE PORTUGUESE PUBLIC DEBT AND THE GERMAN PUBLIC DEBT (10 YEARS)



SOURCE: Reuters.
NOTE: Latest observation: 31/12/2004.

CHART 3.2.9

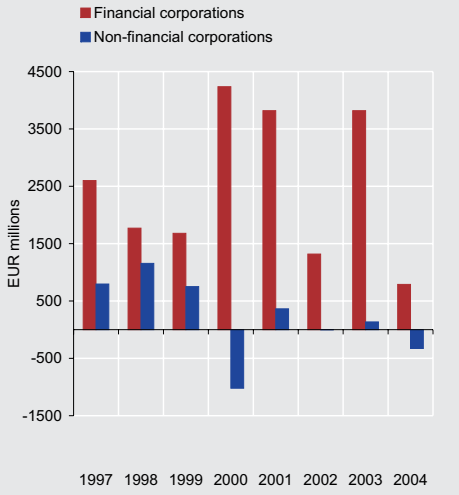
NET SHARE ISSUANCE IN PORTUGAL (LISTED COMPANIES)



SOURCE: Banco de Portugal.

CHART 3.2.10

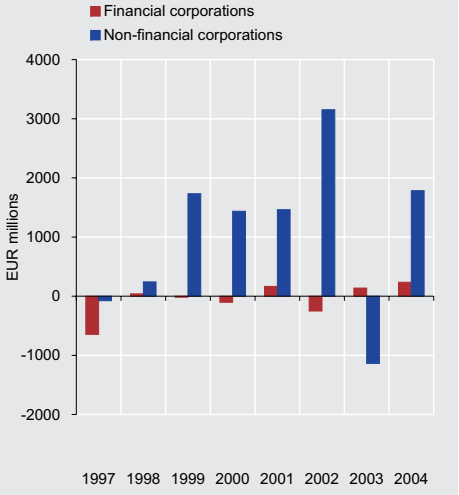
NET BOND ISSUANCE IN PORTUGAL AND IN EXTERNAL MARKETS[a]



SOURCE: Banco de Portugal.
NOTE:
(a) Excluding issuance by non-resident affiliated companies and branches belonging to Portuguese (financial and non-financial) economic groups.

CHART 3.2.11

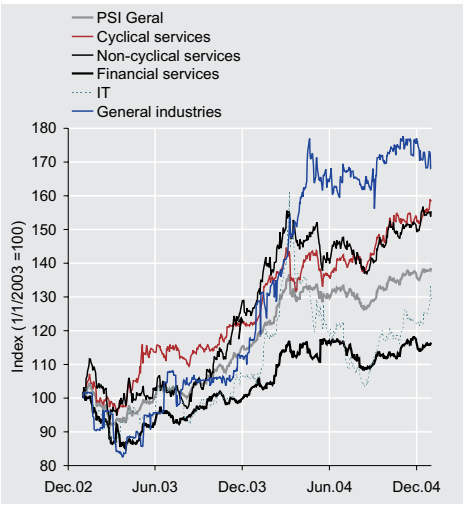
NET COMMERCIAL PAPER ISSUANCE IN PORTUGAL AND IN EXTERNAL MARKETS[a]



SOURCE: Banco de Portugal.
NOTE:
(a) Excluding issuance by non-resident affiliated companies and branches belonging to Portuguese (financial and non-financial) economic groups.

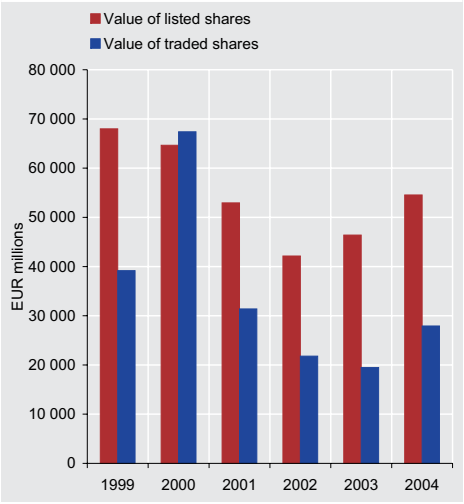
ments of large companies, which, in Portugal, tend to use the issue of commercial paper as a close substitute for short-term bank financing. In 2004 the borrowing requirements of non-financial companies increased, with a strong growth of the issuance of this type of securities, which was not matched by a comparable growth of loans, in line with the above-mentioned high degree of substitution between these two instruments (in 2004 loans of the resident financial sector to non-financial companies increased only around 2.5 per cent). In addition, in the course of 2004, borrowing from import suppliers increased, mirrored in the growth of trade credit granted by non-residents. Taking into account the overall amount of these financing sources (loans, securities other than shares

CHART 3.2.12
PORTUGUESE STOCK PRICE INDEX



SOURCES: Euronext Lisboa and Bloomberg.
NOTE: Latest observation: 31/12/2004.

CHART 3.2.13
SECONDARY MARKET



SOURCE: Euronext Lisboa.

and trade credit), the indebtedness of non-financial companies, as a percentage of GDP, increased slightly in 2004 (see Chapter 5. Credit Risk).

In turn, net issuance of bonds by financial companies dropped by around 80 per cent from 2003. It should be noted, however, that this figure does not include issuance by branches and subsidiaries abroad, which represents a substantial share of the financing of the major Portuguese banking groups (see Chapter 4. Liquidity Risk). As in previous years, in 2004 Portuguese banks resorted strongly to this type of financing[6] (net issuance stood close to the volume recorded in 2003). In addition, in 2004, securitisation by the financial sector was significant, albeit lower than in 2003. However, one Portuguese banking group kept all debt securities resulting from securitisation operations. Hence, in net terms, securitisation transactions accounted for only a small share of the financing of the Portuguese banking system in 2004 (see Chapter 4. Liquidity Risk).

Turning to the stock market, the PSI Geral index continued the recovery trend seen since mid-2003. In the course of 2004 this index had a positive change of 18 per cent, i.e. far above that of the Dow Jones Euro Stoxx index (approximately 10 per cent). The valuation of the Portuguese stock market index was concentrated in some specific sectors, of which the cyclical services sector was particularly important, with a 29.3 per cent appreciation[7] (Chart 3.2.12). Like in the major world stock markets, there was a sharp fall in Portuguese share price volatility. In 2004, the volume of traded shares recovered by 43 per cent (Chart 3.2.13), while there was an 18 per cent increase in the stock market capitalisation, giving rise to an increase of approximately 10 p.p. in the average turnover ratio[8].

The price-to-earnings ratio increased significantly in the first months of 2004, having stabilised since then (Chart 3.2.5). This increase is related, on the one hand, to the relatively

6. It should be noted that most of these issues are denominated in euro. Therefore, the foreign exchange risk associated with this type of financing is negligible.
7. The sectoral index of cyclical services includes audiovisual, concession of motorways and tourism companies. In the course of 2004, the general industry and information technology sectors also recorded a significant appreciation. However, these two sectors have a reduced weight in the general index.

strong rise in share prices in the stock market and, on the other, to the release of worse than expected results by some quoted companies. However, this ratio continues to stand well below its historical average.

3.3 Financial system and capital markets

The financial sector tends to be sensitive to fluctuations in economic activity and to capital market developments. The negative trend of financial markets in 2002 strongly conditioned the financial situation of both the banking sector and insurance companies. In turn, the rebound in the markets in 2003 made a positive contribution to the reversal of this situation, with a positive change in share prices of European and US banks.

In 2004, in line with the trend observed in 2003, the increase in the stock market indices of the banking sector was slightly higher than in the markets in general (both in Europe and US markets). Share prices of the banking sector increased around 11 per cent throughout the year, while the general index appreciated by 9 per cent in the United States and by 10 per cent in the euro area (Charts 3.3.1 and 3.3.2). The situation of insurance companies shows some differences. In the euro area, share prices of insurance companies were broadly in line with the market trend, but with a lower valuation level. In the United States, share prices of insurance companies followed the market trend for most of the year, but recorded a negative deviation in the last quarter.

The stock prices of Portuguese banks moved closely in line with the PSI Geral index in the course of 2004 (Chart 3.3.3). The index of Portuguese banks[9] recorded a gain of 12 per cent[10], but like in the previous year, these gains were lower than those of the PSI Geral index, which appreciated by 18 per cent. At the end of 2004, the share prices of the Portuguese three largest quoted banks remained at levels close to those seen at the end of the previous year, which is confirmed by the trend of the index comprised of only these three banks (Chart 3.3.4). Even though, developments in the share prices of these banks were positive (like in 2003), mostly when compared with 2002 (although in that year individual performances were relatively diverse).

In the euro area, the price-to-earnings ratio of the banking sector increased slightly, while in the United States it showed an opposite trend (Chart 3.3.5). In turn, the ratio of Portuguese banks recorded moderate growth, although this trend was also largely related to the strong growth of share prices of *Banco Totta & Açores* in May 2004. According to Reuters estimates, in 2005 there may be some reduction of the price-to-earnings ratios of the banking sector worldwide (Table 3.2.1).

In 2003 the spreads of debt securities issued by euro area banks narrowed sharply after the peaks recorded at the end of 2002 (Chart 3.3.6). In the first half of 2004 the spreads of these securities interrupted this trend of strong decline, remaining relatively stable at historically low values[11]. In the last months of the year, spreads decreased further. It should be noted that the degree of differentiation between the above-mentioned debt security spreads issued by European banks with different levels of subordination decreased in the course of 2004, although less markedly than in 2003.

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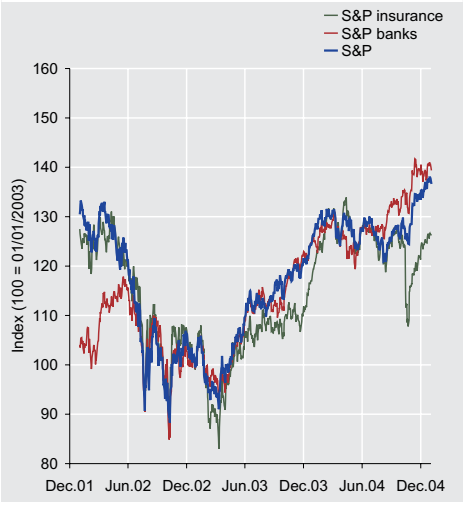
8. The turnover ratio is defined as the ratio between the value of traded shares and the value of listed shares.
9. The Financial Services PSI sectoral index is only comprised of banks.
10. The performance pattern of the stock market index of Portuguese banks was largely related to the strong rise in share prices of *Banco Totta & Açores* in May 2004. However, it should be noted that the shares of this bank are relatively concentrated and traded with low frequency. Therefore, these changes should be interpreted with some caution. Share prices of the other banks quoted in Portugal recorded lower increases.
11. See the article entitled "Determinants of banks' financing costs in the bond market".

CHART 3.3.1

SHARE PRICES OF THE BANKING AND INSURANCE SECTORS VS THE TOTAL STOCK MARKET

US – Standard & Poors *500*

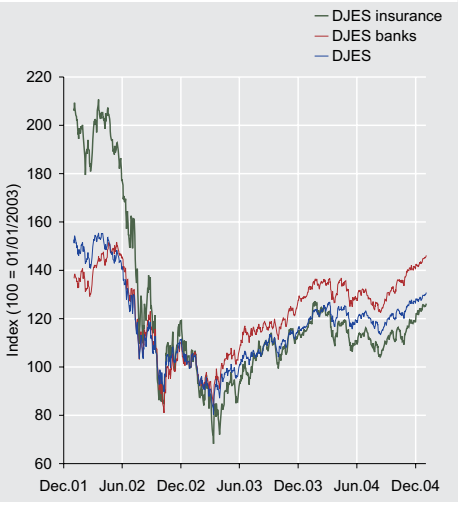


SOURCE: Bloomberg.
NOTE: Latest observation: 31/12/2004.

CHART 3.3.2

SHARE PRICES OF THE BANKING AND INSURANCE SECTORS VS THE TOTAL STOCK MARKET

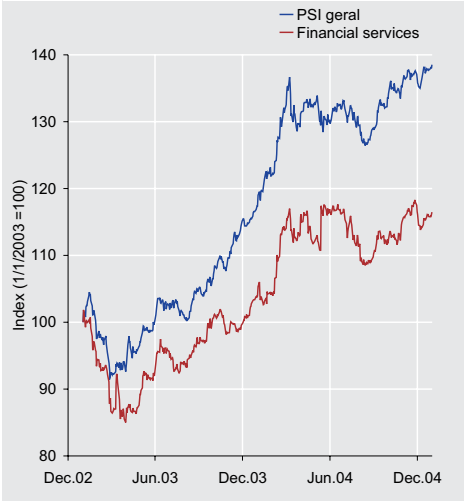
Euro area – Dow Jones Euro Stoxx



SOURCE: Bloomberg.
NOTE: Latest observation: 31/12/2004.

CHART 3.3.3

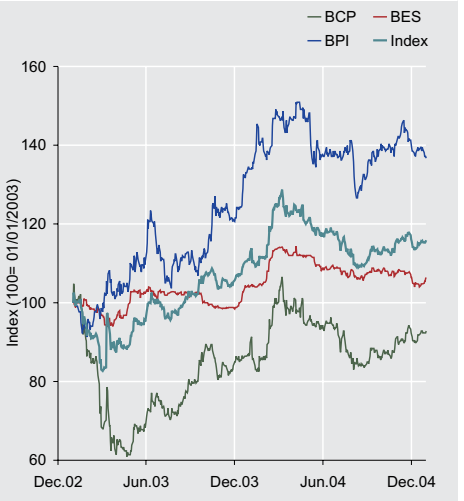
SHARE PRICES OF THE PSI FINANCIAL SERVICES INDEX[(a)] AND THE TOTAL STOCK MARKET



SOURCES: Euronext Lisboa and Bloomberg.
NOTES: Latest observation 31/12/2004.
(a) All companies included in the PSI Financial Services are banks.

CHART 3.3.4

SHARE PRICES OF THREE PORTUGUESE BANKS AND THE INDEX COMPRISED OF THE SAME BANKS



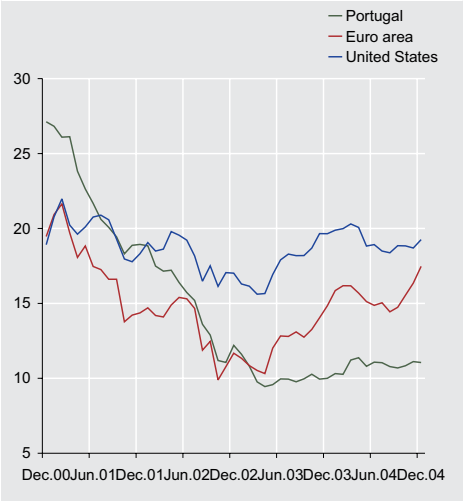
SOURCES: Bloomberg and Banco de Portugal.
NOTES: Latest observation: 31/12/2004.
The index is calculated by keeping unchanged in the denominator the capitalisation as at 31/12/2003.

In 2004 the spreads of securities issued by Portuguese banks narrowed further, like those of other European banks, standing at very low levels (Charts 3.3.7 and 3.3.8 and Table 3.3.1). However, this narrowing was not so marked as in 2003, when spreads declined sharply from the very high levels recorded at the end of 2002. This improvement in the financing conditions of Portuguese banks in international debt markets translated into a significant volume of issuance through branches and subsidiaries abroad in the course of 2004, as it had happened in 2003 (see Chapter 4. Liquidity Risk).

Through the monitoring of the price of credit default swaps (CDS) it is possible to understand how market participants assess the evolution of credit risk of a specific institution[12].

CHART 3.3.5

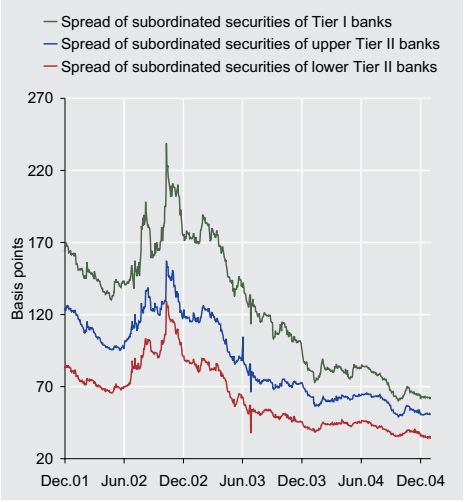
PRICE-TO-EARNINGS RATIO OF THE BANKING SECTOR



SOURCES: Thomson Financial Datastream and Banco de Portugal.
NOTE: PER calculated as the ratio of the price index to the moving average of the last five years earnings.

CHART 3.3.6

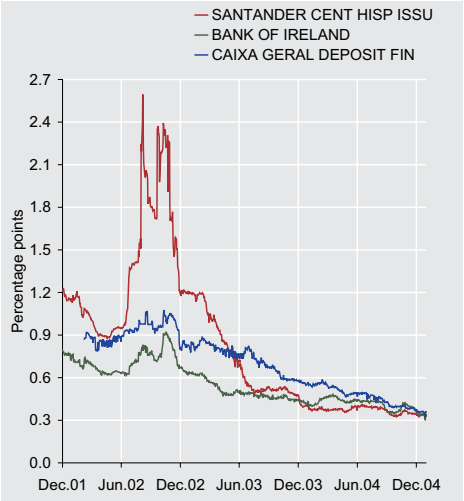
SPREADS BETWEEN SUBORDINATED SECURITIES ISSUED BY EUROPEAN BANKS (DENOMINATED IN EURO) AND TREASURY BONDS



SOURCES: JP Morgan and Bloomberg.
NOTE: Latest observation: 31/12/2004.

CHART 3.3.7

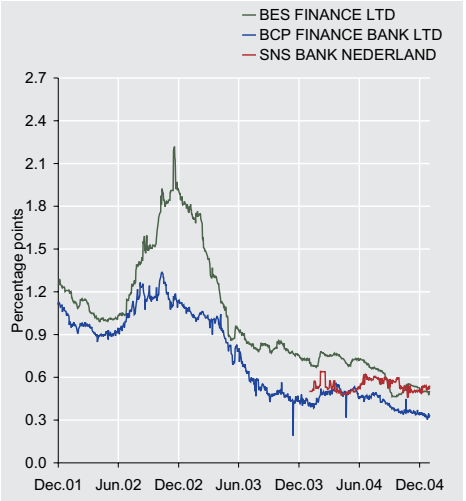
SPREADS OF SUBORDINATED FIXED-RATE DEBT SECURITIES ISSUED BY EUROPEAN BANKS
Rating A



SOURCES: Bloomberg and Banco de Portugal.
NOTES: Latest observation: 31/12/2004.
Spreads derived from the yield of German Treasury bonds with comparable residual maturity.

CHART 3.3.8

SPREADS OF SUBORDINATED FIXED-RATE DEBT SECURITIES ISSUED BY EUROPEAN BANKS
Rating A-



SOURCES: Bloomberg and Banco de Portugal.
NOTES: Latest observation: 31/12/2004.
Spreads derived from the yield of German Treasury bonds with comparable residual maturity.

There are CDS only for some of the major Portuguese banks and, among these, only a few are traded with some frequency, which is a major limitation to the analysis of these indicators. Notwithstanding this limitation, available data on CDS for these banks (BES and BCP) suggest that the market makes a favourable assessment of the credit risk inherent in these institutions, compared with an index of similar instruments on the euro area financial sector.

12. Credit default swaps (CDS) are credit derivatives, providing protection against the default of a given company.

TABLE 3.3.1

SPREADS OF FIXED-RATE SECURITIES ISSUED BY EUROPEAN BANKS

	Subordinated (Y/N)	Maturity	Rating Bloomberg Composite[(a)]	Spread 31/12/04 (p.p.)	Change since 31/12/03 (p.p.)	Change between the maximum and 31/12/04[(b)]
RABOBANK	N	05-06-2006	AAA	0.14	-0.02	-0.09
BANCO BPI SA, CAYMAN	**N**	**31-08-2006**	**A-**	**0.40**	**-0.15**	**-0.88**
BANCO BPI SA, CAYMAN	**N**	**31-08-2007**	**A-**	**0.34**	**-0.08**	**-1.00**
BCP FINANCE BANK LTD	**N**	**31-08-2007**	**A**	**0.34**	**-0.08**	**-1.00**
SNS BANK NEDERLAND	N	05-11-2007	A	0.40	-0.09	-0.65
SNS BANK NEDERLAND	N	14-02-2008	A	0.34	-0.06	-0.66
RHEINHYP BK EUROPE PLC	N	12-03-2009	A	0.24	-0.14	-0.63
BBV INT'L FIN (CAYMAN)	N	24-12-2009	A+	0.42	-0.22	-0.99
HYPOVEREINS FINANCE NV	Y	12-03-2007	BBB+	0.62	-0.22	-2.40
HYPOVEREINS FINANCE NV	Y	25-02-2008	BBB+	0.61	-0.24	-2.19
BCP FINANCE BANK LTD	**Y**	**29-03-2011**	**A-**	**0.40**	**-0.31**	**-1.94**
BES FINANCE LTD	**Y**	**17-05-2011**	**A-**	**0.50**	**-0.23**	**-1.72**
CAIXA GERAL DEPOSIT FIN	**Y**	**12-10-2009**	**A**	**0.36**	**-0.21**	**-0.71**
BANK OF IRELAND	Y	10-02-2010	A	0.34	-0.09	-0.58
BBV INTL FINANCE LTD	Y	25-02-2010	A+	0.28	-0.10	-1.48
ING BANK NV	Y	15-06-2010	A+	0.27	-0.14	-0.64
ABN AMRO BANK NV	Y	28-06-2010	A+	0.28	-0.13	-0.84
SANTANDER CENT HISP ISSU	Y	05-07-2010	A	0.35	-0.07	-2.25
SANTANDER CENT HISP ISSU	Y	14-03-2011	A	0.37	-0.08	-2.16
SNS BANK NEDERLAND	Y	15-04-2011	A-	0.54	0.04	-0.45
Average				0.38	-0.13	-1.16

SOURCES: Bloomberg and Banco de Portugal.
NOTES:
(a) Bloomberg Composite - average of Moody's and S&P's ratings.
(b) Maximum observed since the beginning of 2002.

The deterioration of the financial situation of some companies gave rise to a large volume of rating downgrades in the past few years. However, this trend has been gradually reversed and, at the end of 2004, for the first time since early 2001, the number of upgrades was again higher than that of downgrades. Rating agencies have also made a positive reassessment of the situation of the major Portuguese banks since mid-2003, countering the negative assessment of some banks in 2002, which had been chiefly mirrored in the outlook for credit ratings, as actual downgrades were only occasional. In the course of 2004, Fitch revised the outlook for BCP from negative to stable. In turn, BTA rating was subject to several upward revisions: S&P made an upgrade in January 2004, counterbalancing the downgrade made in July 2002; Fitch also made an upward revision in October and at the beginning of 2005 Moody's made an upward revision of the Bank Financial Strength Rating of this institution[13]. According to the rating agencies, these upward revisions were related, on the one hand, to the improvement of the situation of Banco Santander Central Hispano (the parent-undertaking of the BTA group) and, on the other hand, to the good profitability, liquidity, solvency and asset quality levels recorded by this institution. In October 2004, Fitch gave a negative outlook for *Montepio Geral*, suggesting that it may eventually downgrade its rating in the short or medium run.

3.4 Impact of capital market developments on Portuguese banks

The direct effects of capital market developments on banks are reflected not only in their financing conditions in these markets, but also in the commissions generated from capital market-related activities, as well as in changes in the value of securities portfolios held by

13. The Bank Financial Strength Ratings represents a measure of the probability of a bank resorting to external support, assessing the safety and soundness of the bank itself and excluding external credit risks and external credit support elements.

banks, pension funds of bank employees and insurance companies in which the banking groups hold participations.

The downward pressure on interest rate margins of Portuguese banks observed in the last few years led to the demand for alternative income sources, namely securities fees. These commissions depend on the preparation of new securities issues in the primary market and on the management, domiciliation (namely of shares and units of investment funds) and operations on these securities.

In 2001 and 2002, as a result of unfavourable capital market developments, commissions and fees related to capital market developments decreased (Chart 3.4.1). In 2003 there was a reversal in this situation and fees increased by around 5 per cent, as a result of the positive developments in bond market prices in the first half of the year and in the equity market from March onwards. In 2004 fees related to capital markets increased further (by approximately 3 per cent), partly as a result from the positive developments in share prices.

In 2004 the gross value of the securities portfolio and of financial fixed assets of Portuguese banks increased by 17.8 per cent (Chart 3.4.2), i.e. slightly more than in the preceding year. Bonds and other fixed-income securities - in particular those issued by private foreign issuers - made the most important positive contribution to this increase. However, developments in fixed-income securities of foreign private issuers reflected the fact that one banking group kept in its balance sheet the securities resulting from a mortgage securitisation operation, as had already happened by the end of 2003. Excluding this operation, the growth of the securities portfolio and of financial fixed assets continues to be quite significant (around 9.3 per cent); the major contribution coming from bonds of national private issuers and foreign public issuers. This significant growth suggests that, in 2004, banks' securities portfolio continued to increase in line with developments in 2003, offsetting the securities sales that had been made in 2002 in order to obtain financing, against a background of adverse conditions in international debt markets. In addition to this volume effect, the growth of the securities portfolio was also related to favourable financial market developments in 2004, which gave rise to a valuation of part of the assets held[14]. It should be noted that the large majority of the assets held in portfolio are denominated in euro and therefore the foreign exchange risk inherent in such investments is relatively negligible.

Negative developments in share prices in 2001 and 2002 affected the value of the financial holdings held by Portuguese banks. This gave rise to significant latent losses on financial participations, which implied an increased provisioning effort in the following years[15]. In 2003 the rebound in share prices in the national and international market reduced latent losses recorded in the preceding year. In 2004 the persistence of the recovery in the stock market and the provisioning effort chiefly made by an institution, in anticipation of the impact of the implementation of the International Accounting Standards

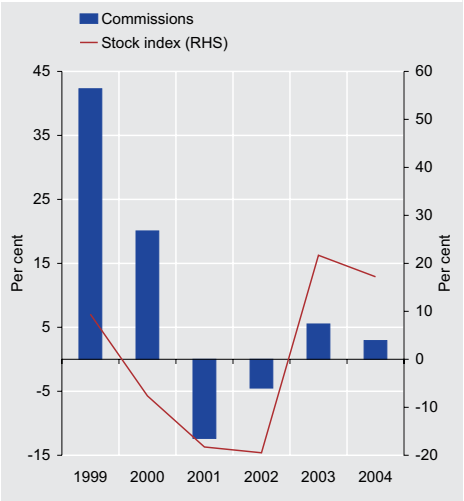
14. Only the trading book is registered at market value. In 2004, like in 2003, the trading book increased strongly contributing, in part, to the valuation of the securities portfolios.

15. The provisioning for latent losses on financial participations is regulated by Notice No 4/2002, which introduced new requirements on the provisioning level and on the deduction from own funds, related to the above-mentioned latent losses. This Notice defines a transitional regime, as regards both the setting up of provisions and the deduction from own funds. In addition, in accordance with this regime, provisions set up in 2002 and 2003 were recorded against reserves. Subsequently, through Notice No 4/2004, the possibility of these provisions being recorded against reserves was extended into 2004 (with no impact on the results for the fiscal year), reflecting a harmonisation with the principles of the International Accounting Standards (which became effective at the beginning of 2005).

CHART 3.4.1

SECURITIES-RELATED COMMISSIONS

Year-on-year rate of change

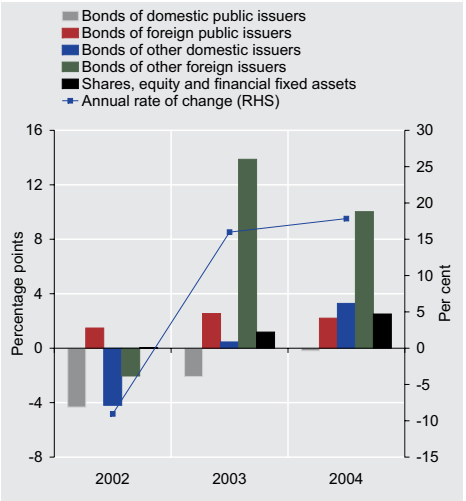


SOURCES: Datastream and Banco de Portugal.

CHART 3.4.2

SECURITIES AND FINANCIAL FIXED ASSETS (NET OF PROVISIONS)

Annual rate of change and contributions by assets category



SOURCE: Banco de Portugal.

(IAS), made a decisive contribution to the reduction in the provisioning amounts and/or in the amounts to be deducted from own funds (see Chapter 7. Regulatory Framework).

Latent losses are calculated as the difference between the securities acquisition value and its current market value, whenever this difference is positive. The main purpose of the Notice No 4/2002 was to establish how banks should prudentially treat their latent losses in the portfolios of financial participations. This Notice establishes that only the difference between the value of latent losses and 15 per cent of securities' acquisition value (which is called "corridor") has to be provisioned and/or deducted from own funds. The Notice also determines the provisioning and deduction from own funds rules. In 2005, for those institutions which will implement the IAS, this Notice ceases to apply. The full amount of latent losses will then have a direct impact on financial institutions' own funds.

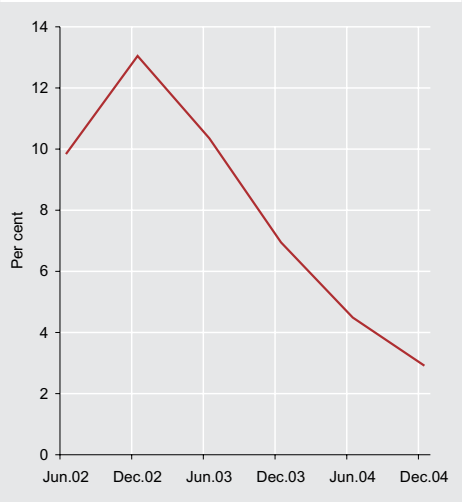
Hence, taking into account solely financial participations in which latent losses are still not fully provisioned and/or deducted from own funds, it was estimated the impact of the immediate application of IAS on the own funds of the major four Portuguese banking groups in December 2004. The estimated impact was 445 million euro, corresponding to nearly 2.9 per cent of their own funds (Chart 3.4.3). According to the transitory rules defined in the above-mentioned Notice, this amount could be prudentially treated (by provisions or own funds deductions) until December 2010 for participations in companies subject to the supervision of Banco de Portugal or *Instituto de Seguros de Portugal*, or until December 2006 for the remaining participations. The negative impact of these latent losses resulting from the implementation of the International Accounting Standards should be, however, partly offset by latent gains in other participations which, according to IAS principles, should be fully reflected in reserves and which, according to the prudential framework, should be partly reflected in own funds.

The profitability of the securities portfolios of pension funds of Portuguese banks' employees was adversely affected by capital market developments in 2001 and 2002, giving rise to lower valuations than those required by financial and actuarial assumptions. As a result, banks had to make sizeable extraordinary contributions to their respective pension

CHART 3.4.3

LATENT LOSSES IN FINANCIAL PARTICIPATIONS

Impact of the implementation of the IAS on own funds [a]
Four largest Portuguese banking groups



SOURCE: Banco de Portugal.
NOTE:
(a) Defined by the difference between latent losses and provisions and deductions from own funds.

funds during those years. However, it should be noted that the prudential regime which was into force until end-2004 allowed the deferrement through time of the necessary contributions to fully cover funds' liabilities. In 2003 as a consequence of the rebound in financial markets, the difference between the value of the pension funds at the end of the year and the minimum amount of liabilities to be covered decreased to EUR 289 million. In 2004 available data suggest that the coverage of pension funds deteriorated slightly compared with 2003 (even though funds´ assets are still above the minimum regulatory levels), notwithstanding their positive profitability levels.

The International Accounting Standards (IAS), which came into force in 2005, imply a change in the actuarial assumptions used in the calculation of future liabilities of pension funds, namely changes in the discount rate of future liabilities, a change in the definition of future liabilities itself, as well as the requirement of fully covering liabilities resulting from anticipated retirements of employees (see Chapter 7. Regulatory Framework). These changes justified the introduction of a transitory regime in order to defer their impact. Some institutions have already incorporated in 2004 some of the IAS assumptions. For these institutions, the reduction of the discount rate used in the calculation of liabilities implied an increase in the financing requirements of such liabilities, although the impact was quite different across institutions.

4. Liquidity risk

4.1 Overall assessment

Liquidity risk is associated with a (real or perceived) decrease in a bank's ability to ensure the financing of assets and to meet its short-term liabilities. Banks are inherently illiquid institutions, in the sense that the role they play in the transformation of maturities implies their lack of capacity to make unexpected immediate repayments of redeemable liabilities, at least with no considerable losses in the early liquidation of assets. Therefore, taking into account that the illiquid nature of banks in absolute terms is unavoidable, an assessment of their liquidity position implies that their assets and liabilities are categorised according to the nature of instruments and trading markets. It also implies taking into account different time horizons and the institutional context in which banks operate (namely if it is a domestic institution or an institution belonging to a foreign group). As such, this assessment will be, to a certain extent, qualitative (see the Box 4.1 Monitoring the banking system's liquidity risk, on the main indicators used in the liquidity risk analysis).

In 2004 there was an overall improvement in the liquidity position of the Portuguese banking system. The credit-to-deposit ratio showed a moderate improvement, in line with the trend seen in the preceding year. Such decline resulted from a rebound in the growth of resources from customers and from a deceleration in credit held in banks' portfolio. This deceleration in credit resulted largely from strong growth, although lower than in the preceding year, of claims sold in securitisation transactions. In turn, the coverage ratio of interbank liabilities by highly liquid assets continued to increase significantly in the course of 2004, as a consequence of the strong reduction in interbank liabilities. However, through this indicator it is not possible to internalise the replacement of financing in the interbank market with short-term securities (in terms of residual maturity), which reduces the relevance of the conclusions that can be drawn from its analysis. Nevertheless, liquidity gaps, constructed from the structure of assets and liabilities with a short-term residual maturity and that, as such, internalise the mentioned replacement, also showed a more favourable performance in 2004, lending support to the two indicators mentioned above. In fact, over the past few years there has been a gradual increase in the weight of medium and long-term securities issuance as a means of bank financing. This trend was strengthened in 2004, since banks benefited from particularly attractive financing conditions in medium and long-term debt markets, where spreads reached historical lows.

Considering that external borrowing by banks located in Portugal but which belong to foreign banking groups is generally ensured through intra-group relationships (which makes the type and maturity of the financing less relevant), it is important to assess separately the liquidity position of the domestic institutions sub-group[1]. In fact, the liquidity situation of a bank that belongs to a foreign banking group depends in largely extent on the group's international consolidated position, rather than on the particular situation of institutions carrying on their activity in Portugal. Both the coverage ratio of interbank liabilities by highly liquid assets and the liquidity gaps of domestic institutions recorded overall positive developments in 2004. The credit-to-deposit ratio of domestic institutions[2] has been lower and the coverage of interbank liabilities by highly liquid assets has been higher than that

1. The domestic institutions group corresponds to the total banking system excluding institutions the management of which is conducted by non-resident institutions, whether these are institutions governed by Portuguese law, subsidiaries of non-resident banking groups or branches of credit institutions having their head office abroad.

of non-domestic institutions, which is deemed adequate taking into account the nature of these institutions. However, domestic institutions show relatively more negative liquidity gaps (at a one-year horizon) than non-domestic institutions (thus indicating a lower liquidity level). Nevertheless, this is largely related to the fact that a non-domestic banking group kept in its portfolio a significant part of debt securities originated from securitisation of credit claims.

Taking into consideration the credit-to-deposit ratio, the value of the four largest domestic banking groups as a whole continues to be higher than that of other European countries. As a consequence, the recourse to market financing will be relatively more important for the Portuguese banking system than for other European countries. This will therefore imply higher vulnerability to possible shocks in international financial markets, notwithstanding the increased recourse to medium and long-term borrowing in recent years.

2. In 2004 the credit-to-deposit ratio of domestic institutions stood at levels quite close to those seen in the banking system as a whole. This is partly associated with the strong decline in the credit-to-deposit ratio of a large non-domestic banking group.

BOX 4.1: MONITORING THE BANKING SYSTEM'S LIQUIDITY RISK

The liquidity risk is a relatively complex element within banking business, and there are different ways of assessing exposure to this type of risk. This box summarises the conceptual framework underlying the liquidity analysis in this chapter. It shows the features and potential limitations of the main indicators used, namely the credit-to-deposit ratio, the coverage ratio of interbank liabilities by highly liquid assets and the liquidity gap by maturity ladders.

The assessment of a bank's balance-sheet structure, namely the relative composition of assets and liabilities, is one of the possible ways of analysing its liquidity position. The analysis of the ratio of credit, which represents an asset with an expected medium or long-term duration (due to being based on a repeated and continued relationship with the customers, even in case of a short-term contractual maturity), to deposits, which are liabilities with an actual duration higher than that of the contractual maturity (and as such can be considered stable liabilities), makes it possible to characterise, in general terms, the overall liquidity situation of a banking institution. A strong imbalance between the growth of loans to customers and deposits from customers may generate a customer funding gap, which will imply the recourse to alternative financing sources.

The deceleration in the growth pace of bank deposits over the past few years partly results from the diversification of financial assets held by the non-financial private sector, although it does not imply a proportional reduction of the banking system's role in financial intermediation. In fact, there is evidence that some Portuguese banks have been seeking alternative ways of attracting non-financial private sector savings, stress being laid, inter alia, on the role assumed by debt securities issued by banks and placed with customers. Therefore, the credit-to-deposit ratio may be adjusted so as to reflect this additional collection of resources from customers, by also considering debt securities issued by banks and placed with customers as resources from customers. As expected, this adjustment results in a decline in the levels recorded by this liquidity indicator, although its trend over time is quite similar to that of the credit-to-deposit ratio, no adjustment having been made.

Although through the credit-to-deposit ratio it is possible to obtain easily an evaluation of the banking system's liquidity position, its assessment should take into account changes in the Portuguese banking business, especially the impact of Portugal's participation in the euro area and, consequently, the widening of the

access of these institutions to international financial markets (without this implying an increased exchange rate risk, since the bulk of financing obtained in these markets is denominated in euro). In turn, the significant amounts of securitisation transactions conducted in recent years translate into a shift in the role played by banks in financial intermediation, with a growing increase in credit amounts, that although originating from and granted by the banking system, are eventually financed by means of financial vehicles. In turn, the financing of the latter is directly obtained in international markets from institutional investors. In addition, as previously discussed, there has been a progressive diversification of the financial assets held by the private sector, which translates into relatively moderate deposit growth rates. However, non-financial private sector savings attracted by the banking system were not matched by a corresponding deceleration, since some banking groups have sought other ways of collecting savings from their customers. Finally, the financing structure of the Portuguese banking system has been undergoing significant changes since the late 1990s, with a gradual increase in the recourse to alternative financing sources, namely financing in the interbank money market and in financial markets, particularly through debt securities issuance. Recourse to these financing sources became more attractive over recent years, in particular after the start of Economic and Monetary Union (EMU), which has made it easier for banks to sustain the strong increase in credit granted in a context of subdued growth in resources from customers. Therefore, Portugal's participation in the euro area should be taken into account when interpreting the credit-to-deposit ratio. The relatively high levels of this indicator in recent years illustrate the importance of the recourse by Portuguese banks to financing in international financial markets. Recourse to these markets makes it possible to diversify the banking system's financing sources. However, banks become more exposed to possible shocks in financial markets. Nevertheless, it should be noted that the credit-to-deposit ratio is not sufficient to measure the impact of these alternative forms of financing on the banking system's liquidity, given that it does not consider any information regarding the residual maturity of these liabilities.

Therefore, for liquidity risk assessment purposes, it is important to complement the analysis based on the credit-to-deposit ratio with additional indicators. In this sense, the coverage ratio of interbank liabilities by highly liquid assets is an additional measure of the banking system's liquidity position that allows the assessment of a bank's capacity to ensure the coverage of some of its more immediate liabilities with highly available assets. This ratio is defined as the sum of interbank assets and securities issued by public entities as a percentage of interbank liabilities[1].

It is important to note that the coverage ratio also has some limitations. This indicator is constructed only on the basis of balance-sheet data and, therefore, the residual maturities of the various assets and liabilities cannot be taken into account. Therefore, apart from interbank liabilities, other liabilities with short-term maturity are not considered, i.e. this indicator does not make it possible to internalise other types of market financing with short-term maturity. Over the past few years there has been a substantial increase in the recourse to financing in debt markets, to the detriment of interbank markets. At end-2004 over 35 per cent of securities issued in international debt markets had a residual maturity of up to two years. This may exert some pressure on the short-term financing needs of the banking system, which is not captured by the coverage ratio of interbank liabilities by highly liquid assets. Therefore, the recent recovery of this indicator may partly result from the decreasing relative importance of interbank financing and not necessarily from an overall improvement in the banking system's liquidity position.

Taking into account the various limitations of the credit-to-deposit ratio and of the coverage ratio of interbank liabilities by highly liquid assets, the information available from liquidity tables may contribute to a more comprehensive and adequate characterisation of the banks' liquidity position[2]. In fact, the liquidity position of a financial institution may be assessed by the gap between short-term liabilities and short-term assets. The li-

1. Interbank assets and liabilities include claims on and liabilities to central banks.
2. Instruction of Banco de Portugal No 1/2000 introduced the compulsory reporting of liquidity tables, with data broken down by different maturities up to one year, regarding a group of assets and liabilities of banking institutions, which enables an overall analysis of the banking system's liquidity, taking into account liquidity gaps in maturity ladders.

quidity gap can be defined as the ratio of the difference between liquid assets (LA) and volatile liabilities (VL) to the difference between total assets (A) and liquid assets, for each maturity ladder[3], i.e., $Gap = (LA - VL) / (A - LA)$[4]. This liquidity indicator enables not only an analysis by residual maturity but it also considers other short-term liabilities in addition to interbank liabilities, allowing for a more comprehensive characterisation of the banking system's liquidity risk. A negative liquidity gap results from a higher volume of volatile liabilities than of liquid assets. In this case, in order to meet its short-term liabilities, the institution may be forced to resort to another type of assets (namely credit or financial holdings, which may imply increased costs for the institution) or to alternative financing sources (which may also have negative consequences, particularly under adverse market conditions). In cases of particularly serious distress in financing markets, even if not associated with the banks' financial situation, these may be forced to limit the granting of credit, thereby affecting their financial intermediation function. By contrast, if this indicator stands at more comfortable levels, this may enable banks to accommodate possible liquidity shocks more smoothly, with no need to mobilise other assets of a more permanent nature or to resort to alternative financing sources. In this situation, even with relatively adverse market conditions, the regular bank intermediation business should not be affected.

3. Liquid assets are defined as cash, assets in central banks and credit institutions, debt instruments and variable income securities eligible for monetary policy operations, irrevocable commitments and derivatives. This definition is different from that set forth in Instruction No 1/2000, insofar as it excludes credit granted (given the generally stable and renewed nature of the relationship with customers), cash items in process of collection, minimum cash reserves, debt instruments and variable income securities non-eligible for monetary policy operations. In turn, volatile liabilities are defined as liabilities to central banks and credit institutions, liabilities represented by debt instruments, liabilities to third parties and derivatives. This definition is also different from that set forth in the above-mentioned Instruction, insofar as it excludes deposits from customers. These are generally of a relatively stable nature, although they may have reduced contract and residual maturities.
4. This ratio can also be written as $Gap = (SL + K) / SA - 1$, i.e. this indicator also enables the assessment of the coverage of stable assets (SA = A - LA) by stable liabilities (SL = L - VL - K), where K represents capital.

4.2 Structural liquidity position

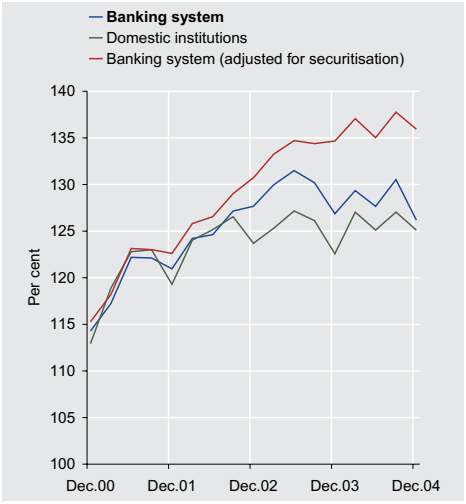
Credit-to-deposit ratio

The strong growth in credit granted by the banking system since the mid-1990s has not been matched by similar developments in resources from customers. In fact, deposits with the Portuguese banking system recorded relatively moderate growth rates over the past few years, having translated into a progressive increase in the credit-to-deposit ratio that reached levels above 130 per cent in mid-2003 (Chart 4.2.1). However, from then onwards this trend was reversed and this indicator recorded a small decrease, slightly reinforced in 2004. The decline in this ratio was accompanied by a reduction in its dispersion in domestic institutions as a whole (Chart 4.2.2). This evolution was related to some recovery in resources from customers and simultaneously to a deceleration in the credit portfolio, which partly reflected the significant increase in amounts involved in securitisation of claims in the past two years[3]. The sum of the credit portfolio of banks and the balance outstanding of securitised credit makes it possible to perceive the importance of these operations in the evolution of this ratio. The inclusion in the balance sheet of the amount outstanding of securitisation transactions conducted since 1997 would imply an increase of around 10 p.p. in the credit-to-deposit ratio in 2004. In fact, recourse to securitisation has been basically an additional form of financing of the banking system. Through securitisation additional liquidity gains may be obtained, which may be channelled to new lending. Alternatively, should a bank purchase securities resulting from securitisation of claims, these transactions transform a non-marketable asset into a marketable one[4]. In

3. However, it is important to note that in 2004 one of the largest Portuguese banking groups continued to hold a substantial part of debt securities originating from securitisation transactions. Therefore, excluding this operation, the growth of credit granted in securitisation was rather subdued in 2004.

CHART 4.2.1

RATIO OF CREDIT TO RESOURCES FROM CUSTOMERS

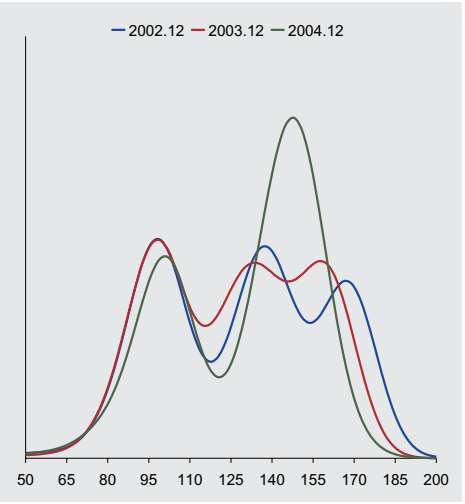


SOURCE: Banco de Portugal.

CHART 4.2.2

CREDIT-TO-DEPOSIT RATIO OF DOMESTIC INSTITUTIONS

Empirical distribution



SOURCE: Banco de Portugal.
NOTE: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian Kernel that weights institutions by their assets.

this sense, banks use their competitive advantage in the selection of customers and the advantages associated with their network of branches for granting credit, which later they sell to other investors (generally international) through asset securitisation operations[5]. In the course of 2004, particularly towards the end of the year, the amounts sold in these operations grew strongly, albeit less than in the previous year (Chart 4.2.3). In 2004 around EUR 3.723 million was securitised, compared with EUR 7.600 million in 2003. At the end of 2004, around 7 per cent of the banking system's credit portfolio, especially credit for house purchase, is estimated to have been sold in securitisation transactions.

Taking only into account the domestic banking institutions sub-group, developments in the credit-to-deposit ratio have been relatively similar, although standing at relatively lower levels than those of the banking system as a whole since end-2002. In 2004, given the decline in the ratio for the banking system as a whole, the liquidity position of the two groups of institutions reached quite similar levels. This is largely associated with the strong decrease in the credit-to-deposit ratio of a large non-domestic banking group.

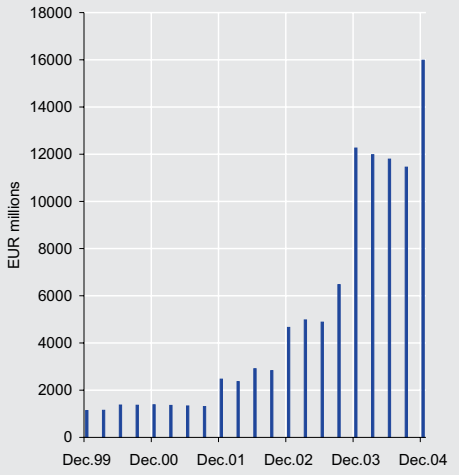
Taking into account a broader concept of the credit-to-deposit ratio (the denominator of this ratio including debt securities issued by banks and placed with customers), the levels recorded by this liquidity indicator improved quite significantly, although its developments over time are quite similar (Chart 4.2.4).

Taking into consideration consolidated data for some of the largest European banks, it is possible to conclude that the credit-to-deposit ratio of the four largest Portuguese banking

4. These marketable assets may in some cases be considered eligible collateral in monetary policy operations.
5. The impact of securitisation transactions on solvency ratios has not been significant, since Notice No 1/93 of Banco de Portugal imposes a weighting coefficient of 1250 per cent in the calculation of own funds requirements on the securities originated with higher degree of subordination, which are generally retained in the balance sheet of the selling institutions. Under the terms of this regulatory requirement the positive impact that securitisation might have on solvency ratios, namely through the reduction in own funds requirements, may be annulled. For further details, see section 6.3. Provisioning and solvency.

CHART 4.2.3

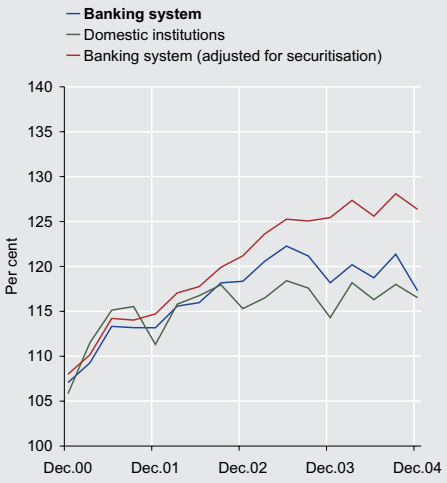
DEVELOPMENTS IN THE OUTSTANDING AMOUNT OF LOANS SOLD IN SECURITISATION



SOURCE: Banco de Portugal.

CHART 4.2.4

RATIO OF CREDIT TO RESOURCES FROM CUSTOMERS (BROAD[a])

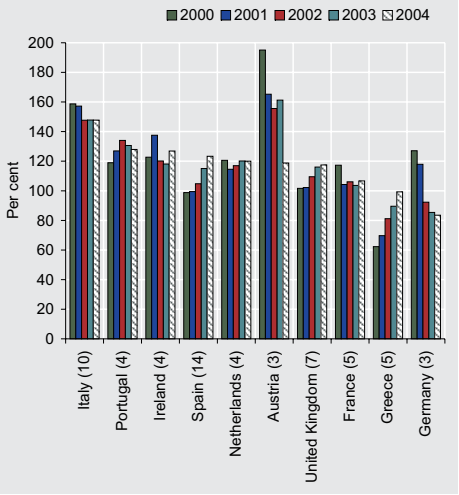


SOURCE: Banco de Portugal.
NOTE:
(a) Resources from customers include an estimate of debt securities issued by the resident MFI sector and held by the resident non-MFI sector.

CHART 4.2.5

CREDIT-TO-DEPOSIT RATIO

International comparison



SOURCES: Bureau Van Dijk Bankscope and Banco de Portugal.
NOTE: The number in brackets corresponds to the banks considered for each country in 2004. For Portugal, the four largest domestic banking groups were taken into account.

groups as a whole, even though close to that seen in Ireland, Spain or the Netherlands, is slightly higher than the average of other European countries, being only surpassed by Italy (Chart 4.2.5). This relative position resulted from the fact that strong credit growth in the mid-1990s and early 2000s was accompanied by persistently lower deposit growth rates, unlike what was seen in most European countries, requiring more intense recourse to alternative forms of financing. As a consequence, recourse to market financing is relatively more important for the larger Portuguese domestic groups than for most banks in

other European countries. However, reference should be made to the improved composition of the above-mentioned market financing by Portuguese domestic banks in 2004, towards the lengthening of the respective residual maturity.

Assessment of the stability of resources from customers

The sharp trend decline in the growth rates of resources from (resident and non-resident) customers as from mid-2002 was reversed since mid-2003, having recovered gradually[6] (4.1 per cent growth in 2004) (Chart 4.2.6). The rise in the deposit growth rate in 2004 was associated with positive developments in both residents' deposits (which increased 4.2 per cent) and non-residents' deposits (which increased 4 per cent). Deposits growth essentially resulted from the increase in time and savings deposits, which grew by around 5 per cent in 2004. However, developments in demand deposits were also generally positive in the course of the year.

Taking into account information from Monetary and Financial Statistics, which includes a breakdown by institutional sector, the largest contribution to non-monetary sector's deposits growth was made by deposits from non-resident non-financial corporations, followed by resident household deposits[7] (Chart 4.2.7). In fact, although resident household deposits with banks continued to record relatively subdued growth rates, there was some rebound compared with previous years[8]. In turn, deposits from resident non-financial corporations continued to make an important contribution to overall deposit growth, although decelerating markedly from 2003. The growth rates of residents' deposits abroad, which had been quite significant in previous years, declined in the course of 2004 (by around 4 per cent).

In sum, growth in resources from customers was dominated, on the one hand, by developments in deposits from non-resident non-financial corporations (which tend to be rather volatile) and, on the other hand, by the acceleration in deposits from resident households (of a much more stable and lasting nature). Hence, there is some uncertainty as to the assessment of the stability of resources from customers in the course of 2004.

Different market positioning strategies may lead to significant differences in the evolution of resources from customers among different banking institutions. However, the lower dispersion of deposit interest rates in 2004 seems to suggest that the strategies of the six largest banking groups are to a certain extent being brought closer into line. This is induced by the historically low levels of interest rates, which have caused a strong compression in interest rate spreads, thereby reducing differences between the rates of return on deposits paid by each institution (Charts 4.2.8 and 4.2.9). In this context, in 2004 no significant changes were observed in the market quotas of deposits from the major Portuguese banking groups.

The pick-up in resources from customers in 2004, mainly composed of household deposits, occurred notwithstanding the persistence of historically low levels of the remuneration paid on deposits and the decline in the household savings rate (following the increase since 1999), together with a strong recovery in private consumption. These developments

6. In 2003 resources from customers and other items of the banking system's balance sheet on a consolidated basis were affected by a change in the consolidation perimeter of one banking group. Excluding the effect of this change, the growth of resources from customers was relatively subdued in 2003 (1.7 per cent).

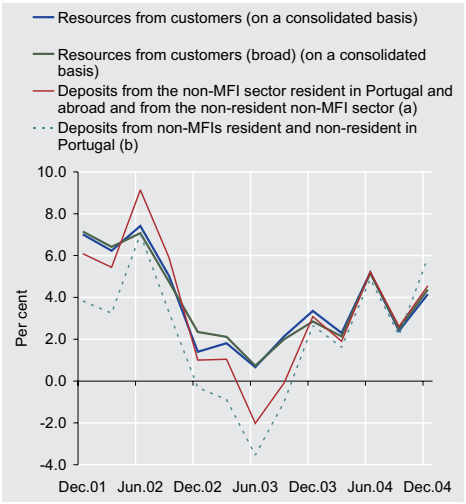
7. In June 2004 the growth rate of resources from customers increased remarkably, being reversed in the following quarter, as can be seen in the chart. This growth resulted from an abnormal increase in central government deposits, which assumed a temporary nature.

8. The increase in household deposits in 2004 seems to be related to the efforts made by some banking groups to improve the remuneration of deposits with a higher actual ex post maturity, namely through the trading of deposit contracts with fidelity bonus or clauses that imply a compulsory simultaneous investment in another financial instrument (e.g. mutual funds).

CHART 4.2.6

RESOURCES FROM CUSTOMERS

Year-on-year rate of change



SOURCE: Banco de Portugal.

NOTES:

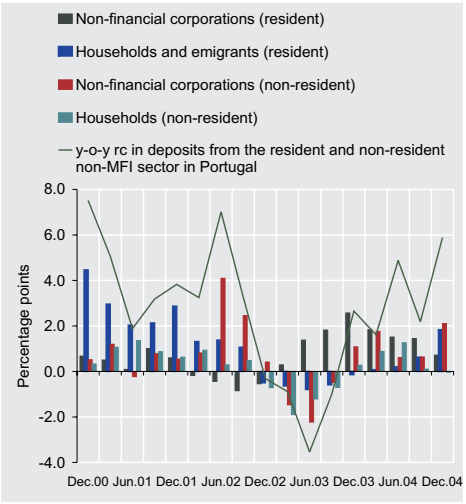
(a) Monetary and Financial Statistics and International Investment Position.

(b) Monetary and Financial Statistics.

CHART 4.2.7

DEPOSITS FROM THE RESIDENT AND NON-RESIDENT NON-MFI SECTOR IN PORTUGAL

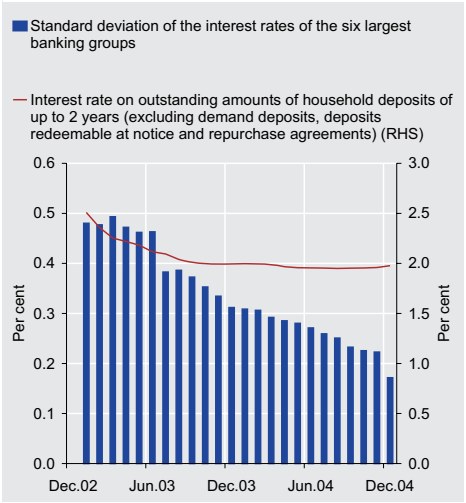
Some contributions to the year-on-year rate of change



SOURCE: Banco de Portugal.

CHART 4.2.8

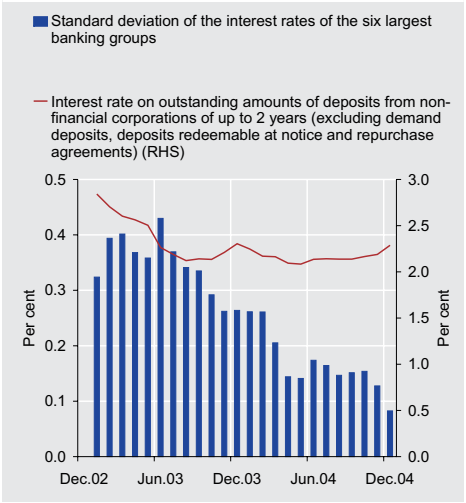
INTEREST RATE ON HOUSEHOLD DEPOSITS FROM UP TO 2 YEARS



SOURCE: Banco de Portugal.

CHART 4.2.9

INTEREST RATE ON DEPOSITS FROM NON-FINANCIAL CORPORATIONS OF UP TO 2 YEARS



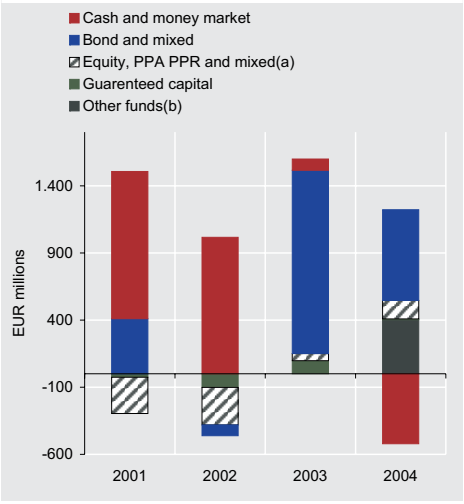
SOURCE: Banco de Portugal.

are in line with the lower flow of household financial investments. There was a portfolio reallocation towards the reduction of net subscriptions of mutual funds offset by an increase in deposits (Chart 4.2.10). However, deposit growth rates were relatively moderate, albeit higher than those previously recorded. Taking into account the various types of mutual funds domiciled in Portugal, there was a substantial decline in money-market and other high liquidity funds (net subscriptions were negative) and, by contrast, a significant volume of net subscriptions of bond funds (albeit lower than in 2003). Despite the apparent reduction in the degree of risk aversion in international financial markets and the rather favourable performance of the Portuguese stock market in 2004, net subscriptions of equity

CHART 4.2.10

BREAKDOWN OF NET SUBSCRIPTIONS OF MUTUAL FUNDS AND MONEY MARKET FUNDS

By type of fund



SOURCE: *Associação Portuguesa de Fundos de Investimento, Pensões e Património (APFIPP).*

NOTES:

(a) *Plano de Poupança Acções (PPA)* and *Plano de Poupança Reforma* (PPR) are savings instruments that allow for significant rebates in personal income taxes.

(b) Includes Flexible Funds and Special Investment Funds (adjusted for investment in National Fund units).

funds did not grow significantly. Finally, "other funds" increased sizeably in 2004, particularly in the last quarter. This item includes a new type of mutual fund, the so-called special investment funds[9].

Coverage ratio of interbank liabilities by highly liquid assets

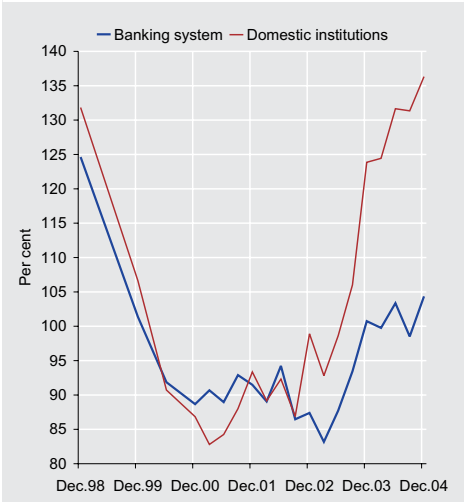
Between 1999 and mid-2000 the coverage ratio of interbank liabilities by highly liquid assets declined sharply, as a result of a significant increase in interbank liabilities (Chart 4.2.11). As from mid-2000, this ratio stabilised somewhat, at values close to 90 per cent. However, from mid-2003 onwards this indicator recovered strongly. This was essentially associated with a sharp decline in interbank liabilities (highly liquid assets also declined in 2004, although to a lesser extent). The ratio for domestic institutions performed much more favourably, having increased quite significantly since late 2002 (reaching at end-2004 levels close to those seen in 1998). However, from 2003 onwards the dispersion of this ratio in the set of domestic institutions increased, and the differences between two groups of institutions intensified (Chart 4.2.12).

It is important to note that the recent recovery of this indicator may partly result from the reduced relative importance of interbank financing compared with other short-term market financing sources, and not necessarily from an improved overall liquidity position of the banking system. However, as will be explained further ahead, the behaviour of liquidity gaps constructed from the analysis of the structure of assets and liabilities with short-term residual maturity (i.e. those that internalise the replacement of interbank financing with other short-term liabilities) was also more favourable in 2004.

9. The legal framework of special investment funds is set forth in Regulation No 9/2003 of the *CMVM* (Portuguese Securities Market Commission). This type of fund aims at providing an increased diversification of risk to its subscribers by investing in securities, derivative financial instruments, art or real estate funds and hedge funds.

CHART 4.2.11

COVERAGE RATIO OF INTERBANK LIABILITIES BY HIGHLY LIQUID ASSETS

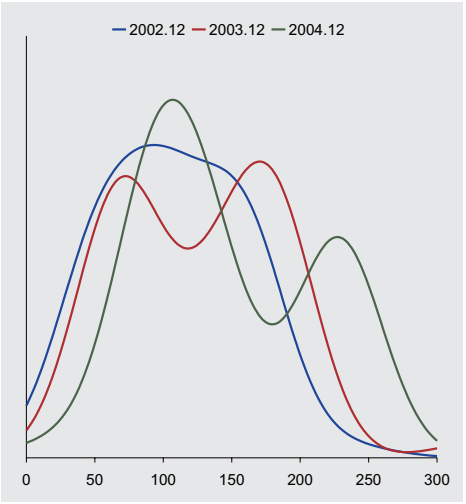


SOURCE: Banco de Portugal.

CHART 4.2.12

COVERAGE RATIO OF INTERBANK LIABILITIES BY HIGHLY LIQUID ASSETS OF DOMESTIC INSTITUTIONS

Empirical distribution



SOURCE: Banco de Portugal.

NOTE: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian Kernel that weights institutions by their assets.

4.3 Market financing and residual maturity of short-term assets and liabilities

Market financing structure

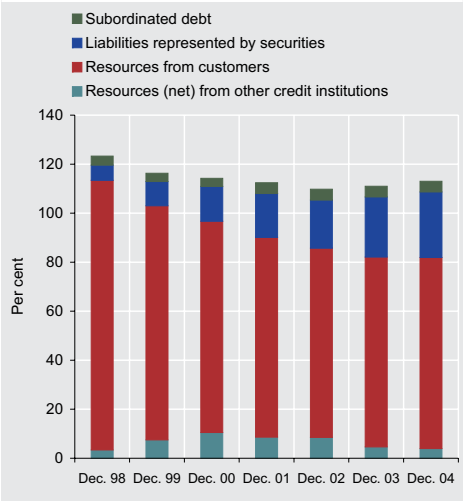
The imbalance between growth in credit granted and developments in resources from customers has contributed to an attempt by banks to diversify their financing sources. In addition, the progressive integration of financial markets in the euro area has made it possible for Portuguese banks to have access to attractive financing conditions in international money and debt markets. Consequently, the share of credit financed through resources from customers has been gradually declining and has remained relatively stable since 2002 (Charts 4.3.1 and 4.3.2). From 1999 onwards the additional financing needs of the banking system were met through the reduction of the public debt securities portfolio and investments with Banco de Portugal, as well as through borrowing from interbank money markets. In recent years, the relative importance of these financing sources has been gradually declining, being offset by increased recourse to debt securities issuance, which in 2004 financed around 27 per cent of gross credit. Most of these securities issues are conducted through branches and subsidiaries abroad of Portuguese banking groups.

The market financing structure may have relevant implications on the liquidity and profitability of banks. On the one hand, recourse to financing in bond markets implies a maturity premium associated with the issuance of medium and long-term securities, which does not exist in interbank money markets. On the other hand, shorter-term financing (in money markets, as well as in the issuance of other short-term liabilities) may imply refinancing risk. The latter may be mitigated through recourse to medium and long-term debt securities issuance. Increased recourse to the securities market in 2004, which accounted for more than 85 per cent of total market financing, may have benefited from the persistence of credit risk premiums at historically low levels (see Chapter 3. Market Risk). The credit risk premium of Portuguese banks can be proxied by the spread between the average yield on euro area financial corporation securities (A rating) and the average yield on

CHART 4.3.1

FINANCING SOURCES OF THE BANKING SYSTEM

As a percentage of gross credit
On a consolidated basis

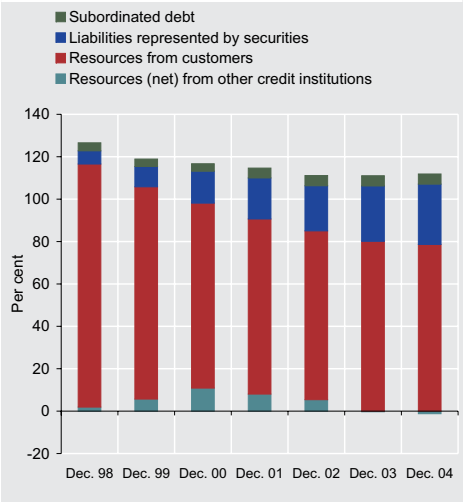


SOURCE: Banco de Portugal.
NOTE: (Net) resources from other credit institutions include net resources from central banks.

CHART 4.3.2

FINANCING SOURCES OF THE DOMESTIC BANKING SYSTEM

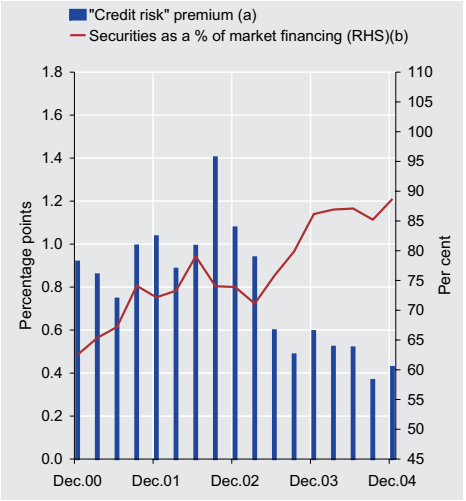
As a percentage of gross credit
On a consolidated basis



SOURCE: Banco de Portugal.
NOTE: (Net) resources from other credit institutions include net resources from central banks.

CHART 4.3.3

SHARE OF SECURITIES ISSUED IN TOTAL MARKET FINANCING

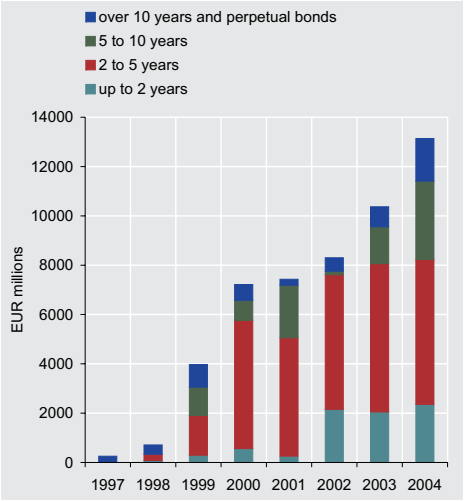


SOURCES: Bloomberg, Merrill Lynch and Banco de Portugal.
NOTES:
(a) The "credit risk" premium is defined as the spread between the average yield on euro area financial corporate securities (A rating) and the average yield on Treasury bonds.
(b) Market financing is defined as the sum of interbank liabilities less interbank assets and securities (including subordinated).

CHART 4.3.4

INTERNATIONAL ISSUES OF BONDS BY BRANCHES AND SUBSIDIARIES ABROAD OF PORTUGUESE BANKING GROUPS

Structure by original maturity



SOURCES: Dealogic Bondware, Bloomberg and Datastream.

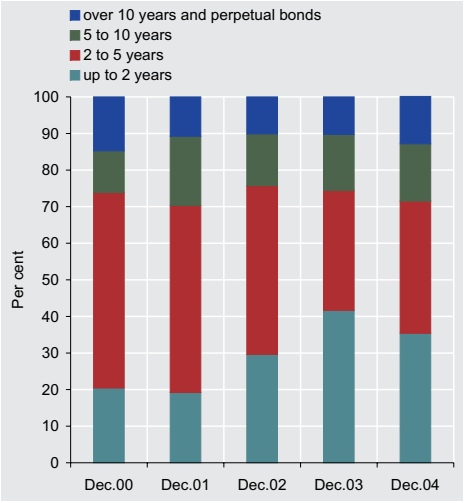
Treasury bonds (Chart 4.3.3). This spread narrowed by around 17 b.p. from 2003, following a very sharp reduction compared to 2002.

While in previous years the weight of the issuance of debt securities with a maturity of up to 2 years increased progressively, in 2004 this trend was reversed, with the relative weight of securities issued with maturities of over 5 years almost doubling (Chart 4.3.4).

CHART 4.3.5

STRUCTURE BY RESIDUAL MATURITY OF BONDS ISSUED BY BRANCHES AND SUBSIDIARIES ABROAD OF PORTUGUESE BANKING GROUPS

Outstanding amounts



SOURCES: Dealogic Bondware, Bloomberg and Datastream.

TABLE 4.3.1

STRUCTURE OF TOTAL OUTSTANDING AMOUNTS OF BONDS ISSUED BY BRANCHES AND SUBSIDIARIES ABROAD OF PORTUGUESE BANKING GROUPS

By type of rate and residual maturity as at 31 December 2004
As a percentage of the total outstanding amounts

	Up to 2 years	2 to 5 years	5 to 10 years	Over 10 years and perpetual bonds	Total
Variable rate	33.2	30.5	6.1	4.8	74.5
Fixed rate and others	2.1	5.6	9.6	8.1	25.5
Total	35.4	36.1	15.7	12.8	100.0

SOURCES: Dealogic Bondware, Bloomberg and Datastream.

As a consequence, the relative weight of issues with residual maturities of up to 2 years in total outstanding amounts declined (Chart 4.3.5). Strong growth of issues with maturities over 5 years may have been accounted for by quite favourable conditions in international financial markets for this type of issuance, allowing banks to substantially reduce the refinancing risk[10,11]. Most of the issuance by Portuguese banks, even at longer maturities, is conducted at a variable interest rate (around 75 per cent of the total outstanding bonds were issued at a variable interest rate)[12] (Table 4.3.1). Issuance by Portuguese banks is preferably conducted at a variable interest rate so as to avoid mismatches between the return on assets and remuneration of liabilities, since most credit is granted at variable interest rates, as well as to reduce possible imbalances between residual maturities.

10. This, notwithstanding, unlike banks, non-financial corporations and the State chiefly preferred short-term issuance.
11. In 2004 around 15 per cent of issues with maturities over 5 years had subordination clauses, and they can therefore contribute positively to developments in solvency ratios.
12. In 2004 around 65 per cent of medium and long-term issues (with a maturity over 2 years) were at variable rate, in line with the trend seen in previous years.

Residual maturity of short-term assets and liabilities

As suggested by other liquidity indicators analysed in this chapter, liquidity gaps in the different maturities considered, improved in 2004, thereby pursuing the trend recovery seen since late 2002 (Chart 4.3.6). It should be recalled that in 2002 the liquidity indicators were negatively affected by the adverse conditions prevailing in international financial markets, which translated into sales of securities in the banks' portfolios, an increase in interbank liabilities and the reduction in the volume of medium and long-term bond issuance. However, in the light of available information, the financial intermediation function of Portuguese banks, in particular the granting of credit to customers, does not seem to have been disturbed, which demonstrates the importance of the availability of adequate liquidity levels that make it possible to cope with adverse shocks in international financial markets. The improvement observed in 2004 was more significant in the one-year horizon than in shorter residual maturities (the improvement in shorter maturity gaps had been much more significant in 2003, and was consolidated in 2004). The improvement in the liquidity gap of up to 1 year was essentially related to a substantial decline in volatile liabilities. This resulted from the above-mentioned decline in interbank liabilities (in line with the conclusions from the analysis of the coverage ratio of interbank liabilities by highly liquid assets), as well as from the decrease in liabilities to third parties[13]. In contrast to the decline in interbank liabilities and liabilities to third parties, liabilities represented by debt securities (with residual maturity of up to 1 year) increased, albeit to a lesser extent than the decline in the other two items.

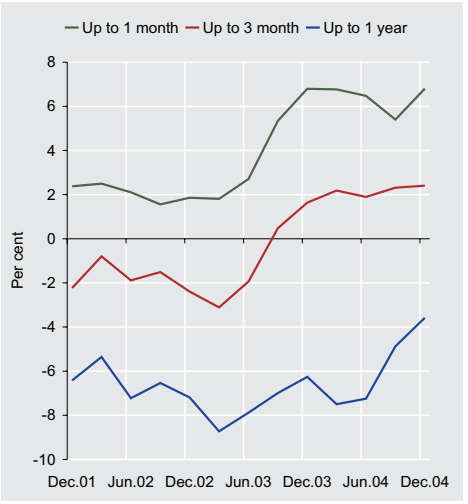
Taking into account the domestic institutions sub-group, developments in liquidity gaps are relatively similar, although these stand at significantly lower levels in the different maturities considered (Chart 4.3.7). This is largely due to the levels recorded by the liquidity gap of a non-domestic banking group with a significant size. This banking group shows rather positive liquidity gaps, as its volume of debt securities eligible for monetary policy operations is quite significant (accounting for around 13 per cent of assets, in contrast to around 2.5 per cent for the total banking system). The volume recorded in this item resulted from the fact that the institution referred to above retained a substantial part of debt securities originated from securitisation of claims. Considering only the four largest domestic banking groups, in 2004 the differentiation between two groups of institutions became more evident, with one of them showing substantially higher liquidity gaps (Chart 4.3.8).

13. The item liabilities to third parties includes liabilities for which there is certainty (or at least a high probability) of execution, such as liabilities associated with a purchase agreement (as long as it is highly probable that the operation is conducted as scheduled), as well as guarantees received from customers and time deposit contracts, where the institution commits itself to make a deposit, as set forth in the Instruction no. 1/2000 of Banco de Portugal.

CHART 4.3.6

LIQUIDITY GAP BY MATURITY LADDER

As a percentage of total assets less liquid assets
Banking system

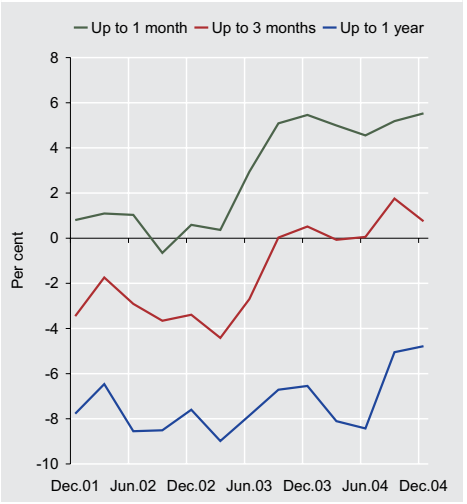


SOURCE: Banco de Portugal.
NOTE: The liquidity gap is defined as (liquid assets-volatile liabilities)/(assets-liquid assets)x100 in each residual maturity ladder.

CHART 4.3.7

LIQUIDITY GAP BY MATURITY LADDER

As a percentage of total assets less liquid assets
Domestic banks

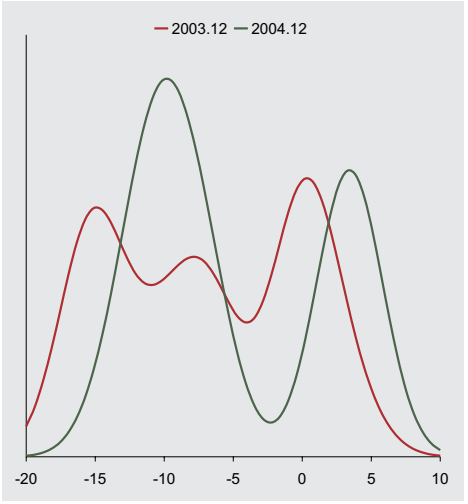


SOURCE: Banco de Portugal.
NOTE: The liquidity gap is defined as (liquid assets-volatile liabilities)/(assets-liquid assets)x100 in each residual maturity ladder.

CHART 4.3.8

LIQUIDITY GAP CONSIDERING MATURITIES OF UP TO 1 YEAR

Four largest domestic banking groups
Empirical distribution



SOURCE: Banco de Portugal.
NOTE: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian Kernel that weights institutions by their assets.

5. Credit risk

5.1 Overall assessment

In a concise way, credit risk is said to be related to the uncertainty about counterparty's ability to service debt. In this sense, the measurement of the credit risk of a specific portfolio requires knowledge about the distribution of losses, in particular about its respective expected value. This depends on the size of the exposures and on their probability of default. This, in turn, derives from the main factors impacting on credit quality. These concepts, which are generally applied by individual credit institutions, may be extended to the financial sector as a whole, but their quantification and analysis become even more complex.

This chapter makes an overall assessment of the credit risk of the financial institutions operating in Portugal, focusing in particular on the banking system, given its strong weight in the financing of non-financial sectors (households and non-financial corporations).

With respect to the exposure to the non-financial private sector, it can be seen that the weight of credit granted to households and non-financial corporations in the consolidated balance sheet of the banking system is high, reaching around 55 per cent in 2004, i.e., approximately 10 p.p. more than in 1998 (Chart 5.1.1). These figures underestimate the exposure of the banking system to the non-financial private sector, given that part and in some cases a significant part of securitised credit returns to banks, through the purchase of securities issued by the entities that bought the credit[1]. Ultimately, the credit risk associated with securitised loans returns to the banks that have initially granted them.

In addition, credit granted by Portuguese banks shows a high concentration, on the one hand, in credit related to real estate activities and, on the other, in a reduced number of large corporations. The strong concentration in credit related to the real estate sector implies that the banking system is particularly sensitive to the specific developments in this sector (Chart 5.1.2). However, most of this credit is comprised of loans to households for house purchase, which usually have a relatively low risk, given the underlying collateral and the fact that there are no signs of a speculative bubble in the real estate market in Portugal.

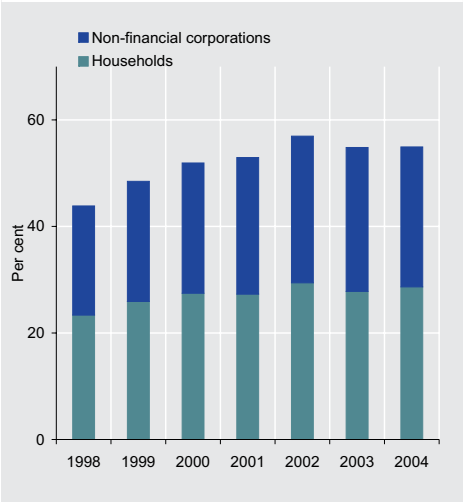
As mentioned above, there is also a strong concentration of credit in a reduced number of large corporations. It should be noted, for instance, that approximately half of the credit granted to non-financial corporations by the financial institutions reporting to the Central Credit Register of Banco de Portugal concerns only 0.5 per cent of the debtor corporations[2]. In general, it can be said that this characteristic is common to all major banking groups. However, at the current juncture, the high concentration in large corporations, mainly of the services sector, is relatively benign in terms of credit risk. In fact, banks have a relatively low exposure to the sectors and/or to corporations with higher risk. Riskier corporations relate mainly to the tradable sector, in particular to activities with low technological content. In these corporations, profit margins were squeezed, in order to counter the loss of competitiveness, in a context of appreciation of the euro and increased international competition. In turn, the results of quoted corporations show that large corporations,

1. According to available data, the weight in assets of these securities was of 2.2 per cent in 2004 (0.9 per cent in 2003), being chiefly associated with the securitisation of housing loans.
2. See the box entitled "Credit risk indicators of non-financial corporations" in this report.

CHART 5.1.1

LOANS GRANTED BY THE RESIDENT BANKING SYSTEM

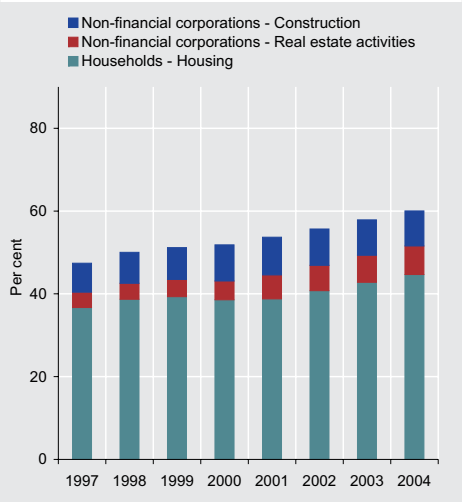
As percentage of assets; on a consolidated basis



SOURCE: Banco de Portugal.

CHART 5.1.2

EXPOSURE OF THE BANKING SYSTEM TO THE REAL ESTATE SECTOR[a]



SOURCE: Banco de Portugal.
NOTE:
(a) Loans to non-financial corporations of the construction and real estate sectors and to households for housing as a percentage of total loans extended to the non-financial private sector (adjusted for securitisation).

on average, have high profitability. It should also be mentioned that there is evidence that the probability of default is inversely correlated to the company size, which also helps to reduce the risk potentially associated with the high concentration of the loan portfolio. In sum, the loan portfolio of most banking groups is concentrated in the segments in which the credit risk is relatively lower, such as loans to households for house purchase and, in the case of non-financial corporations, loans to large corporations of the non-tradable sector.

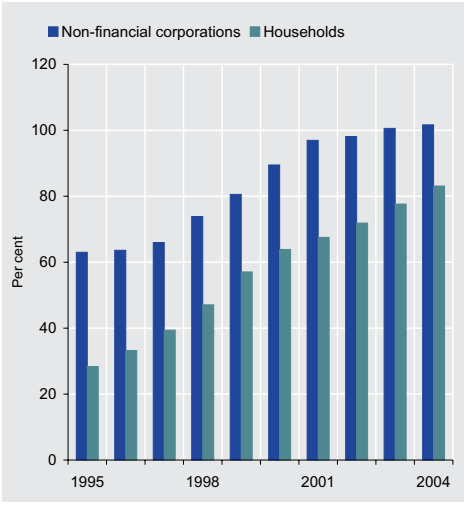
A relevant aspect in the assessment of credit risk is the very high level of the indebtedness of the non-financial private sector, which in 2004 reached 83 and 102 per cent of GDP, in the case of households and non-financial corporations respectively[3] (Chart 5.1.3). In this context, given the growth in the proportion of indebted agents, the non-financial private sector is more exposed in the present than it was in the past to changes in interest rates. Sensitivity to interest rates is more important in Portugal than in other European countries, as most bank loans are contracted at floating interest rates. In fact, uncertainty about future interest rate developments is one of the major factors affecting credit risk. By contrast, the ongoing lower volatility of interest rates helps to reduce this risk. It should also be considered that interest rates will tend to rise during the recovery of the euro area economy, and therefore its effects in Portugal will depend on the degree of synchronisation between Portuguese and European business cycles, i.e. they will be stronger if a lag persists in the recovery in Portugal. Traditionally, there is a close link between the two cycles. Nevertheless, this link may be countered by the imperative need of fiscal consolidation in Portugal, which may have negative consequences on short-term economic growth. However, it should be noted that the lack of fiscal consolidation may drive the economy into an unsustainable path, whose abrupt adjustment could have very

3. Households' debt includes securities other than shares and loans. Non-financial corporations' debt includes securities other than shares and loans excluding those granted to non-financial corporations having their head office in the Madeira and Azores offshore financial centres by non-resident corporations belonging to the same economic group; it also includes trade credit received.

CHART 5.1.3

INDEBTEDNESS OF THE NON-FINANCIAL PRIVATE SECTOR

As a percentage of GDP



SOURCES: *INE* and Banco de Portugal.

serious repercussions on financial stability. Anyway, if the recovery in economic activity is slower and less intense than in previous cycles and there is no reversal in the rising trend of unemployment, an interest rate increase, in a context of high indebtedness of the non-financial private sector, may lead to a deterioration in the quality of the credit portfolio of the banking system and even to significant losses. However, according to market expectations, a rise in the key ECB interest rates is not foreseen in the near future. The main risks are associated with the persistence of unemployment that may be worsened by the loss of competitiveness of the tradable sector, which, in a context of increased international competition, has shown the structural vulnerabilities of the Portuguese economy. The rise in long-term unemployment over the past few years also points in the same direction.

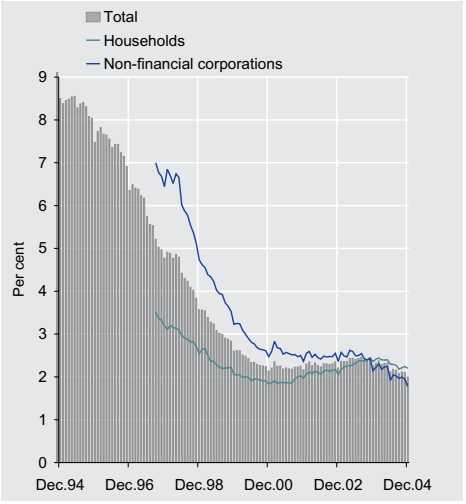
In the current phase of the cycle, the ratio of credit and interest overdue and other non-performing loans to total credit to the non-financial private sector has remained at levels well below those recorded in the previous slump (Chart 5.1.4). This is closely related to the fact that currently interest rates are significantly lower both in nominal and real terms (Chart 5.1.5). The fact that in the current cycle the share of credit in banks' total assets is far higher than in the previous cycle does not change this conclusion, as implicit in the trend of the ratio of credit overdue to banks' total assets (Chart 5.1.6).

In order to assess to which extent the high indebtedness of the non-financial private sector contributes to credit risk, it is important to take also into account the evolution of wealth in the assets of this sector, which is particularly relevant in the case of households. Using recently compiled information on the financial and non-financial assets of this sector, it can be seen that they also increased strongly in the past few years, to a certain extent, mitigating the impact of the increased indebtedness on risks to financial stability[4]. However, for a correct assessment of the contribution of the non-financial private sector to the stability of the financial system it does not suffice to analyse aggregate indicators, which only represent average figures and do not duly reflect the main risk sources generally

4. See F. Cardoso and V. Cunha (2005), "Household wealth in Portugal: 1980-2004", Banco de Portugal *Working Paper* no.4

CHART 5.1.4

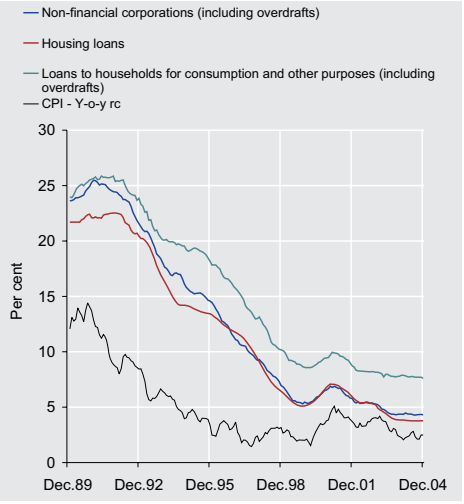
DEFAULT RATIOS IN CREDIT TO RESIDENT CUSTOMERS[a]



SOURCE: Banco de Portugal.
NOTE:
(a) Credit and interest overdue and other non-performing loans as a percentage of total credit to the sector.

CHART 5.1.5

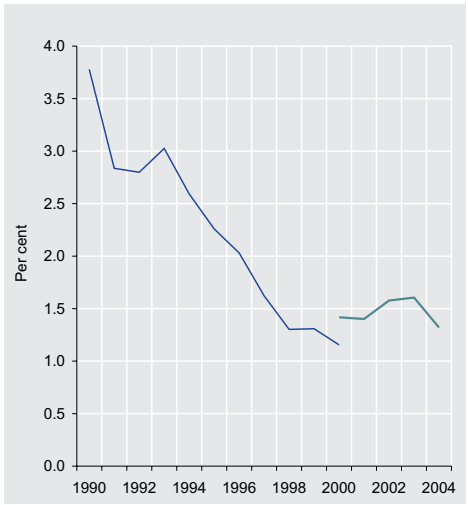
INTEREST RATES ON BANKING LOANS AND INFLATION RATE



SOURCES: *INE* and Banco de Portugal.

CHART 5.1.6

CREDIT AND INTEREST OVERDUE AS A PERCENTAGE OF ASSETS[a]



SOURCE: Banco de Portugal.
NOTE:
(a) Data on a consolidated basis for 2001-2005 and on an individual basis for 1990-2000, considering that no figures on a consolidated basis are available for the latter period.

seen in extreme observations. Using disaggregated data at microeconomic level, it is possible to characterise with some detail the distribution of indicators, such as indebtedness ratios, debt burden or debt-to-asset ratio, to identify extreme cases that may be particularly relevant for the analysis of credit risk. Results obtained on the basis of household surveys' data suggest, in general, that at the level of individual households (at least until 2000) there were no serious situations in terms of the indebtedness ratio, debt burden and debt-to-asset ratio. However, the fact that households are highly indebted, especially

the younger ones, makes them more sensitive to interest rate changes. In the younger groups, which tend to have lower income and higher propensity to switch to unemployment, more serious situations may occur in the case of a sharp rise in interest rates[5].

Finally, it should be noted that the international exposure of the domestic banking system to the non-resident sector is low, reflecting its reduced internationalisation compared with other euro area countries. On the one hand, assets and liabilities, denominated in the local currency, of branches and subsidiaries abroad of Portuguese banking groups vis-à-vis residents in the countries in which they are located are negligible. On the other hand, international claims included in the balance sheet on a consolidated basis are, to a larger extent, on the non-resident banking institutions and, to a smaller extent, on the public sector with high sovereign rating. Therefore, risks associated with the direct international exposure do not seem significant.

5.2. Households

During the 1990s, households' indebtedness increased at a strong pace, in a macroeconomic context characterised by a continued rise in income (perceived as permanent) and a sustained fall in the cost of indebtedness and in its volatility. This context was broadly favourable to the increase in both consumer and investment expenditure of this sector, leading to a drop in the savings rate and to a decline in the financing capacity, which was even marginally negative in 1999[6] (Chart 5.2.1). This trend was reversed in 2000, with the rise in market interest rates, which, in turn, resulted from the successive rises in the ECB intervention rates, by a total of 2.25 p.p., from the last quarter of 1999 to end-2000. In this context, in 2000 the household savings rate increased further, in part, due to the repayment of loans contracted in the previous years and to a recovery in the financing capacity. In 2002 and 2003 the household savings rate was relatively stable and the financing capacity of the sector increased slightly, chiefly mirroring a decline in investment as a percentage of GDP. In 2004 consumption is estimated to have increased at a higher pace than disposable income, leading to a significant drop in the household savings rate and financing capacity[7] (Chart 5.2.1). The decrease in the financial savings of the sector mainly mirrored the reduction in the net flow of its financial investments, in line with the maintenance of interest rates at historically low levels. In turn, the net flow of household indebtedness, as a percentage of GDP, remained broadly unchanged at the 2003 level.

In 2004, despite the stabilisation of the net flow of the indebtedness, the stock of household debt continued to increase, reaching 118 per cent of disposable income, i.e. approximately 8 p.p. higher than in the previous year (Chart 5.2.2). The household indebtedness ratio, which stood below 20 per cent in 1985, increased continually over the last twenty

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5. See the article entitled "Indebtedness and wealth of the Portuguese households" in this report.

6. According to national accounts' definitions, net lending (net borrowing) of an institutional sector over a specific period of time, is defined as the difference between resources (income and transfers received) and uses (expenditure in goods and services and transfers paid) of the sector in this period:

$$\text{Net Lending/Borrowing} = Y + T - C - I$$

where Y is income, C and I respectively consumption and investment expenditure and T net transfers. As the difference between income and consumption defines savings, S, net lending/borrowing is given by the difference between savings (plus net capital transfers) and investment of the sector:

$$\text{Net Lending/Borrowing} = S + Tk - I$$

where S is savings and Tk net capital transfers. Net lending/borrowing has a correspondence on the financial operations side, i.e., apart from any statistical discrepancies, it is equal to the difference between financial investments made and financial liabilities incurred in the same period.

7. In 2003, households' net incurrence of liabilities and net lending were adjusted from the effect of securitisation of tax arrears.

CHART 5.2.1

HOUSEHOLDS' SAVING, INVESTMENT, NET FINANCING CAPACITY AND FINANCIAL OPERATION

As a percentage of GDP

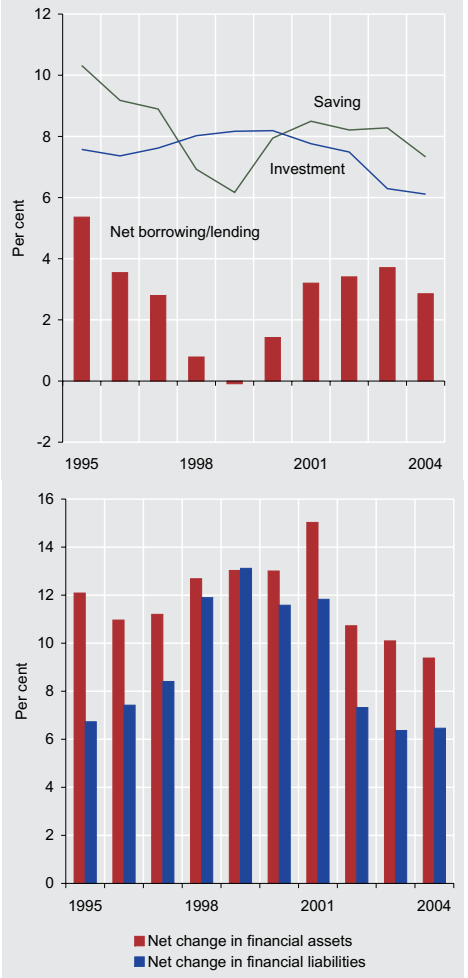
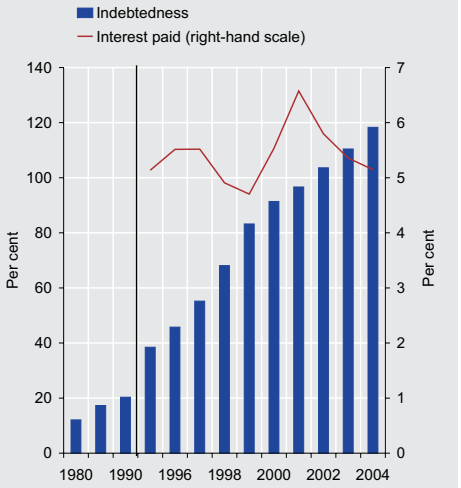


CHART 5.2.2

HOUSEHOLD INDEBTEDNESS AND INTEREST PAID

As a percentage of disposable income



SOURCES: *INE* and Banco de Portugal.

SOURCES: *INE* and Banco de Portugal.

years, in particular in the second half of the 1990s. In the past few years, although the household indebtedness continued to increase, the fall in interest rates led to a significant reduction in the weight of interest paid by the sector as a percentage of disposable income. It should be noted that in 2004 the value of this indicator was broadly similar to that recorded in 1995, although indebtedness is currently far higher. In 2004 total debt servicing, which also includes principal repayments, may also have declined as a percentage of disposable income. This pattern seems to have largely resulted from the lengthening of contractual maturities of housing loans, which however is difficult to quantify.

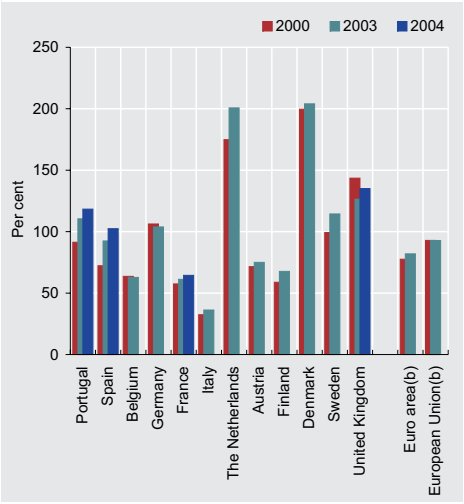
The current household indebtedness ratio is very high by historical standards and international standards. In most other European economies, this ratio has also shown an upward trend. However, the relative position of Portugal has changed, its ratio exceeding the European average in 1999. Currently the household indebtedness ratio in Portugal, within the euro area, is only exceeded by that of the Netherlands (Chart 5.2.3).

The historically low level of interest rates has largely contributed to the sustained growth of household debt at higher rates than those of disposable income. After increasing strongly at the end of the 1990s (around 35 per cent in June 1999), the growth rate of

CHART 5.2.3

HOUSEHOLD INDEBTEDNESS IN EUROPEAN UNION COUNTRIES

As a percentage of gross disposable income



SOURCES: Eurostat (including 2003), national central banks and national statistical offices.
NOTES:
(a) Including liabilities on account of securities other than shares and loans to households and non-profit institutions serving households (consolidated accounts).
(b) Excluding, Greece, Ireland and Luxembourg.

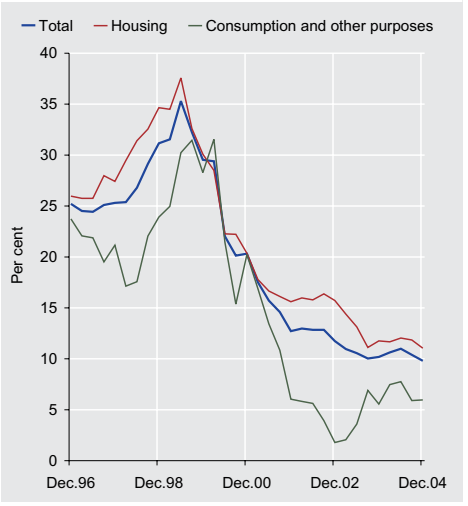
credit to households declined significantly in 2000, reflecting, on the one hand, the upward trend of interest rates and, on the other, the adjustment process of household balance sheets to the high indebtedness levels (Chart 5.2.4). The decelerating trend in credit to households did not persist in 2002, partly reflecting earlier housing investment decisions in anticipation of the abolition of subsidised regimes, announced in May 2002 and implemented from October onwards. Subsequently, despite a deceleration in economic activity and an increase in unemployment, the growth pace of credit to households stabilised at around 10 per cent (Charts 5.2.4 and 5.2.5). In December 2004 the growth rate of credit to households stood at 10 per cent, i.e. broadly unchanged from the previous year, but with a different intra-annual pattern. The moderate acceleration in the growth of credit in 2003, persisted in the first half of 2004, but did not continue in the second half of the year. The reversal in the trend chiefly reflected developments in loans for house purchase, which have a strong weight in household debt (approximately 75 per cent at the end of 2004). In turn, the growth rate of loans for other purposes, which is far more volatile, fluctuated somewhat in the course of the year, albeit remaining clearly below that of housing loans.

Turning to the number of housing loans, data available suggest a slight recovery in 2004, although the number of new loans continues to be far lower than at the end of the 1990s (Chart 5.2.6). It should be noted, however, that these figures are influenced by the occurrence of "loan replacement contracts", which gained some importance in a context of strong competition between banks. The average value of housing loans has been increasing steadily, despite a moderation in the growth of house prices. In the most recent period, this may be related to shifts in the type of houses purchased towards bigger or higher quality houses. In addition, the rise in the average value of each loan is also consistent with the rise in the loan-to-value ratio in the past few years[8] (Chart 5.2.7).

CHART 5.2.4

LOANS TO HOUSEHOLDS EXTENDED BY RESIDENT CREDIT INSTITUTIONS

Annual rates of change of adjusted balances[(a)]

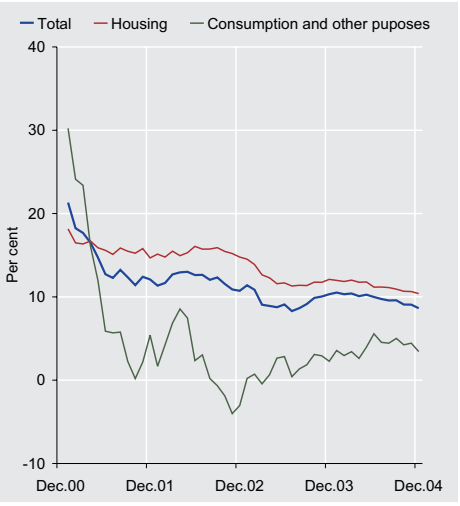


SOURCE: Banco de Portugal.
NOTE:
(a) Adjusted for securitisation and corrected of reclassifications, write-offs/write-downs, and exchange rate and price revaluations.

CHART 5.2.5

LOANS TO HOUSEHOLDS

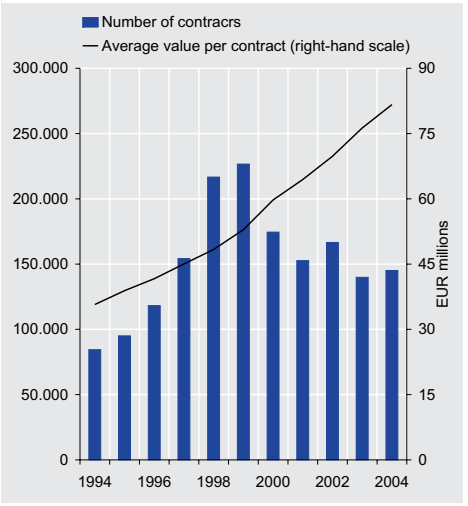
Annualised half-year rates of change of seasonally adjusted figures[(a)]



SOURCE: Banco de Portugal.
NOTE:
(a) Rates calculated from previously adjusted figures for securitisation and corrected of reclassifications, write-offs/write-downs, and exchange rate and price revaluations.

CHART 5.2.6

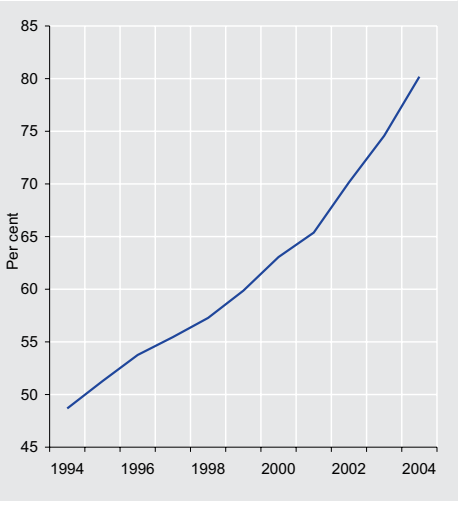
NEW HOUSING LOAN CONTRACTS



SOURCE: *Direcção Geral do Tesouro*.

CHART 5.2.7

AVERAGE LOAN-TO-VALUE IN HOUSING LOAN



SOURCES: *Direcção Geral do Tesouro*, *Newsletter Confidencial Imobiliário* and Banco de Portugal.

Although in 2004 the net flow of housing loans declined as a percentage of GDP, the maintenance of a strong growth of this type of loans will continue to reflect, on the supply side, the need to avoid the loss of market shares, against a background of strong competitive pressure. Hence, the Bank Lending Survey continued to show an easing in credit standards imposed on housing loans, translated into the squeeze of profit margins (chiefly on lower risk loans) and into the lengthening of contractual maturities. In fact, this type of

8. The loan-to-value ratio assesses the relationship between lending and house prices.

CHART 5.2.8 – A

BANK LENDING SURVEY

Standards underlying the granting of loans to households and key determinants
For house purchase

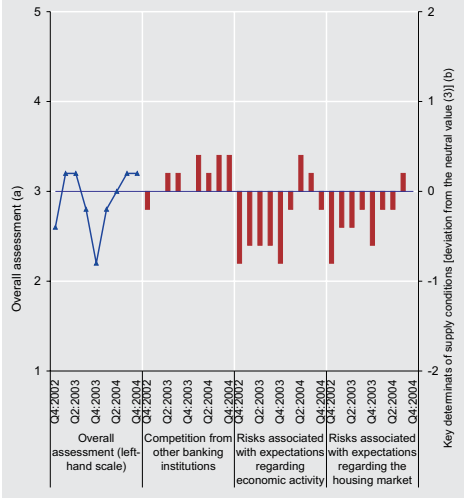
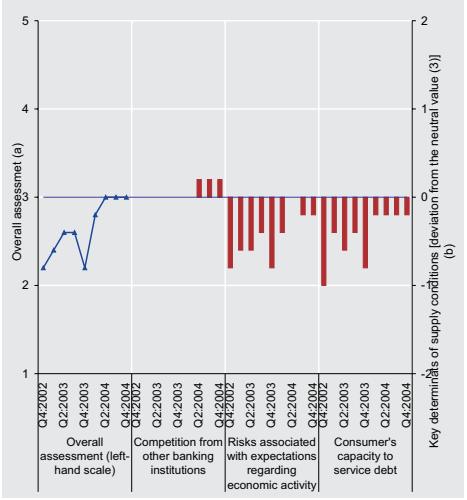


CHART 5.2.8 – B

BANK LENDING SURVEY

Standards underlying the granting of loans to households and key determinants
For consumption and other purposes



SOURCE: Banco de Portugal.
NOTES:
(a) Average of replies of the five Portuguese banking groups responding to the Bank Lending Survey of the euro area. Figures below 3 represent tighter credit standards than in the preceding quarter; figures above 3 represent the easing of credit standards.
(b) Negative figures represent a contribution to the easing of credit standards.

loans is perceived by banks as less risky (given the guarantees with which they are associated and because, at least apparently, there are no signs of a speculative bubble in the real estate market). Consequently housing loans are less burdensome regarding own funds and provisions requirements. With respect to loans for other purposes, survey results point to the maintenance of tight credit standards by banks (Charts 5.2.8-A and 5.2.8-B). This notwithstanding, profit margins in this credit segment were slightly squeezed as from the second quarter of 2004 (Chart 5.2.9). This attitude towards risk was particularly noticeable in the case of the five major Portuguese banking groups. Indeed, their market share remained broadly stable in the case of housing loans, falling significantly in the case of loans for other purposes (Chart 5.2.10).

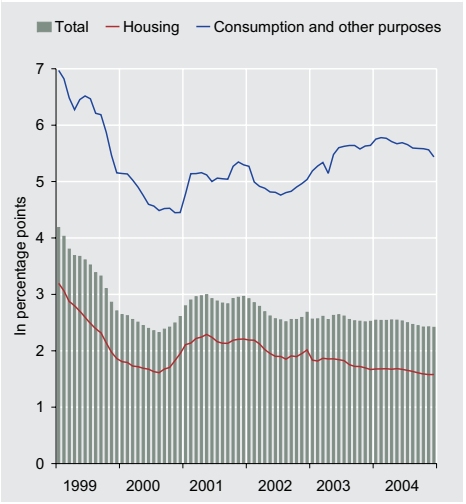
The sustained growth of the household indebtedness ratio and, in particular the strong increase in the debt burden in the second half of the 1990s may have caused concern about the sustainability of household debt. It should be noted however that these ratios, as measured in aggregate terms, not only reflect the value of indicators of households with debts but also the number of those indebted. The risks to financial stability mostly depend on the individual level of the household debt burden, especially on the extreme values of the indicator that characterise specific groups of the population (e.g. the younger age groups, with lower income and more precarious labour situation). Therefore, it is very important to have disaggregated data at microeconomic level. On the basis of this type of information, it may be stated with a certain degree of confidence that from 1994 to 2000 there were no marked increases in the individual indebtedness ratio or in the individual debt burden[9]. The increase in aggregate indicators, over the same period, seems to have chiefly reflected the sharp rise in the number of indebted households. Hence, this increase did not result from the emergence of particularly serious household debt servicing

9. Results obtained from data compiled from the Household Wealth and Indebtedness Surveys (*Inquéritos ao Património e Endividamento das Famílias - IPEF*) conducted in 1994 and 2000.

CHART 5.2.9

MARGINS IN CREDIT TO HOUSEHOLDS

Calculated from interest rates on end-of-period outstanding balances[(a)]



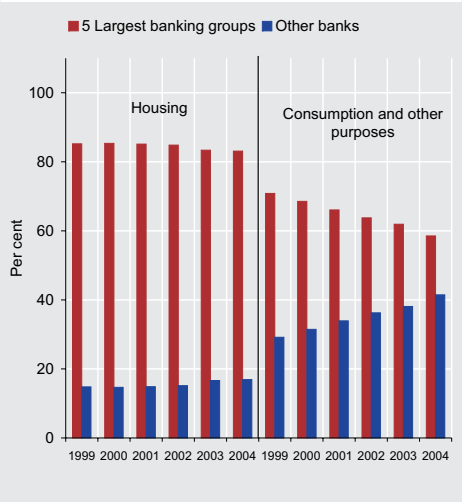
SOURCE: Banco de Portugal.

NOTE:

(a) Margins calculated as the difference between interest rates on outstanding balances (estimates, up to December 2002) and money market rates: 6-month moving average of 6-month Euribor, for housing, and 3-month moving average of 3-month Euribor, for credit for other purposes. For the total, the margin corresponds to the average weighted by end-of-period balances of margins by purpose.

CHART 5.2.10

MARKET SHARES IN HOUSING LOAN SEGMENTS



SOURCE: Banco de Portugal.

situations. This scenario seems to have remained broadly unchanged after 2000, given the fall in interest rates and the recent lengthening of housing loan maturities.

The implications of the rise in household indebtedness on financial stability depend, to a large extent, on this sector's wealth. In the case of households, assets, chiefly real assets, are frequently used as a guarantee for loans, minimising the lender's loss in case of insolvency of the borrower. This is typically the case of housing loans. Therefore, to make a correct assessment of household solvency, it does not suffice to analyse the indebtedness of the sector. Net wealth, i.e. debt minus assets (both financial and non-financial) should also be considered. Net wealth measures the capacity of a sector to meet its liabilities if it had to use its assets. It is estimated to have remained clearly positive as a percentage of disposable income (Chart 5.2.11). However, the debt-to-asset ratio increased in aggregate terms. As referred to above, in order to make a correct assessment of household vulnerability, in the case of a shock in interest rates and/or in unemployment, it is important to analyse in detail the distribution of the indicator, in particular in the segments where the most relevant situations may arise. The results of the article entitled "Indebtedness and wealth of the Portuguese households" in this report suggest that in the absence of sharp price reductions in the real estate market and/or of a marked rise in interest rates, the net wealth of indebted households is globally sound, although there are some more vulnerable groups, in particular the younger households with lower income.

In case of a sharp rise in interest rates, the probability of default is higher for households facing extreme debt servicing situations. The box entitled "Assessing the interest rate sensitivity of household balance sheets" analyses the sensitivity of this distribution to interest rate rises based on the distribution of the debt burden underlying the data from the Household Wealth and Indebtedness Survey of 2000,. The results show that the rise in in-

BOX 5.1: ASSESSING THE INTEREST RATE SENSITIVITY OF HOUSEHOLD BALANCE SHEETS

The high indebtedness level of Portuguese households, currently observed, may raise concern about the ability of households to assure the service in the future of the debts in the meantime accumulated. Expectations of rising interest rates in the future will raise these concerns, particularly if the current trend increase in unemployment is not reversed.

Data compiled on individual households, within the scope of the household wealth and indebtedness surveys conducted in 1994 and 2000, suggest that the rise in the average indebtedness and debt burden in the economy resulted chiefly from a strong increase in the number of indebted households rather than from a significant rise in the individual indebtedness ratio or in the individual debt burden. Wider access to credit was possible due to the easing of the liquidity restrictions associated with the fall in interest rates in nominal terms. More recently, the maintenance of interest rates at historically low levels and the behaviour of banks in order not to lose market shares in the housing credit segment, in particular by lengthening the contractual maturities of loans, have prevented serious problems in household balance sheets. There are however some types of households, in particular the younger ones, with lower educational levels or lower income, that are in a more vulnerable situation. These households may be particularly sensitive to a rise in interest rates.

This box assesses the interest rate sensitivity of household balance sheets. The distribution of the debt burden underlying the data from the 2000 survey is used as a basis for comparison with the estimated distributions resulting from increases by 1, 2 or 3 p.p in interest rates, other things equal. Chart 1 shows that the estimated density probability functions shift to the right when the interest rate is raised. Therefore, very high debt burdens may show a non-negligible probability. It should be noted that this analysis is limited by the fact that possible changes in other relevant variables, correlated with interest rate changes, were not taken into account.

CHART 1
DISTRIBUTION OF DEBT BURDEN

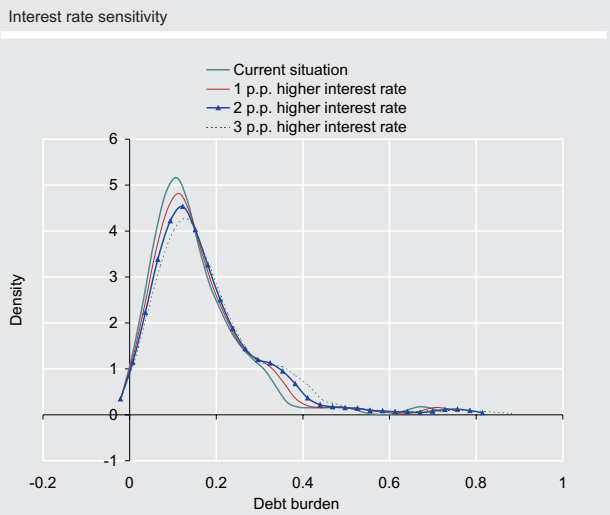
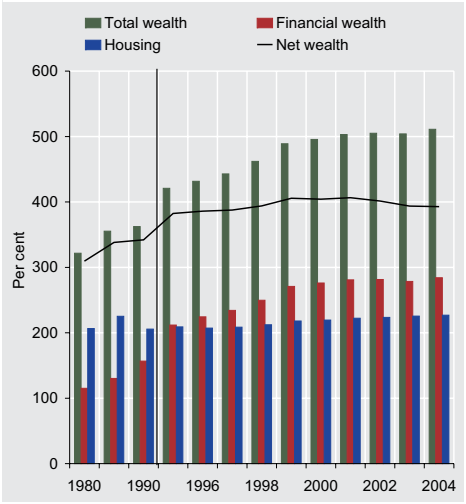


CHART 5.2.11
HOUSEHOLD WEALTH

As a percentage of disposable income



SOURCES: *INE* and Banco de Portugal.

terest rate causes a shift of the estimated distribution to the right. Thus, if interest rates rise significantly, the likelihood of extreme debt burden situations may become non-negligible.

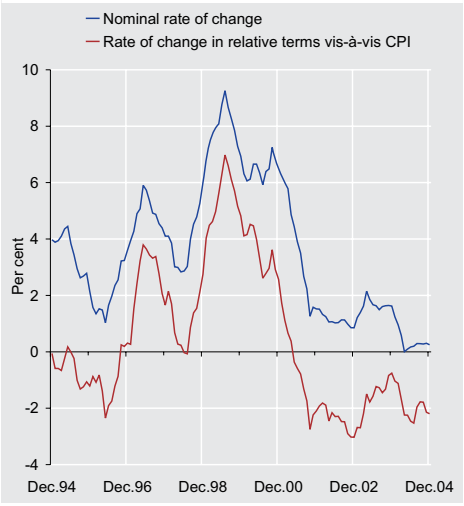
Price developments in the real estate market may also have relevant implications from a macroeconomic point of view and on financial stability. Wealth gains associated with a valuation of real estate assets may contribute to a reduction in savings and to a rise in consumption (through the so-called wealth effect). Likewise, a brisk reduction in prices in this market may imply a relatively marked deceleration in consumption, in particular if, in a context of high indebtedness levels, it is followed by a rise in interest rates. In turn, in case of persistent non-performance of loans, banks face the risk of bearing significant losses, if they need to use mortgages to recover debts, in a context in which the underlying assets may have suffered devaluation. In Portugal, house prices increased by approximately 40 per cent from the beginning of 1995 to end-2004. This change is very close to the change in the Consumer Price Index (CPI) for the same period and far lower than in other countries, such as Spain, Ireland and the United Kingdom, where house prices more than doubled. The above-mentioned increase was concentrated in the 1995-2000 period, with a cumulative percentage of around 33 per cent, i.e. approximately 15 p.p. more than the CPI. However, since mid-2001, negative real growth rates have been recorded, a trend that became more marked in 2004 (Chart 5.2.12).

In recent years, the rise in unemployment and the slowdown in real disposable income, whose change was marginally negative in 2003, were reflected in a deterioration of the quality of credit granted by banks to households, remaining however at lower levels than those seen at the comparable stage of the previous cycle, given the far lower level of (nominal and real) interest rates. In 2004, despite the weak growth of disposable income, household credit default indicators point to a reversal of this trend. The ratio of credit overdue to total credit granted to this sector declined, especially as regards loans for other purposes, whose default rate is far higher than that of housing loans (Chart 5.2.13-A). The estimated value of the annual flow of new credit overdue as a percentage of loans showed a clearly downward trend in the course of 2004 (Chart 5.2.13-B). In turn, the ratio

CHART 5.2.12

HOUSING PRICES

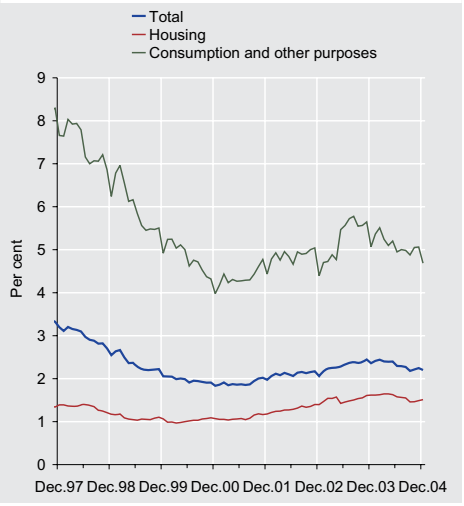
Year-on-year rate of change



SOURCES: *Newsletter Confidencial Imobiliário* and *INE*.

CHART 5.2.13 – A

DEFAULT RATIOS OF BANK CREDIT TO HOUSEHOLDS

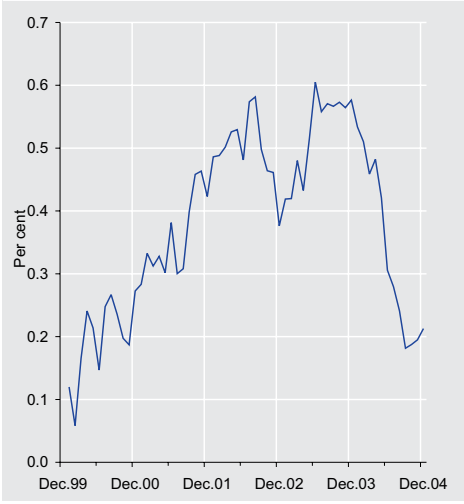


SOURCE: Banco de Portugal.

CHART 5.2.13 – B

ANNUAL FLOW OF NEW CREDIT OVERDUE AND OTHER NON-PERFORMING LOANS OF HOUSEHOLDS

As a percentage of loans

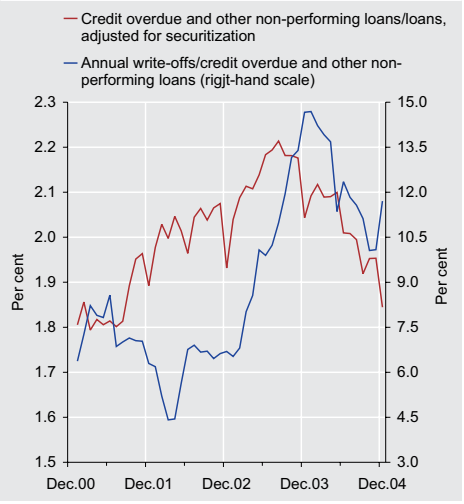


SOURCE: Banco de Portugal.

NOTE: Estimate of the annual flow of new credit overdue and other non-performing loans (adjusted for write-offs/write-downs) as a percentage of bank loans (adjusted for securitisation).

CHART 5.2.13 – C

DEFAULT RATIOS OF LOANS TO HOUSEHOLDS



SOURCE: Banco de Portugal.

of non-performing loans[10] to total loans (adjusted for securitisation transactions) followed a downward trend as from the third quarter of 2003, which persisted in 2004. Developments in this indicator are influenced by the flow of credit deducted from assets, i.e., deductions contribute to lower the ratio. In the course of 2004, unlike in 2003, the ratio of the annual flow of credit deducted from total non-performing loans declined significantly (Chart 5.2.13-C). This broadly based improvement in household credit default ratios seems to have reflected the maintenance of interest rates at historically low levels, as well

10. The concept of non-performing loans includes credit and interest overdue and other credit considered to be doubtful by banks.

as the credit policies pursued by banks, especially in the housing segment, in order to reduce in the short run households' debt burden, chiefly through the lengthening of contractual maturities.

5.3. Non-financial corporations

In 2004 the financing needs of non-financial corporations increased from 2.4 to 3.7 per cent of GDP, reversing the trend decline observed since 2001 (Chart 5.3.1)[11]. In line with the signs of moderate recovery in economic activity, estimates point to a slight increase in investment of the sector as a percentage of GDP. In turn, savings of non-financial corporations, which are strongly correlated with corporate profits, seem to have declined in 2004, as a percentage of GDP, in part, reflecting the sharp rise in the prices of oil and other raw materials, the growth of wage costs and the strong growth of corporate taxation, offsetting the effects of the stabilisation of the debt burden. In fact, due to the maintenance of interest rates at historically low levels the interest component of the debt servicing has shown a clearly downward trend since 2002, despite the high indebtedness level of non-financial corporations (Chart 5.3.2).

The increase in the financing needs of non-financial corporations in 2004, contrasted with the significant fall recorded in the previous year, resulting from the growth of savings and the reduction in investment, in line with the cyclical slump. In the peak of the cycle, the sector showed high financing needs, having reached a maximum above 8 per cent of GDP, in 2000. In that period, there was, on the one hand, a significant rise in fixed-capital investment by non-financial corporations, with a steady increase in the investment-to-GDP ratio, between 1995 and 2000. On the other hand, chiefly between 1999 and 2001, the financing needs of the sector also reflected intense mergers and acquisitions activity related to the restructuring and/or internationalisation of some Portuguese economic groups. These movements made a significant contribution to the rise in the volume of financial transactions by non-financial corporations, both on the assets and on the liabilities side, widening the amplitude of their cyclical component. In 2002 the lower volume of this type of operations translated into a marked reduction in financial operations of the sector (both deposit and lending operations). The amount of assets stabilised subsequently, while liabilities showed a trend decline until 2003, which was reversed in 2004.

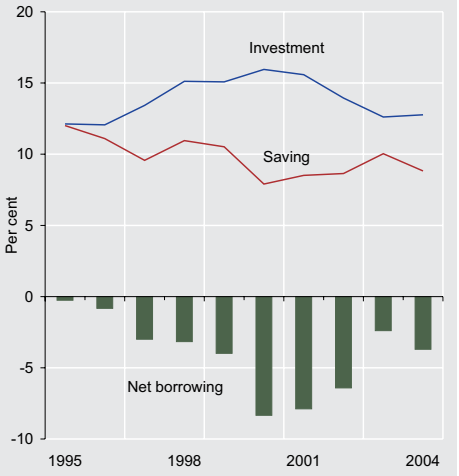
The indebtedness of non-financial corporations increased markedly between 1997 and 2001, to 97 per cent of GDP. Subsequently, it slowed down significantly, in the context of the adjustment process of the financial situation of the sector. However, in Portugal the ratio of the debt of non-financial corporations to GDP remained as one of the highest in the context of the European economies (Chart 5.3.3). The structure by contractual maturities of the indebtedness of the non-financial corporate sector has remained relatively stable, the medium and long-term component showing a larger weight (around 60 per cent). Considering that most medium and long-term loans are contracted at floating interest rates (indexed to money market rates), the financial situation of the sector is particularly sensitive to the trend of market interest rates. The indebtedness structure by maturities of Portuguese corporations is similar to the average of the euro area countries, differing significantly from the majority of those countries in terms of the weight of fixed-rate financing.

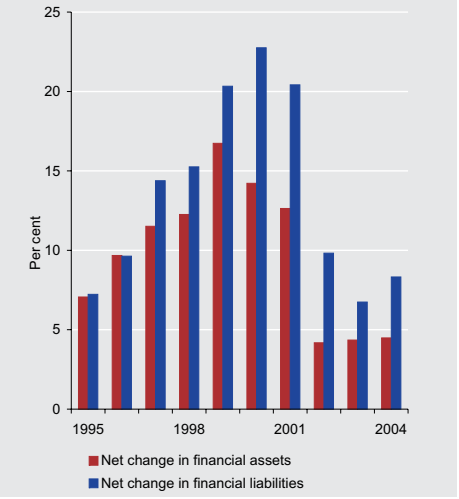
11. In 2003, non-financial corporations' net incurrence of liabilities and net borrowing were adjusted from the effect of securitisation of tax arrears. In 2004, they were adjusted from the effect of transferring the pension funds of a few state-owned corporations to the public administrations. Furthermore, the net acquisition of financial assets and the net incurrence of liabilities do not include foreign direct investment and other investment flows of non-financial corporations having their head office in the Madeira and Azores offshore financial centres.

CHART 5.3.1

SAVING, INVESTMENT, NET FINANCING NEEDS AND FINANCIAL OPERATIONS OF NON-FINANCIAL CORPORATIONS

As a percentage of GDP



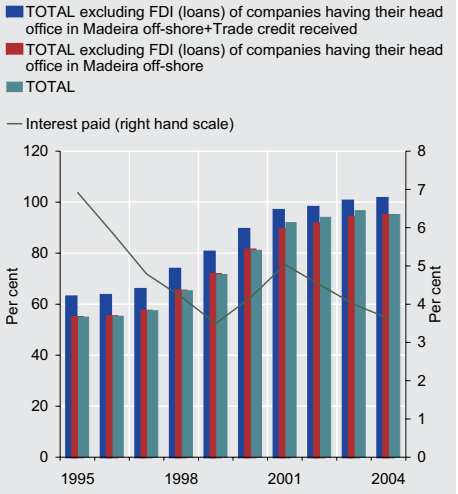


SOURCES: *INE* and Banco de Portugal.

CHART 5.3.2

TOTAL DEBT OF NON-FINANCIAL CORPORATIONS

As a percentage of GDP



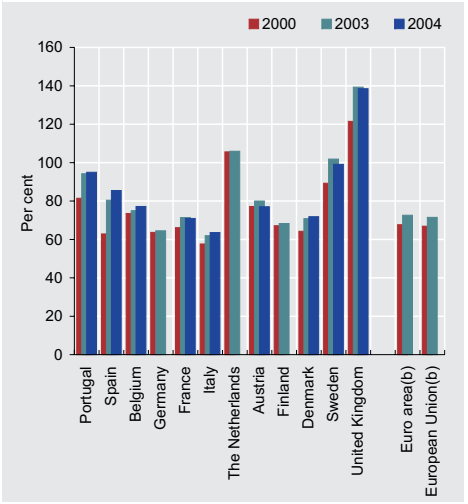
SOURCES: *INE* and Banco de Portugal.

The composition of indebtedness by types of instruments reveals the predominance of loans granted by resident financial institutions (Chart 5.3.4). This type of financing of non-financial corporations, whose weight remained virtually unchanged, especially after 2000, corresponded to approximately 70 per cent of the total liabilities of the sector at end-2004. The weight of securities - commercial paper plus bonds - also remained relatively stable at around 12 per cent over the same period. It should also be noted that the share of banks in the financing of non-financial corporations should not be exclusively measured by credit granted, given that a significant share of the securities issued by corporations is also taken by banks. In the case of commercial paper, approximately 30 per cent of the amount outstanding issued by non-financial corporations was held in the banks' portfolios in December 2004, compared with around 26 per cent in 2003 and around 20 per cent in 2002. Contrasting with loans, currently the largest majority of medium and long-term bonds issuance by non-financial corporations is at a fixed rate. Thus, it is possible to isolate this part of the debt from interest rate fluctuations. However, the stock of bonds issued at fixed rate has a relatively small share in the total debt of the sector as a whole (approximately 3 per cent), being only relevant for a small number of large corporations.

CHART 5.3.3

INDEBTEDNESS OF NON-FINANCIAL CORPORATIONS IN EUROPEAN UNION COUNTRIES[a]

As a percentage of GDP



SOURCES: National financial accounts, Eurostat (including 2003), national central banks and national statistical offices.

NOTES:

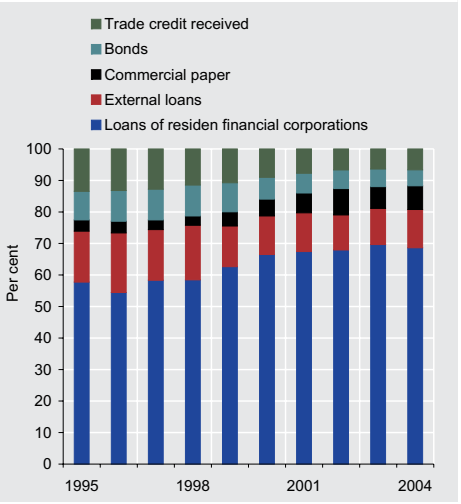
(a) Including securities other than shares and loans (consolidated accounts, except for the United Kingdom). Excluding trade credit received.

(b) Excluding Greece, Ireland and Luxembourg.

CHART 5.3.4

DEBT OF NON-FINANCIAL CORPORATIONS

Structure by instrument



SOURCE: Banco de Portugal.

In the first half of 2004, signs of some recovery in economic activity seem to have fuelled an increase in the demand for financing by non-financial corporations. Nevertheless, the annual rate of change in the indebtedness of the sector[12] was slightly lower than in the previous year (Chart 5.3.5). Turning to financing through bank credit, developments in 2004 seem to point to a moderate upward trend in the first quarter not confirmed during the course of the year (Chart 5.3.6).

In turn, on the supply side of credit, the results of the Bank Lending Survey suggest that in the second half of 2004, the five major banking groups, on average, eased their credit standards for loans to non-financial corporations (Chart 5.3.7). In the course of the year, the credit standards reflected increasingly competition between banks and decreasingly concerns about the risks associated with the economic juncture and the situation in specific sectors or corporations. The less tight credit standards suggested by the results of the above-mentioned survey are consistent with the evolution of the interest rate margins of loans to corporations, which have showed a trend decline since the second quarter of the year (Chart 5.3.8).

During the cyclical slump, tighter credit standards imposed by the major banks seem to have led some of their customers to demand credit from the smaller institutions, which were willing to assume this additional risk. Therefore non-financial corporations have been able to keep financing through bank credit. It should be noted that empirical evidence on relationship lending in the credit market in Portugal suggests that corporations with higher profitability tend to maintain a longer and exclusive relationship with one bank[13]. In turn, corporations with worse results tend to diversify at an earlier stage their relationships with

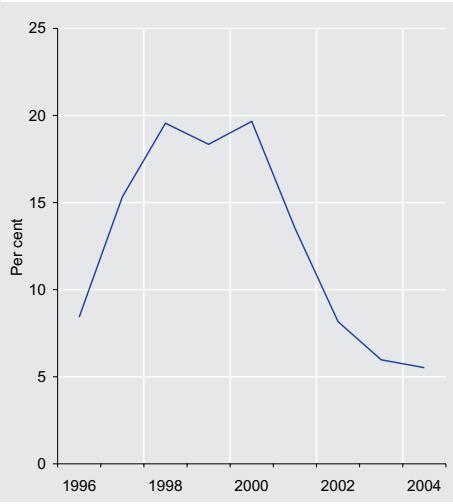
12. Calculated on the basis of flows adjusted for reclassifications and revaluations.

13. See L. Farinha and J. Santos (2002), "Switching from single to multiple bank lending relationships: determinants and implications", *Journal of Financial Intermediation*, 11, pp.124-151.

CHART 5.3.5

CREDIT TO NON-FINANCIAL CORPORATIONS

Annual rates of change

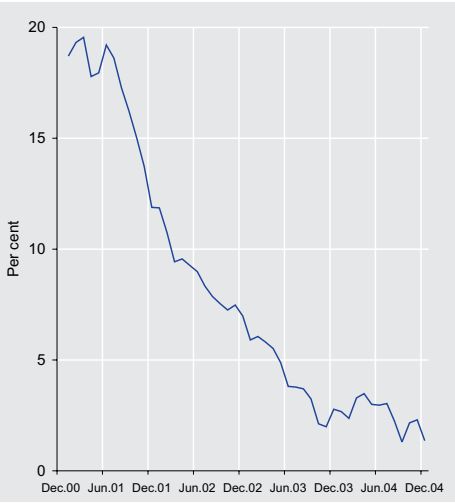


SOURCE: Banco de Portugal.

CHART 5.3.6

BANK LOANS TO NON-FINANCIAL CORPORATIONS

Annualised half-year rates of change of seasonally adjusted figures

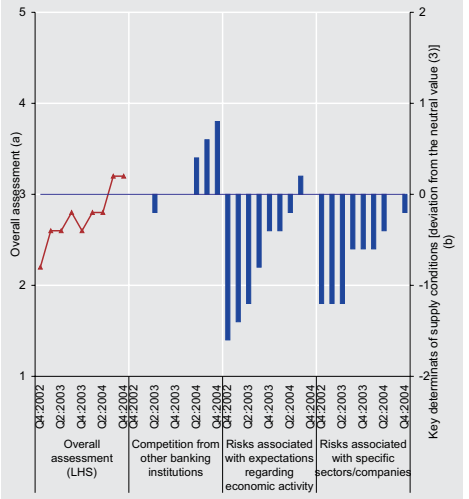


SOURCE: Banco de Portugal.
NOTE: Adjusted for securitisation and corrected of reclassifications, write-offs/write-downs, and exchange rate and price revaluations.

CHART 5.3.7

BANK LENDING SURVEY

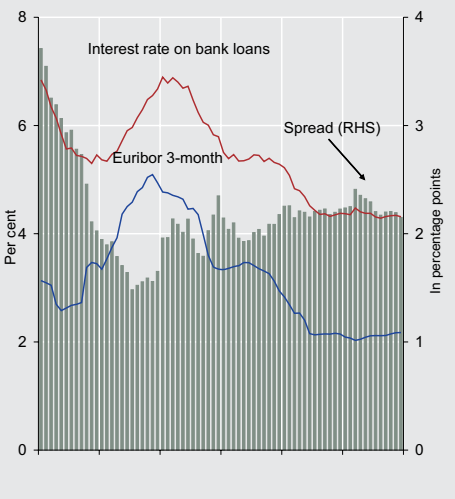
Credit standards and key determinants
Non-financial corporations



SOURCE: Banco de Portugal.
NOTES:
(a) Average of replies of the five Portuguese banking groups responding to the Bank Lending Survey of the euro area. Figures below 3 represent tighter credit standards than in the preceding quarter; figures above 3 represent the easing of credit standards.
(b) Negative figures represent contributions to tighter credit standards than in the preceding quarter; positive figures represent contributions to the easing of credit standards.

CHART 5.3.8

MONEY MARKET INTEREST RATES OF BANK LOANS TO NON-FINANCIAL CORPORATIONS AND RESPECTIVE SPREADS[a]



SOURCE: Banco de Portugal.
NOTE:
(a) Rates and spreads refer to end-of-period outstanding balances. Up to December 2002, interest rates on outstanding balances are estimates. Spreads are calculated as the difference between the interest rate on outstanding balances and the 3-month moving average of 3-month Euribor.

banks. In 2004 the banks belonging to the five major banking groups recorded a small loss of market share in the loans granted to non-financial corporations, although the results of the Bank Lending Survey showed an easing of credit standards in loan approval conditions in the second half of the year (Chart 5.3.9). Thus, the declining trend, which

BOX 5.2: CREDIT RISK INDICATORS OF NON-FINANCIAL CORPORATIONS

The data base of the Credit Register includes data on all credit claims higher than EUR 50 reported by all banks and non-monetary financial institutions. Credit claims are classified according to the type of credit. This classification makes a distinction between regular, overdue and potential credit and write-offs/write-downs. Considering that this is a data base containing disaggregated data simultaneously at the level of the borrower (duly preserving the respective anonymity) and of the credit institution, it is possible to construct very useful indicators from a credit risk analysis perspective. However, some caveats should be borne in mind, as this data base does not include information on the residual maturity, interest rate, or the guarantees of the loans granted.

The indicators presented in Tables 1 and 2 were obtained from credit claims of non-financial corporations registered by the end of the years 2002 to 2004. These indicators summarize the portfolio of credit granted to corporations by all credit institutions, making a distinction between large exposures and retail exposures. Large exposures refer to corporations with total liabilities in the total banking system higher than EUR 1 million, while retail exposures refer to corporations whose liabilities are lower.

Table 1 indicators suggest that, in the three years under review, the financial system was largely exposed to a reduced number of large corporations, considering that the corporations with debts exceeding EUR 1 million, represented around 6 per cent of the number of borrower corporations, concentrating nearly 80 per cent of the credit. This is even more evident if exposures above EUR 10 million are considered, which correspond to approximately 0.5 per cent of the borrower corporations and represent nearly 50 per cent of the debt of the sector. The average value of the credit claims related to large exposures (exceeding EUR 1 million) is higher than EUR 5 million. In turn, the retail exposures category is quite atomised. Although this category represents nearly 95 per cent of the total number of borrowers, it only contributed slightly more than 20 per cent to total credit.

The effect of the high concentration of credit on credit risk is, however, smoothed through the evidence that the default probability is smaller in the large exposures category. Table 2 presents three indicators calculated for total borrowers and for the large exposures and retail exposures categories. The former is based on the number of defaulters and the latter two on the amount considered to be potentially at risk: in one of them only the amount of credit and interest overdue and, in the other, the amount of total credit granted through the banking system to defaulting corporations. Thus, it can be considered that these ratios are the upper and lower limits for the defaulting measure. In 2004 the ratio of credit and interest overdue of corporations classified in retail exposures reached almost 6 per cent compared with slightly more than 1 per cent in large exposures. There is also a difference in the indicator that considers the total credit of defaulters, which is less marked than in the number of defaulters. The difference is even smaller in the case of the ratio of defaulters to total borrowers.

TABLE 1

CONCENTRATION INDICATORS OF LOANS TO NON-FINANCIAL CORPORATIONS

	December 2002	December 2003	December 2004
Large exposures (higher than or equal to EUR 1 million)			
Weight of the amount in the total	78.7%	78.7%	78.4%
Weight of the number of borrowers in the total	5.7%	5.7%	5.5%
Average balance (EUR 10^3)	5744	5696	5567
of which, higher than or equal to EUR 10 million			
Weight of the amount in the total	45.8%	45.5%	44.4%
Weight of the number of borrowers in the total	0.5%	0.5%	0.5%
Average balance (EUR 10^3)	38129	36321	34963
Retail exposures (lower than EUR 1 million)			
Weight of the amount in the total	21.34%	21.32%	21.56%
Weight of the number of borrowers in the total	94.34%	94.31%	94.46%
Average balance (EUR 10^3)	93	93	90

TABLE 2

DEFAULTER INDICATORS OF CREDIT GRANTED TO NON-FINANCIAL CORPORATIONS, BROKEN DOWN INTO THE SIZE OF THE EXPOSURE

	December 2002	December 2003	December 2004
Total exposure			
Numer of defaulters[(a)]	13.4%	13.4%	12.7%
Credit and interest overdue[(b)]	2.6%	2.5%	2.2%
Total number of defaulters[(b)]	9.2%	9.5%	7.3%
Large exposures (higher than or equal to EUR 1 million)			
Number of defaulters[(c)]	11.1%	10.8%	9.6%
Credit and interest overdue[(d)]	1.7%	1.5%	1.3%
Total number of defaulters[(d)]	8.0%	8.6%	6.1%
Retail exposures (lower than EUR 1 million			
Number of defaulters[(c)]	13.6%	13.6%	12.9%
Credit and interest overdue[(d)]	5.9%	6.0%	5.5%
Total number of defaulters[(d)]	13.3%	13.1%	11.7%

NOTES:

(a) As a percentage of the total number of defaulters.

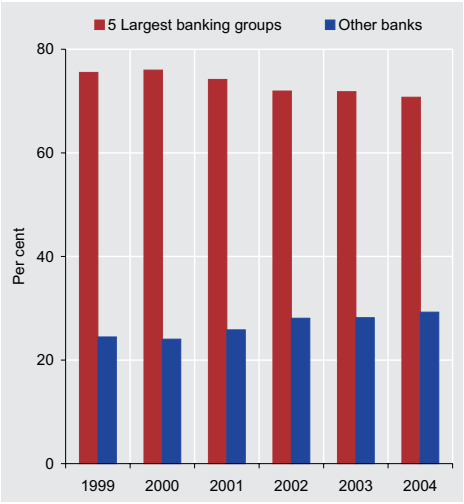
(b) As a percentage of total credit.

(c) As a percentage of the total number of defaulters in this portfolio.

(d) As a percentage of total credit in this portfolio.

CHART 5.3.9

MARKET SHARES IN THE LOANS TO NON-FINANCIAL CORPORATIONS SEGMENT



SOURCE: Banco de Portugal.

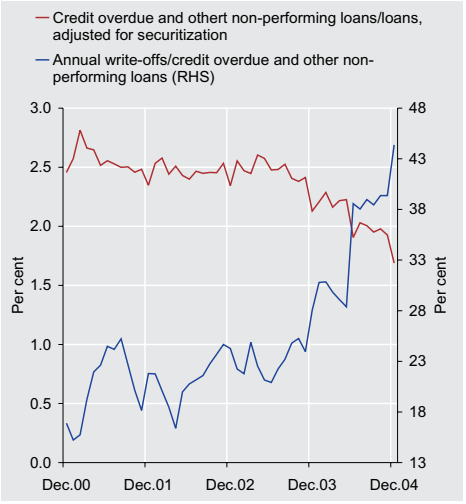
had been seen during the cyclical slump in the market share of the five major banking groups in this credit segment, persisted. This is consistent with the hypothesis that the major banks have greater capacity to limit their exposure to higher risk customers.

An important risk element for the stability of the banking system is related to the strong concentration of credit in a reduced number of large corporations, mainly of the services sector. This is illustrated in the box entitled “Indicators of credit risk of non-financial corporations”, which shows that exposures above EUR 10 million (approximately 0.5 per cent of the number of exposures) correspond to nearly 50 per cent of the credit granted by the reporting institutions. The apparent excessive concentration of the portfolio of loans to non-financial corporations in the current juncture, is however relatively benign from the credit risk point of view. In fact, banks, chiefly the larger ones, by concentrating credit in large corporations of the services sector, seem to have become relatively less exposed to the sectors and/or types of corporations with higher risk, namely corporations of the tradable sector. Data available on the accounts of non-financial corporations suggest that, on the one hand, there is a marked dichotomy between the profitability of corporations of the tradable and non-tradable sectors and, on the other, between large corporations and small and medium-sized corporations. In particular, the results of quoted corporations reveal that, on average, large corporations have been highly profitable. Most of these corporations belong to the services sector, where activity increased, contrasting with the stagnation observed in manufacturing industry. In this sector, export corporations, in turn, squeezed their profit margins, in order to counter the loss of competitiveness, in a context of appreciation of the euro and increased international competition.

In December 2004, the default intensity in the non-financial corporations, as measured by the ratio of credit and interest overdue and other non-performing loans to total loans granted by the banking sector to this sector, decreased by 0.5 p.p. from December 2003 (Chart 5.3.10-A), continuing the trend decline seen since mid-2003. This largely reflected the rise in write-offs/write-downs flows, which corresponded to approximately 30 per cent of non-performing loans in 2004, compared with 25 per cent in 2003. In turn, estimates of

CHART 5.3.10 – A

DEFAULT RATIOS OF LOANS TO NON-FINANCIAL CORPORATIONS

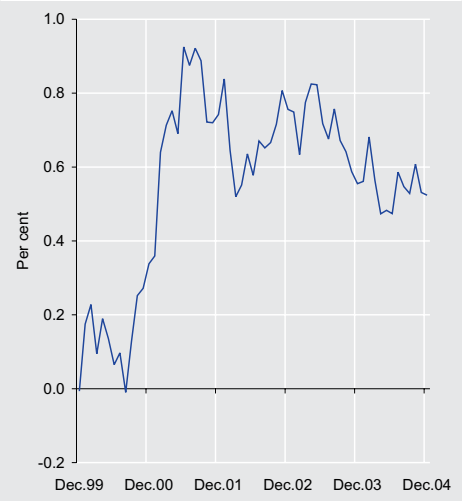


SOURCE: Banco de Portugal.

CHART 5.3.10 – B

ANNUAL FLOW OF NEW CREDIT OVERDUE AND NON-PERFORMING LOANS TO NON-FINANCIAL CORPORATIONS

As a percentage of loans



SOURCE: Banco de Portugal.
NOTE: Estimate of the annual flow of new credit overdue and other non-performing loans less write-offs/write-downs) as a percentage of bank loans (adjusted for securitisation).

the flow of new credit overdue as a percentage of loans, despite some swings, showed a trend decline (Chart 5.3.10-B).

Available evidence on the distribution of credit overdue suggests that the risks potentially associated with the high concentration of bank's loan portfolio are not so serious because, on the one hand, according to the data on Credit Register, the probability of default is inversely correlated to the company size[14]. On the other hand, the distribution of the delinquency ratio by sectors of activity[15] shows that this ratio is higher in the manufacturing sector, to which the banking system is relatively less exposed (Chart 5.3.11). This is still more evident in the breakdown of default by manufacturing industry subsectors (Chart 5.3.12). In fact, the highest contribution is given by the "manufacture of textiles" subsector, which is typically comprised of small corporations, which have a relatively low weight in banks' portfolios. It should also be noted that in 2004 most activity sectors contributed to the reduction of the overall indicator, partly reflecting some recovery in economic activity and the very low level of interest rates. However, especially in the case of the sectors more affected by the recession, this performance seems to have chiefly reflected a strong increase in write-offs/write-downs of assets considered to be uncollectable. In sum, it can be said that, in general, the breakdown of credit, both by sector of activity and company size, mitigates the probability of loss in total bank exposures to non-financial corporations. However, if any of these low probability losses materialised, it might have particularly adverse consequences on financial stability.

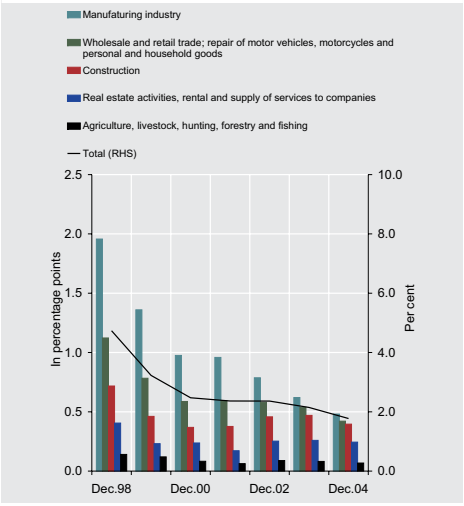
The analysis of risk in general and of credit risk in particular should be forward looking, i.e. it should enable the assessment of expected losses associated with the several types of assets, over a given time horizon. The article entitled "Estimates of expected losses in credit portfolios – an application of survival analysis to firms with default credit" uses dura-

14. See the box entitled "Credit risk indicators of non-financial companies", in this report.
15. It should be noted that the analysis of the delinquency rates by activity sector should be made with special caution, since there is no sectoral disaggregation available of write-offs/write-downs, which is needed to correct the indicator from the effect of deductions.

CHART 5.3.11

DEFAULT RATIO OF NON-FINANCIAL CORPORATIONS

Main sectoral contributions

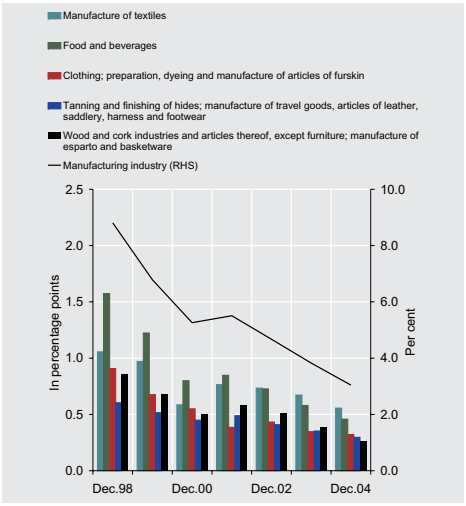


SOURCE: Banco de Portugal.

CHART 5.3.12

DEFAULT RATIOS - MANUFACTURING INDUSTRY

Main contributions



SOURCE: Banco de Portugal.

tion models to analyse the recovery or extinction process of companies with default episodes, relating it to the characteristics of the company. One of the main conclusions of the analysis is that the expected loss associated to a borrower is more dependent upon the share of credit overdue in total liabilities of this borrower than on the duration of default. This implies that the delinquency ratio is a useful measure to assess credit risk. This article also presents an analysis of the sensitivity of results to company size, concluding with a certain degree of confidence that the larger companies have higher probability of recovering. However, the recovery tends to be slower than in smaller-sized companies.

5.4 International exposure of the domestic banking system

At the end of 2004, the international exposure of domestic banking groups represented around 20 per cent of total assets on a consolidated basis. This is a relatively low figure when compared with other European Union countries (Chart 5.4.1[16]) (for a methodological definition, see the box entitled “International exposure of the banking system”). This position largely reflects the low level of internationalisation of the Portuguese banking groups. As a matter of fact, when compared with other euro area systems, the activity of the branches and subsidiaries of Portuguese banks located abroad (in general, reflected in the amount of these affiliates’ local claims and liabilities in local currency) has a marginal contribution to the balance sheet of domestic institutions on a consolidated basis.

At the end of 2004, taking just into account the international claims of domestic banking groups, the largest share of these assets in domestic institutions’ balance sheets on a consolidated basis corresponded to claims on banks (around 80 per cent of total international claims, representing approximately 15 per cent of total assets on a consolidated basis) (Chart 5.4.2).

In turn, claims on the non-bank private sector represented less than 19 per cent of total international claims of the domestic banking system (approximately 3.5 per cent of the total assets on a consolidated basis). In the past few years, the weight of direct exposure of domestic banks to this sector in the total has been unambiguously reduced[17]. In turn,

16. In addition to some euro area countries, the chart also includes the United Kingdom, given the importance of this country as a EU financial centre.

BOX 5.3: INTERNATIONAL EXPOSURE OF THE BANKING SYSTEM[1]

On a consolidated basis, the assets of a banking institution/group having its head office in a given country comprise claims on borrowers resident inside that country (domestic claims) and claims on borrowers resident outside the country in which the abovementioned institution/group is headquartered (foreign claims). Foreign claims may be broken down according to two criteria: (i) the territory of residence of the borrower in relation to the territory where the office booking the claim is located ("local claims" when borrowers are resident in the country in which the foreign office is located, versus "cross-border claims" when borrowers are resident outside that country); and (ii) the currency of denomination of the claims ("international claims" versus "local claims in local currency"). It should be noted that, when claims correspond to assets vis-à-vis residents outside the territory where the bank is headquartered or where the activity of the foreign branch or subsidiary is developed, these are classified as "cross-border claims", regardless of the currency of denomination. If borrowers are resident inside the country in which the foreign office booking the claim is located, claims can be denominated in the local currency of that country (local claims in local currency) or in non-local currencies, including the currency of the country where the bank is headquartered (local claims in foreign currency). International claims, in turn, comprise claims on residents outside the country in which the bank is headquartered excluding claims of branches and subsidiaries abroad on residents in the countries in which those offices are located if those claims are denominated in the local currencies. The table below illustrates the above breakdown (according to the methodology of the Bank of International Settlements - BIS - for the reporting and disclosure of the "Consolidated banking statistics").

TOTAL CLAIMS (A+B+C+D)

<table>
<tr><td colspan="3">(A)+(B)+(C) Foreign claims</td><td rowspan="3">(D)
Domestic claims[(a)]</td></tr>
<tr><td rowspan="3">(A)
Cross-border claims</td><td colspan="2">(B)+(C) Local claims</td></tr>
<tr><td>(B)
Local claims in foreign currency</td><td>(C)
Local claims in local currency</td></tr>
<tr><td colspan="2">(A)+(B) International claims</td></tr>
</table>

NOTE:
(a) Domestic claims correspond to claims of the banking group on residents in the economy where the head office of the group is located. Foreign claims correspond to claims on non-residents in the economy where the head office of the banking group is located. Local claims refer to claims on non-residents in the economy where the banking group is headquartered but residing in the economies where its foreign branches and subsidiaries are located.

For the purpose of this analysis, the international exposure of the banking system's assets is defined as the total amount of foreign claims booked in the balance sheet of the system on a consolidated basis, i.e. the sum of international claims, which include (A) cross-border claims, i.e. claims on borrowers resident outside the country in which the office (head office, branches and subsidiaries) booking the claim is located); (B) local claims, i.e. claims on residents in the economies where foreign branches and subsidiaries are located, denominated in non-local currencies; and (C) local claims in local currency (i.e. in the national currency of the economy in which the office booking the claim is located). However, it should be noted that, in general, local claims in local currency are nearly offset by similar amounts of local liabilities in local currency.

This analysis took only into account the claims of the subgroup of domestic institutions on a consolidated basis since non-domestic institutions (branches and subsidiaries of banks having their head office outside the national territory) are within the consolidation boundary of the banking system of the country in which the re-

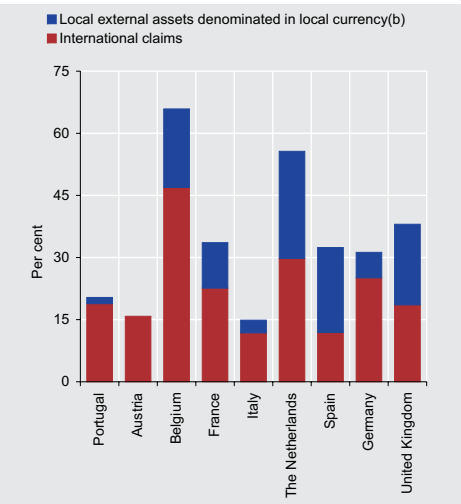
1. The methodology described in this box corresponds to the definitions of the Bank for International Settlements (BIS), in Guide to the international financial statistics, BIS Papers no. 14, February 2003, available on: www.bis.org/publ/bispap14.pdf.

spective head office is located. Most of the data analysed were compiled from the BIS quarterly publication entitled "Consolidated International Banking Statistics". This source includes both foreign claims and international claims of banking groups having their head office in BIS reporting countries, on a consolidated basis, and broken down in both cases by the reporting country and the country of residence of the direct borrower (without taking into account the country of the final borrower, i.e. the country of residence of the institution/entity ultimately in responsible for the debt). It should be noted that, from this viewpoint, claims on institutions located for instance in offshore financial centres but issued by a Government or a corporation resident in a non-EU Member State are considered as being claims on borrowers resident offshore financial centres. Hence, in this analysis, those claims were assigned with the sovereign risk inherent to the offshore centre, regardless of the ultimate debtor (and thus the ultimate risk) being an institution resident in a developed country or in an emerging economy.

CHART 5.4.1

STRUCTURE OF THE INTERNATIONAL EXPOSURE OF DOMESTIC BANKING SYSTEMS[a]

International comparison
As a percentage of total claims



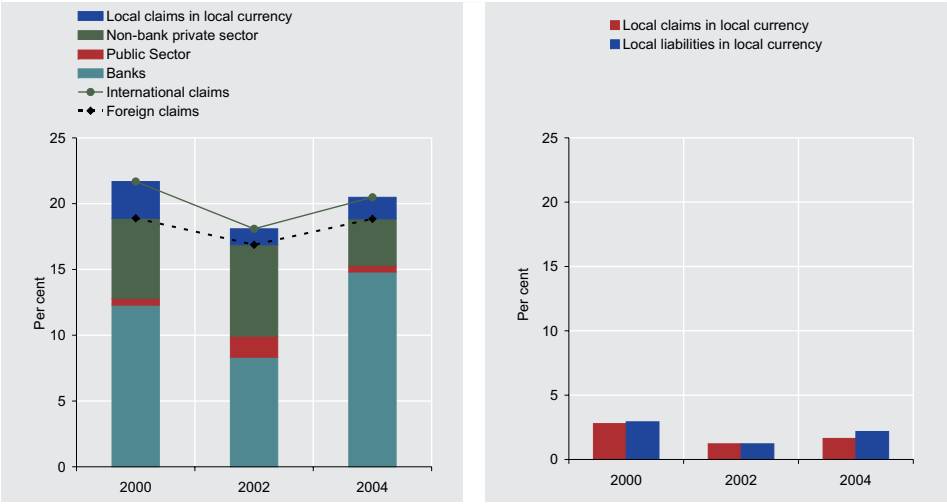
SOURCES: BIS (*Consolidated International Banking Statistics*) and National Central Banks.
NOTES:
(a) On a consolidated basis (December 2004).
(b) Claims on residents outside the country specified, in the countries where the foreign branches and subsidiaries of domestic banks are located, in local currency.

non-resident public sector is relatively unimportant as a counterpart of domestic banks' claims (slightly more than 2 per cent of total international assets, corresponding to 0.5 per cent of total assets on a consolidated basis). Finally, as referred to above, local claims denominated in local currency booked by the Portuguese banks' foreign offices are mostly negligible in the balance sheet on a consolidated basis.

17. It should be noted however that a significant share of local assets denominated in local currency of foreign branches and subsidiaries of the domestic banking groups shall correspond to the assets of these institutions vis-à-vis the local non-bank private sector. In addition, given the primary role of the banking system in financial intermediation, the overall exposure of the banking system to the non-resident non-bank private sector, considering the ultimate risk, may be significantly higher than that denoted by current statistics. In both cases, international banking statistics currently available do not allow to a more adequate measure on the effective exposure of the domestic banking system to the non-resident non-bank private sector than the one presented in this report.

CHART 5.4.2

STRUCTURE OF THE FOREIGN CLAIMS OF THE DOMESTIC BANKING SYSTEM BY SECTOR OF THE BORROWER[a]



SOURCE: Banco de Portugal to BIS within the framework of *Consolidated International Banking Statistics*.
NOTE:
(a) On a consolidated basis.

The position of Portugal in terms of the international exposure of the domestic banking system, as measured by the share of total international claims in total assets on a consolidated basis, does not significantly differ from that of other European Union Member States. Actually, the clear difference of the Portuguese banking system regarding other European countries' systems (such as, within the euro area, Spain, Belgium and the Netherlands) arises because of the relative importance of claims on non-residents directly associated with the local activity of branches and subsidiaries abroad. The cases of Spain and the Netherlands should be emphasized. In these countries local foreign claims denominated in local currency represent virtually half of the overall exposure of domestic banking groups to non-residents, which, within the group of countries taken into account in this analysis, is only comparable to that of United Kingdom.

The risk structure of the international exposure of the domestic banking system depends, on the one hand, on the country of the borrower – there are significant differences among the countries taken in the comparison as regards the main geographical areas of borrowers' residence (particularly if developed countries and offshore financial centres were excluded) – and, on the other hand, on the institutional sector of the non-resident debtor of the banking sector. Turning to Portugal, there has been a strong concentration of foreign claims on borrowers resident in relatively low risk countries (as assessed by the respective sovereign rating) (Charts 5.4.3-A and 5.4.3-B). Close to 90 per cent of the total foreign claims of the domestic banking system are claims on residents in countries with the highest sovereign rating (AAA and AA+)[18]. In turn, in the total international claims having as counterpart borrowers resident in countries included in this rating class, the exposure to the non-bank private sector (whose ratings may be less favourable than the respective countries' sovereign rating) accounts for slightly more than 15 per cent – albeit corresponding to approximately ¾ of the direct exposure of domestic banks to this sector (Chart 5.4.4).

18. According to S&P's sovereign rating.

CHART 5.4.3 – A

RISK STRUCTURE OF FOREIGN CLAIMS OF THE BANKING SYSTEM[a]

International comparison

As a percentage of total assets

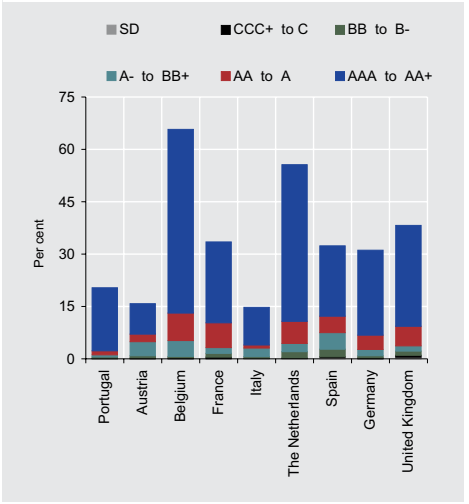
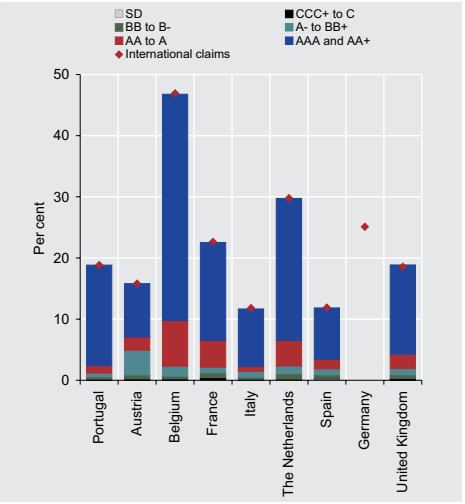


CHART 5.4.3 – B

RISK STRUCTURE OF INTERNATIONAL CLAIMS OF THE BANKING SYSTEM[a][b]

International comparison

As a percentage of total claims



SOURCES: *BIS – Consolidated International Banking Statistics* and Banco de Portugal.

NOTES:

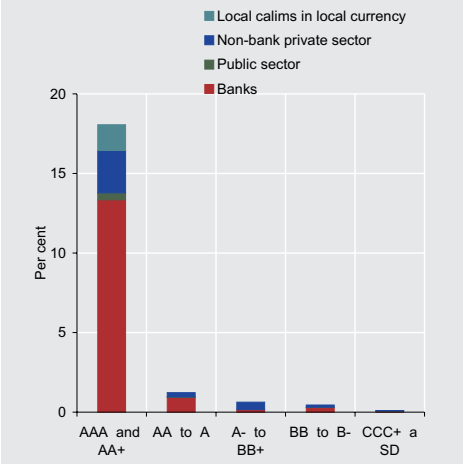
(a) On a consolidated basis (December 2004).

(b) For Germany no data are available with the required breakdown of this type of claims by country of the borrower.

CHART 5.4.4

RISK STRUCTURE OF TOTAL FOREIGN CLAIMS OF THE DOMESTIC BANKING SYSTEM, BY SECTOR OF THE BORROWER[a][b]

As a percentage of total claims



SOURCES: *BIS – Consolidated International Banking Statistics* and Banco de Portugal.

NOTES:

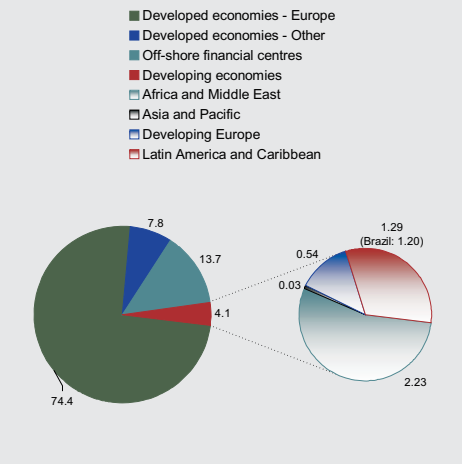
(a) On a consolidated basis (December 2004).

(b) The breakdown by sector of the borrower (banks, public sector and non-bank private sector) only relates to international claims, as no similar breakdown is available for local claims in local currency.

CHART 5.4.5

STRUCTURE OF THE INTERNATIONAL EXPOSURE OF THE DOMESTIC BANKING SYSTEM, BY GEOGRAPHICAL AREAS[a]

As a percentage of total international assets



SOURCES: *BIS – Consolidated International Banking Statistics* and Banco de Portugal.

NOTE:

(a) On a consolidated basis (December 2004).

Finally, it should be noted that the exposure of the domestic banking system to Brazil (within the sovereign rating class of BB to B-) represents around 1.2 per cent of the total international exposure (as measured in terms of both international claims and total foreign

claims[19]), corresponding to approximately 0.2 per cent of total claims on a consolidated basis (Chart 5.4.5).

19. Data do not include the position of branches or subsidiaries in Brazil of banks having their head office in Portugal vis-à-vis local residents in local currency.

6 Profitability and solvency

6.1 Overall assessment

In 2004 the profitability of the Portuguese banking system decreased somewhat, largely associated with a decline in extraordinary income. In fact, while gross return on assets[1] was maintained, there were efficiency gains (measured by developments in the ratio of operational costs to gross income) and the containment of net provisions set up in the year. Similarly to the past few years, banks offset the lower contribution of net interest income to generating earnings with increased revenue associated with the charging of commissions.

The containment of provisioning was made possible by mobilising general provisions set up in previous years (namely provisions for general banking risks). Therefore, this was compatible, in general terms, with the increase in specific provisioning or in provisioning for well-identified classes of assets. The reduction in provisions for credit overdue reflected the use of such provisions following significant write offs in credit overdue considered to be definitely uncollectable. Banco de Portugal authorised institutions to record, against capital accounts, a significant share of provisions associated with financial holdings and with the assumption and update of some costs relating to past fiscal years. Also due to this, the increase in provisioning had no impact on the profit and loss account.

The capacity of the banking system to absorb shocks also appears to have been strengthened through the improvement in its capital structure. In fact, following the developments seen since 2000, the overall capital adequacy ratio increased further in 2004, reflecting the increases in equity capital, minority interests and eligible subordinated liabilities. In addition, it benefited from the sale of some financial holdings, which contributed not only to an increase in reserves, but also to a decrease in deductions.

6.2 Profitability

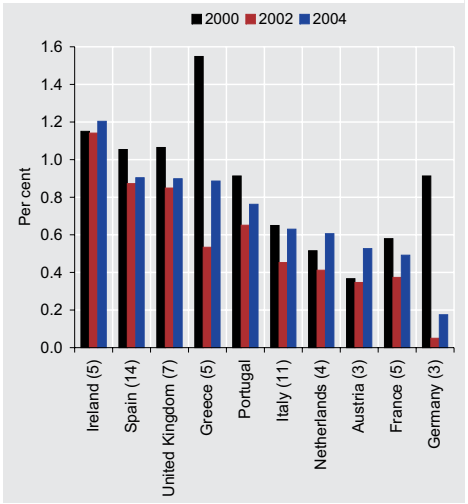
Compared with most European banking systems, the profitability of the Portuguese banking system has remained relatively favourable. Nevertheless, it has also been affected by the cyclical slump and by clearly adverse developments in international financial markets, which were particularly evident in 2002[2] (Chart 6.2.1).

The low level of interest rates and the increased competition in the most dynamic credit segments (particularly housing loans), with visible consequences on interest rate margins, have contributed to a squeeze of financial margins. In order to offset these adverse developments, banks have promoted a gradual increase in efficiency and increased the charging of commissions on the provision of services. In fact, the past cross-subsidisation of services is being gradually abandoned (in the context of significant financial margins, most services were symbolically charged or were not charged at all), with the charging of commissions (or its clear increase) on a wider range of services provided. In recent years, Banco de Portugal has been acting with a view to reinforcing the banking system's capacity to cope with expected risks, namely by introducing some changes in the provisioning regimes[3]. However, it defined transitional periods for the adoption of the new regimes,

1. Defined by the ratio of overall gross income (gross income less operating costs) to average assets.
2. This translated into a fall in income from financial operations, commissions more related to capital markets, income from affiliated companies and subsidiaries excluded from consolidation (the latter reflecting, to a large extent, the poor performance of the insurance sector) and an increase in provisions (relating to securities and credit portfolios).

CHART 6.2.1
RETURN ON ASSETS

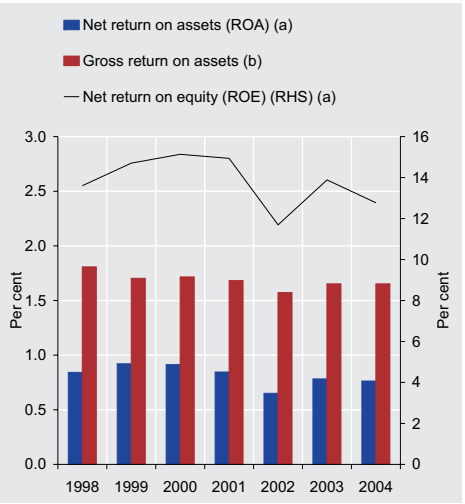
International comparison



SOURCES: Bureau Van Dijk - Bankscope and Banco de Portugal.
NOTE: The figure in brackets corresponds to the banks considered for each country in 2004. For Portugal, account is taken of the banking system as a whole.

CHART 6.2.2
PROFITABILITY RATIOS

On a consolidated basis



SOURCE: Banco de Portugal.
NOTES:
(a) Results before minority interests have been considered in the calculation of return on assets and on equity.
(b) Ratio of the overall gross income to average assets.

which has dampened the impact of these changes on the profitability of the banking system.

In 2004 the profitability of the Portuguese banking system declined, as measured by both the return on assets (ROA) and the return on equity (ROE), albeit remaining at levels clearly above those recorded in 2002. In turn, gross return on assets remained at a level similar to that seen in 2003 (Chart 6.2.2). The change in profitability was, to a large extent, negatively conditioned by developments in the financial margin and, in particular, in extraordinary income. By contrast, stress should be laid on progress in other current income, supported by significant developments in commissions (in line with recent years) and the mobilisation of general provisioning (namely provisions for general banking risks) set up in previous fiscal years.

The financial margin appears to have continued to largely reflect a squeeze of interest spreads on lending and changes in the banks' financing structure. In the past few years, loan spreads were reduced especially on lending to households for house purchase, where competitive pressure has been more intense[4] (Chart 6.2.3). However, in 2004 the spreads of credit to households for other purposes and of financial corporations also narrowed gradually from the end of the first quarter onwards.

In turn, the growing importance of medium and long-term debt securities in total bank financing has contributed to an increase in the (interest) costs of this type of financing, insofar as these liabilities tend to be more costly than customer deposits and borrowing

3. The main changes were related to the change in the provisioning for latent losses in the portfolio of financial holdings and, more recently, for credit overdue and other non-performing loans.
4. This factor is mentioned by the group of respondent banks in the bank lending survey as contributing to an easing of housing credit standards in the second half of 2004 (matched by a narrowing of the interest rate margin during this period).

TABLE 6.2.1

AVERAGE RATES OF RETURN IMPLIED IN THE MAIN BALANCE SHEET ITEMS

Per cent

	1999	2000	2001	2002	2003	2004
Interbank assets[(b)]	3.48	4.00	4.09	2.79	2.23	1.77
Non-interbank assets	5.43	5.76	5.91	4.72	4.43	3.78
Credit (gross)	5.85	6.12	6.26	4.94	4.60	4.00
Securities (gross)	4.59	5.14	5.05	4.08	3.96	2.94
Other assets	0.91	0.93	1.29	1.57	1.56	1.27
Remunerated assets	4.78	5.23	5.44	4.24	3.88	3.30
Interbank liabilities	3.70	4.34	4.42	3.00	2.42	2.02
Non-interbank liabilities	2.40	2.86	3.14	2.41	2.20	1.79
Deposits	2.21	2.54	2.81	2.10	1.80	1.45
Demand deposits	0.85	1.08	1.19	0.83	0.63	0.45
Deposits with agreed maturity	2.96	3.40	3.75	2.85	2.47	2.04
Other	1.96	1.41	1.54	1.44	1.97	0.98
Securities	3.50	4.39	4.12	3.17	3.12	2.46
Equity and subordinated liabilities	4.67	5.56	5.48	4.53	4.30	3.72
Other liabilities	1.55	1.83	2.12	1.94	2.18	1.38
Remunerated liabilities	2.90	3.41	3.59	2.61	2.28	1.87
Differentials (percentage points):						
Remunerated assets – liabilities	1.89	1.82	1.86	1.63	1.60	1.43
Non-interbank assets - non-interbank liabilities	3.03	2.90	2.77	2.31	2.23	1.99
Credit-deposits	3.65	3.58	3.45	2.84	2.81	2.56
Interbank assets - interbank liabilities	-0.23	-0.34	-0.33	-0.21	-0.19	-0.25

SOURCE: Banco de Portugal.

NOTES:

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

(b) Includes cash, demand deposits with Banco de Portugal, other claims on credit institutions and placements with credit institutions.

from the interbank market (Table 6.2.1)[5]. By contrast, they limit the refinancing risk of market financing in shorter-maturities.

The international comparison of the financial margin (as a percentage of total assets) reveals that its progressive squeeze in Portugal is in line with developments in Ireland, Spain and Italy, although financial margins in these countries are still higher than in countries with historically lower interest rates. This suggests that the recent trend squeeze may continue in the near future (Chart 6.2.4)[6].

Offsetting these developments in the financial margin, other current income continued to improve significantly (around 9 per cent growth), having chiefly benefited from an increase in commissions (8 p.p. contribution to this growth)[7] and, to a lesser extent, in other operat-

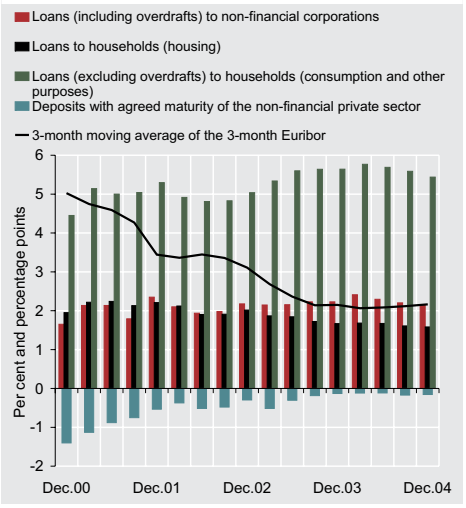
5. Although costs associated with the issuance of this type of security have benefited in the past two years from the narrowing of the spreads vis-à-vis government debt securities (see the section on financial markets).

6. Developments in the financial margin in 2003 were conditioned by the enlargement of the composition of consolidation of one of the major Portuguese banking groups. The correction of this enlargement would bring the financial margin down by 2.8 per cent, instead of 0.8 per cent, as was recorded, and therefore the contribution of the financial margin to the return on assets would be of around 1.98 p.p. (down from 2.00 p.p.).

7. Income from commissions rose by 13 per cent in 2004, after having increased by 14 per cent in 2003. Hence, in 2004 it already accounted for more than 25 per cent of gross income (compared with around 23 per cent in 2003). The price index for financial services recorded an annual change of around 1 per cent in 2004 (3.4 per cent in 2003). This appears to reflect, chiefly, an increased volume of operations subject to commissions (and the charging of commissions on services that were previously free of charge).

CHART 6.2.3
INTEREST RATE MARGINS

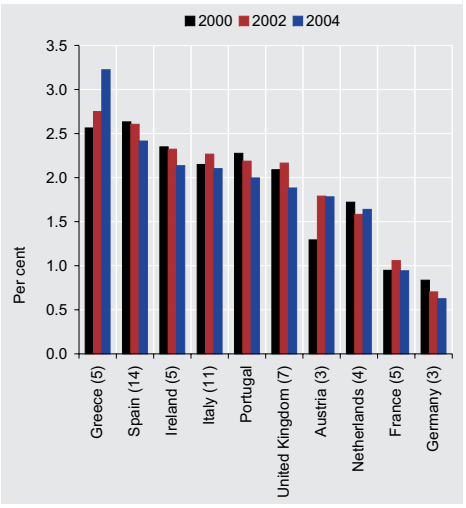
Rates on outstanding balances



SOURCE: Banco de Portugal.
NOTE: Margins calculated as the difference between interest rates on balances (estimates up to December 2002) and money market rates: 6-month moving average of the 6-month Euribor in the case of lending to households for house purchase and deposits with agreed maturity of the non-financial private sector; 3-month moving average of the 3-month Euribor in lending to households for other purposes and to non-financial corporations.

CHART 6.2.4
FINANCIAL MARGIN

International comparison
As a percentage of assets



SOURCES: Bureau Van Dijk - Bankscope and Banco de Portugal.
NOTE: The figure in brackets corresponds to the banks considered for each country in 2004. For Portugal, account is taken of the banking system as a whole. For international comparison purposes, the concept of financial margin used consists of the difference between interest received and interest paid, plus income from securities.

ing profits. Developments in the latter have been associated, in the past two years, with significant progress in the recovery of writen-off credit overdue and previously considered uncollectable. In turn, commissions have become more important in generating earnings in the banking system, a trend observed for some years. In fact, banks have been seeking to offset the structural squeeze of the financial margin by charging commissions on the provision of services. The commissions that seem to have recorded the highest increase are those associated with the provision of more traditional services, i.e. not linked to developments in capital markets (although these have also developed favourably - see chapter 3 on market risk).

Income from financial operations decreased slightly from 2003 (Chart 6.2.5), notwithstanding the significant improvement in (net) income associated with the revaluation of tradeable instruments (either when they are sold or through the adjustment of their balance-sheet value). This reflected overall favourable developments in capital markets during 2004. The pattern of income from financial operations therefore resulted from slight losses in the revaluation of the foreign currency position and in off-balance-sheet operations (associated with instruments whose value is linked to foreign exchange, interest rates or market prices)[8].

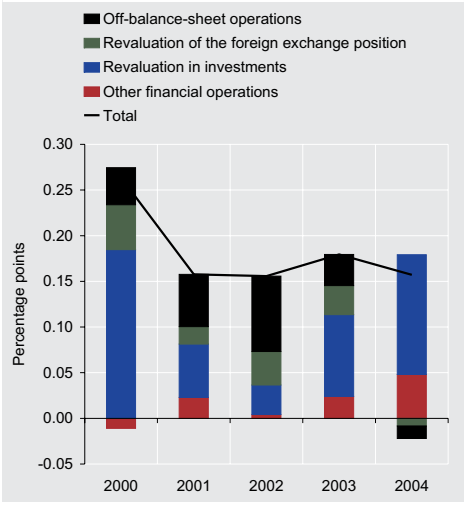
The combination of developments in the financial margin with those in other current income shows that the contribution of gross income to profitability remained unchanged from 2003[9]. In parallel, the efficiency in generating earnings improved slightly, in line with

8. In 2004 these two items made negative contributions to ROA, i.e. around 0.01 p.p., compared with positive contributions of 0.03 p.p. in 2003.
9. The 7.5 per cent growth in gross income registered in 2003 also reflected the enlargement of the composition of consolidation already referred to above. Adjusted for this effect, the rate of change would have been 5.1 per cent. The change in 2004 was 3.9 per cent.

CHART 6.2.5

INCOME FROM FINANCIAL OPERATIONS – BREAKDOWN

Contribution to ROA
On a consolidated basis

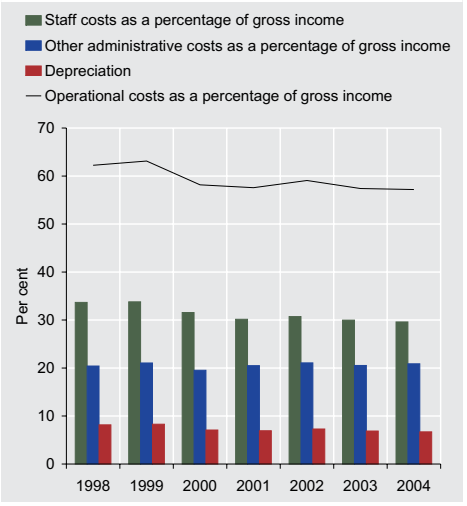


SOURCE: Banco de Portugal.

CHART 6.2.6

RATIO OF OPERATIONAL COSTS (ADMINISTRATIVE COSTS AND DEPRECIATION) TO GROSS INCOME

On a consolidated basis



SOURCE: Banco de Portugal.

the trend seen for some years, and contributed to sustain gross return on assets at the 2003 level. In fact, the ratio of operational costs to gross income declined further (Chart 6.2.6), associated with relatively limited growth in staff costs and depreciation[10].

In international terms, the situation of the largest Portuguese institutions is, on average, close to that of most euro area countries (Chart 6.2.7)[11].

Developments in provisioning flows also contributed to the improvement in results. In fact, provisions (net of restitutions and annulments) recorded a rather limited change, therefore contributing to an increase in ROA (by 0.01 p.p., see Chart 6.2.8). In addition, in 2004 the provisioning effort was concentrated in one of the largest Portuguese banking groups, which followed a trend contrary to that of most of the remaining banking institutions (from 2003 to 2004 their provisioning flows recorded a reduction). In terms of composition, of net provisions, reference should be made to a slight increase in provisions for credit overdue and other non-performing loans, a small decline in provisions for securities depreciation and a very limited increase in the remaining provisions, including, inter alia, provisions for financial fixed assets[12], general credit risks and general banking risks.

Developments in net provisions in 2004 also reflected the mobilisation of general provisioning from previous years, allowing for a limited reduction of the profitability ratios of some institutions. In this context, provisions for general banking risks in some of the

10. In 2003, and adjusted for the effect of the enlargement of the composition of consolidation already referred to above, growth in staff costs was 2.4 per cent, i.e. close to the 2.6 per cent recorded in 2004.

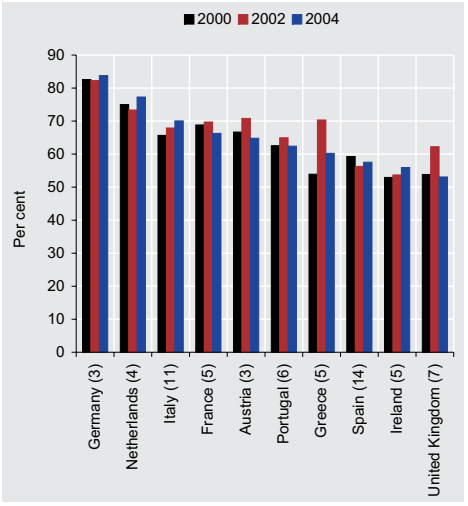
11. The concept of "cost-to-income" used in this international comparison corresponds to a definition of income, and especially of costs, wider than that used by Banco de Portugal when assessing the efficiency in generating earnings (resorting to operating costs and gross income). This is due to the fact that it was not possible to obtain from Bankscope the information with the breakdown necessary to replicate the calculation of this latter ratio for the remaining European countries.

12. Despite having increased by 57 per cent in 2004 compared with the previous year, these provisions continued to have a rather reduced impact on the banking system's profits. This seems to have reflected the decision of Banco de Portugal to extend into 2004 the possibility of provisions for latent losses in financial holdings being directly recorded against reserves, without being recorded as costs for the year (see chapter 7, on the regulatory framework and section 6.3, on provisioning and solvency).

CHART 6.2.7

COST TO INCOME

International comparison



SOURCE: Bureau Van Dijk - Bankscope.

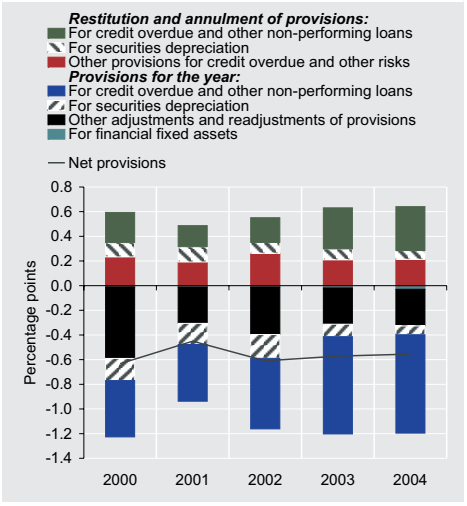
NOTE: The figure in brackets corresponds to the banks considered for each country in 2004. For international comparison purposes, the concept of cost to income considered (Bankscope definition) differs from that referred to for the banking system as a whole, for being impossible to calculate this latter ratio for the remaining countries. The ratio considered here covers a wide range of income and chiefly of costs.

CHART 6.2.8

PROVISIONING FOR THE YEAR - BREAKDOWN

Contribution to ROA

On a consolidated basis



SOURCE: Banco de Portugal.

largest banking groups declined quite significantly, by around EUR 400 million (see the section on provisioning and solvency).

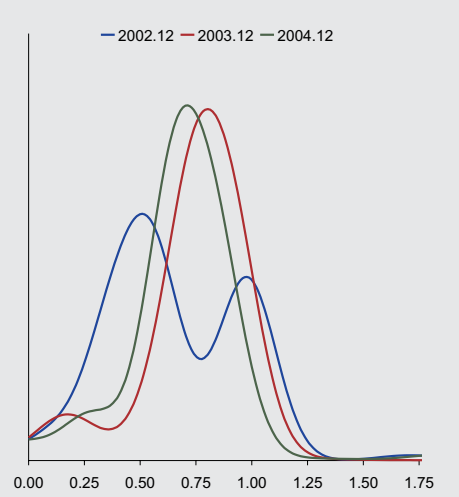
In turn, extraordinary income decreased markedly, contributing to a 0.07 p.p. drop in ROA. This reflected a base effect, stemming from the fact that in 2003 one of the largest Portuguese banking groups had recorded significant capital gains in the sale of financial holdings, in contrast to a slightly negative extraordinary income in 2004. This has affected the distribution of profitability of institutions belonging to the banking system. This distribution was less disperse in 2004 than in 2003, insofar as, among the institutions with the highest weight in the system, the one that recorded the most significant reduction in profitability had shown the highest level in 2003 (Charts 6.2.9 and 6.2.10). Hence, in contrast to the reduction in profitability in the domestic institutions sub-group, the profitability levels of non-domestic institutions recovered in 2004; thus, non-domestic institutions' return on assets was similar to that of domestic institutions.

In parallel with a slight reduction in return on assets, return on equity declined in 2004. This can be analysed considering a decomposition[13] that takes into account the total activity margin[14], the efficiency on a risk-adjusted basis[15], the propensity to risk[16] and the intensity of use of own funds[17]. According to this breakdown, the reduction in profitability in

13. Introduced in the analyses of the Portuguese banking system in the September 2004 issue of the *Economic Bulletin* of Banco de Portugal, Box 1 - "Determining factors behind profitability of the Portuguese banking system" in the section on the banking system in the first half of 2004.
14. Defined by the ratio of net income before minority interests to gross income, with an associated positive relationship with the assessment of financial stability.
15. Defined by the ratio of gross income to risk-adjusted assets, with an associated positive relationship with the assessment of financial stability.
16. Defined by the ratio of risk-weighted assets to total assets, with an associated negative relationship with the assessment of financial stability.

CHART 6.2.9
RETURN ON ASSETS

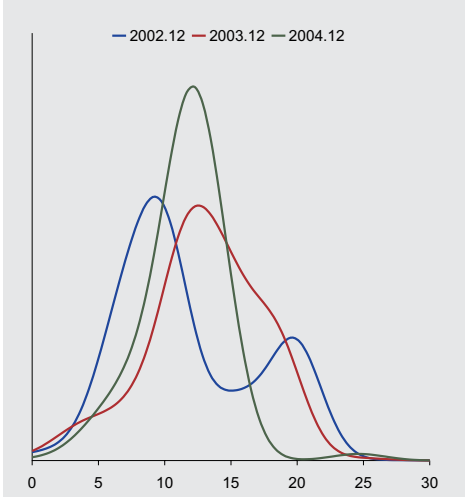
Empirical distribution



SOURCE: Banco de Portugal.
NOTE: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian kernel that weighs institutions by their assets.

CHART 6.2.10
RETURN ON EQUITY

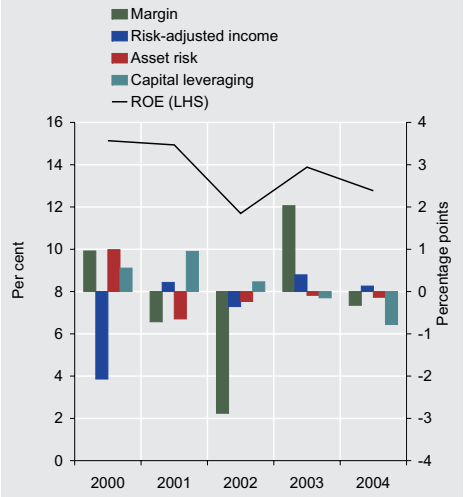
Empirical distribution



SOURCE: Banco de Portugal.
NOTE: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian kernel that weighs institutions by their equity.

CHART 6.2.11
RETURN ON EQUITY

Breakdown of contributions to ROE change



SOURCE: Banco de Portugal.

2004, in addition to being less marked, is clearly more favourable than that observed in 2002, while the reduction observed can be qualified as less benign in terms of financial stability. In fact, as can be seen from Chart 6.2.11, developments in ROE in 2004 were largely due to a decrease in leverage, in line with the pattern in 2003. Associated with the reduction in the average asset risk, this made a positive contribution to the reduction of risks to financial stability. As in the two previous years, the efficiency of assets on a risk-adjusted basis improved further and (as already mentioned) the decline in the total activity margin is entirely accounted for by developments in extraordinary income[18].

17. Commonly known as capital leveraging and defined by the ratio of total assets to own funds, with an associated negative relationship with the assessment of financial stability.

6.3 Provisioning and solvency

In order to meet expectable losses, credit institutions set up provisions to cover risks associated with the various types of assets. During 2004 the overall amount of provisions recorded in the banking system's balance sheet[19] increased by around 1 per cent (Chart 6.3.1). Also conditioned by the anticipation by some banking groups of the adoption of international accounting standards in the beginning of 2005, these developments reflected clearly distinct trends between the various types of provisions, including the reallocation of provisions set up in previous years to specific provisions or to provisions for well-identified classes of assets. Contributing to a decrease in total provisions there were reductions in provisions for credit overdue to customers and the use (and/or reduction) of provisions for general banking risks, set up in previous years, with no particular specific purpose. In turn, provisions for doubtful loans, provisions for financial holdings and other provisions for risks and charges were behind an increase in provisions[20].

Similarly to 2003, in 2004, albeit to a lesser extent, provisioning for doubtful loans was increased. However, if in 2003 this was warranted by the change in the provisioning regime introduced by Notice 8/2003[21], which affected most institutions to varying degrees, in 2004 these developments resulted from the performance of a reduced number of institutions[22] and contrasts with the decline in provisions for credit overdue. The trend of the latter reflected a decrease in the amounts of credit overdue[23], which seems to have reflected not only the lower materialisation of credit risk but also more intense write-offs of credit overdue previously considered to be definitely uncollectable[24,25].

Given these developments, the specific provisioning for gross credit, measured by the ratio of specific provisions for credit to total credit (in gross terms), declined by 10 b.p. from the level recorded at end-2003, to 1.65 per cent. This ratio behaved differently in the various major institutions of the banking system (Chart 6.3.2).

However, since credit overdue registered in the balance sheet declined by around 15 per cent, there was a significant reduction (to 0.34 per cent, i.e. around half the level recorded at the end of 2003) in the ratio of credit and interest overdue net of specific provisions to credit net of specific provisions (Chart 6.3.3).

In addition, and based on individual data, total credit provisioning also increased (for both credit overdue and total credit, see Chart 6.3.4)[26, 27].

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18. This would become more evident if the breakdown used was further disaggregated into another item, so that the profit and loss for the year would be broken down into its recurring and extraordinary components. Under these terms, the total margin of activity would be defined by the ratio of income before minority interests and extraordinary income to gross income. In addition, similarly to 2003 and in contrast to 2002, the contribution of the total margin of activity to profitability would be positive.

19. Including, inter alia, specific provisions, and provisions for country risk, for general credit risks and for general banking risks.

20. Residual item, in the sense that it includes all remaining provisions other than those previously mentioned. It includes, inter alia, provisions for general credit risks, exchange rate risks and other specific risks and charges.

21. This seems to have implied an acceleration in provisioning in view of the materialisation of credit risk, with a more contemporaneous recording of expected default loss.

22. A single institution accounted for around 72 per cent of the total contribution of these provisions to the change in total provisions recorded in the balance sheet.

23. This situation is defined when credit instalments are due for at least 30 days.

24. Write-offs/write-downs lead to a reduction in both credit overdue and provisions for credit overdue.

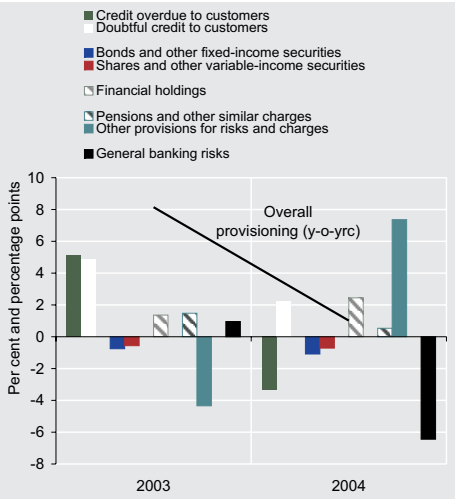
25. As referred to in the section on profitability, in 2004 some institutions improved visibly as regards the recovery in write-offs/write-downs of credit considered to be uncollectable. However, this recovery does not have any effect on provisioning, being reflected in the item income from other operating profits.

26. Total credit provisioning comprises specific provisions for credit overdue and other non-performing loans, provisions for country risk and provisions for general credit risks.

CHART 6.3.1

CHANGES IN PROVISIONING IN THE BALANCE SHEET

Breakdown by contributions

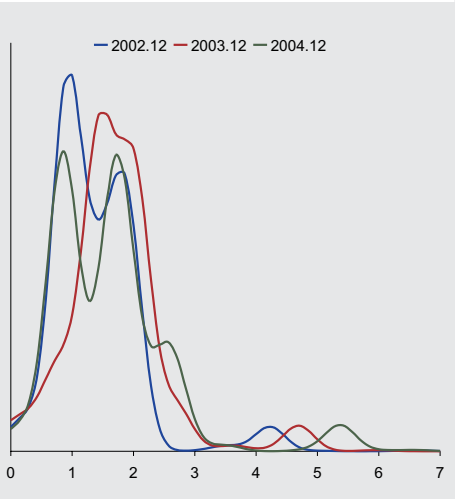


SOURCE: Banco de Portugal.

CHART 6.3.2

RATIO OF SPECIFIC PROVISIONING TO GROSS CREDIT

Empirical distribution

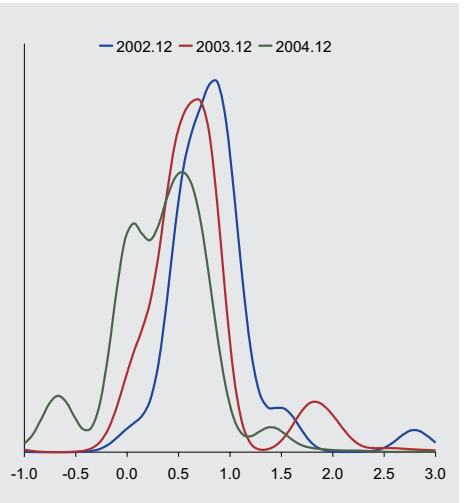


SOURCE: Banco de Portugal.
NOTE: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian kernel that weighs institutions by their credit to customers.

CHART 6.3.3

CREDIT AND INTEREST OVERDUE NET OF SPECIFIC PROVISIONS

As a percentage of credit net of specific provisions
Empirical distribution

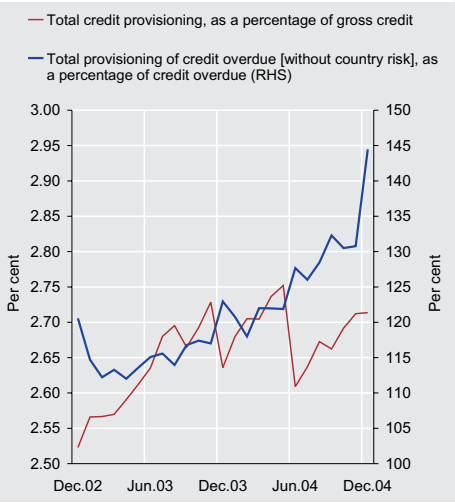


SOURCE: Banco de Portugal.
NOTE: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian kernel that weighs institutions by their credit to customers.

CHART 6.3.4

CREDIT PROVISIONING

On an individual basis



SOURCE: Banco de Portugal.

In this sense, it can be concluded that credit provisioning recorded overall positive developments, and the banking system's capacity to cope with the materialisation of credit risk was reinforced, without jeopardising profitability in the years to come.

27. Movements in provisioning levels during 2004 were largely associated with the significant write-offs/write-downs that took place in particular at the end of each half-year. However, whereas in July they implied a reduction in total credit provisioning (given that write-offs/write-downs imply the utilisation and respective removal from the accounts of the provisions set up), at year-end write-offs/write-downs were accompanied by an increase in credit provisioning, with a consequent rise in the ratios.

Reflecting favourable developments in financial markets, provisions associated with the securities portfolio were reduced. In turn, those associated with financial holdings increased significantly. This was chiefly motivated by one banking group, which, anticipating the implementation of IAS - International Accounting Standards, provisioned latent losses in its financial holdings almost entirely[28], thus interrupting the more favourable transitional regime, that allowed this provisioning to be deferred over a longer time horizon.

Developments in other provisions for risks and charges[29] were determined, in particular, by two of the major banking groups and were associated with both the significant increase in general credit provisioning[30] and the assumption and update of various costs regarding previous years, namely via the change in the actuarial assumptions used in the calculation of future liabilities on account of pension funds[31].

In order to sustain the increase in specific provisioning or in provisioning associated with specific purposes or well-identified assets without jeopardising profitability for the year, some of the major banking groups resorted to the reallocation of provisions for general banking risks set up in previous years[32]. This type of procedure allowed institutions to minimise the impact of the necessary increase in certain types of specific provisions on profits for the year.

Solvency in banking system's institutions as a whole evolved rather positively. In fact, the overall capital adequacy ratio rose by 0.4 p.p. between end-2003 and end-2004, and by 1.2 p.p. since the trough recorded in 2000 (Chart 6.3.5).

These positive developments were shared by most institutions with a significant weight in the banking system, i.e. those with higher relative importance in terms of own funds (Chart 6.3.6). This notwithstanding, the Portuguese banking system appears to have continued to show lower solvency ratios than those recorded in most of the European banking systems (Chart 6.3.7). However, it is hard to draw a comparison for 2004, given that at the cut-off date for this issue of the Report, no data were available for some of the major international banks. These regulations have achieved a high degree of harmonisation across the 15 countries initially participating in the European Union, due to the adoption of an own funds directive. However, international comparisons on capital adequacy must take into account that national discretion still exists in some areas, such as those regarding the treatment of provisions for general credit risks (in Portugal they were deducted from capital requirements, while in other countries they were considered in additional own funds) and the treatment of deductions associated with securitisation transactions.

Positive developments in base and complementary own funds as well as a cut in deductions contributed to the increase in total own funds. The rise in base own funds reflected increases in paid-up capital, reserves (largely as a reflection of the sale of holdings)[33] and minority interests[34], i.e. positive elements of base own funds. These increases were partly offset by a reduction in the fund for general banking risks[35] (the use of which contributed

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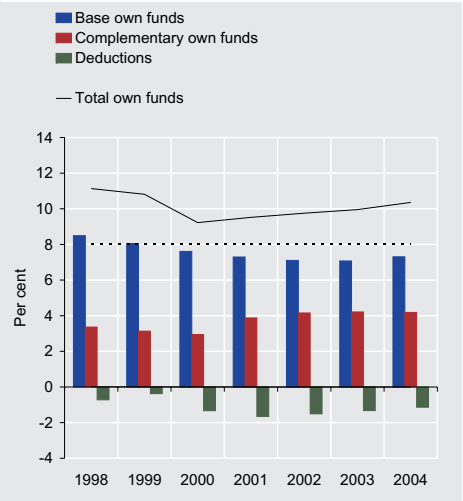
28. For a more detailed description of the provisioning regime for latent losses in financial holdings see the section on market risk.
29. Still encompassed by specific provisions or provisions for well-identified classes of assets.
30. Translating into the total credit provisioning ratio, as already mentioned.
31. The decline in the discount rate used in this calculation (within the scope of IAS implementation) implied an increase in liabilities, and therefore, increased financing needs and/or an increase in provisions. In the particular case of one of the major banking groups this provisioning was particularly significant, associated with the transfer of liabilities on account of pensions to *Caixa Geral de Aposentações*.
32. Assuming that provisions for general banking risks were not mobilised for the setting-up of other provisions, the impact on return on assets in 2004 would be of around 17 b.p.

CHART 6.3.5

CAPITAL ADEQUACY RATIO AND ITS COMPONENTS

(Elements of own funds / Total requirements * 12.5)

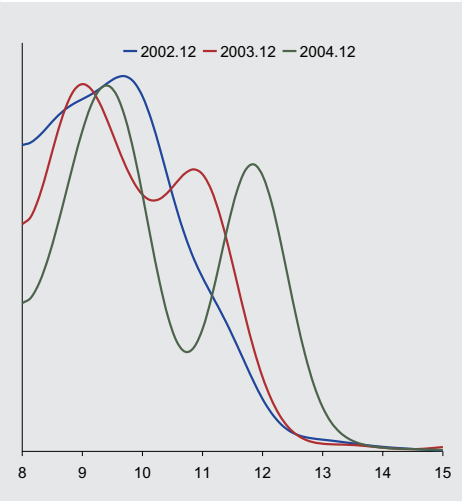


SOURCE: Banco de Portugal.

CHART 6.3.6

CAPITAL ADEQUACY RATIO

(Own funds / Total requirements * 12.5)
Empirical distribution



SOURCE: Banco de Portugal.
NOTE: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian kernel that weighs institutions by their own funds.

to sustain profitability in 2004) and the assumption and update in 2004 of some costs regarding previous years (such as the updating of actuarial assumptions in pension funds, namely the cut in the actuarial discount rate, and the provisioning for latent losses in financial holdings). In turn, the increase in complementary own funds seems to have reflected increased recourse to subordinated liabilities with indeterminate maturity. Finally, the cut in deductions was jointly determined by sales of financial holdings in credit institutions and the provisioning for holdings in credit and other financial institutions[36].

Own funds requirements increased by 3.6 per cent, with requirements associated with the solvency ratio increasing by 2.9 per cent, i.e. at a slower pace than growth in credit granted, which is consistent with a higher weight of the mortgage credit segment (associated with lower capital requirements than most exposures vis-à-vis the private sector). Securitisation transactions conducted by several institutions (therefore conditioning developments in credit recorded in the balance sheet) have not had a globally significant impact on own funds requirements. This is due to the fact that originating institutions have usually retained the securitised tranche with the highest degree of subordination, and this tranche is subject to a significantly higher weighting coefficient (1250 per cent)[37]. As in 2003, the increase in requirements associated with position risks was largely related to an increase in the trading securities portfolio.

33. One of the major institutions of the banking system recorded the sale of a financial holding, against reserves, given that the acquisition of this holding had resulted in a direct deduction from reserves of the respective goodwill. The estimated impact of this sale on the overall capital adequacy ratio is of around 15 b.p.

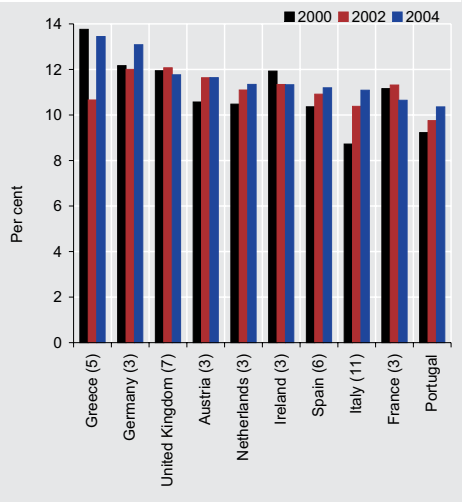
34. Minority interests are included in the consolidated balance sheet with integral method and represent the portion of earnings due to minority owners. Developments in this item in 2004 reflected not only a certain reorganisation of holdings in major banking groups, but also increased recourse to the issuance of preferred shares by branches.

35. This term is used for provisions for general banking risks in the context of the analysis of own funds.

36. The regulatory framework defined implies that only holdings net of provisions are to be deducted from own funds, and the effort of provisioning for latent losses in financial holdings (which was significant as regards the major banking institutions at end-2004) led therefore to a significant cut in deductions from own funds.

CHART 6.3.7
CAPITAL ADEQUACY RATIO

International comparison



SOURCES: Bureau Van Dijk - Bankscope and Banco de Portugal.
NOTE: The figure in brackets corresponds to the banks considered for each country in 2004. For Portugal, account is taken of the banking system as a whole.

In the beginning of 2005, the adoption of the IAS had implications in the definition of the provisioning regime for the institutions under the supervision of Banco de Portugal. When compared with the previous regime, the new regulations maintain the provisioning rules for credit and impose the obligation to set up provisions for imparity in other assets. One analysis about the implications of the IAS on provisioning regime and on own funds is presented in the next chapter.

37. In 2004 a major institution conducted a credit securitisation operation, having acquired all securities associated with the financing of this transaction. This institution was granted authorisation by Banco de Portugal for own funds requirements to remain formally and materially unchanged.

7. Regulatory framework

In the course of 2004 the main changes to the regulatory framework defined by Banco de Portugal were related to new standardisation requirements for the provision of information to the public and to the transition to IAS - International Accounting Standards (which entered into force in the beginning of 2005)[1].

With regard to the provision of information to the public, Instruction No 16/2004 set forth a minimum standardised framework of indicators that credit institutions should adopt when disclosing data on solvency, credit quality, profitability and efficiency. The publication of these indicators with a uniform methodology does not prevent institutions from presenting any other indicators on the elements mentioned above. Reporting requirements in accordance with the methodology established became compulsory as of 30 September 2004.

As regards the transition to IAS, Banco de Portugal issued some regulations aimed at preparing their adoption, both in terms of prudential rules and of data reporting for supervisory purposes. Therefore, Notice No 4/2004 extended into 2004 the possibility of provisions for latent losses in financial holdings held by credit institutions and financial corporations being recorded against reserves (with no impact on the profit and loss for the year). This reflected an approximation to the principles of the International Accounting Standards[2]. In turn, through Circular Letter No 102/2004/DSB of 23 December and Instruction No 23/2004, Banco de Portugal laid down accounting rules and the data reporting model in the light of the new IAS, also identifying derogations from these new standards.

Given the importance of the adoption of the IAS in the beginning of 2005, the following section presents more detailed information on the historical and international framework and on the action undertaken by Banco de Portugal in their adoption process. Stress is also laid on the main regulatory changes that entered into force with the new accounting standards.

A section is also included with an update on progress in the New Capital Accord. In principle, this Accord will only produce effects from 2007 onwards. However, its extreme importance (materialising one of the pillars of financial stability) warrants the presentation of the main features and implications of the new accord.

7.1 The process of adoption of the International Accounting Standards (IAS)

7.1.1 INTRODUCTION

The International Accounting Standards (IAS) were originated in the International Accounting Standards Committee (IASC)[3], founded in 1973 by accountancy bodies from different countries, among which Australia, France, Germany, Japan, the United Kingdom,

1. The regulations defined by Banco de Portugal may be consulted at www.bportugal.pt/servs/sibap/sibap_p.htm.
2. Notice No 4/2002 (whose No 4 of No 5th was reworded by the Notice referred to above) introduced new requirements regarding the provisioning level and the deduction of own funds for the losses mentioned above, by defining (in No 5th) a transitional regime for both the setting-up of provisions and the deduction to own funds. In addition, in accordance with this paragraph it is possible to record against reserves the provisions set up in 2002 and 2003.

and the United States. Their international dissemination and acceptance increased markedly in recent years, thereby contributing to a further harmonisation in the way financial information started to be produced and understood by markets. These standards contrast with the accounting tradition of most central and southern European countries[4], for being more based on principles than on rules and for privileging the use of fair value in the valuation of most balance-sheet items. It should be noted that a structure based on principles permits greater flexibility and consequently the coverage of a wider range of situations. However, it also gives companies greater room for interpretation on how to concretely implement those principles, for which the role of external auditors is particularly relevant.

The wider use of fair value accounting incorporates a substantial change to the former accounting model applicable in Portugal to credit institutions and financial companies. This model, which can be considered a mixed one, is predominantly based on the historical cost accounting (in fact, market value accounting was initially applied to assets included in the so-called trading portfolio). With the broader application of the fair value accounting, particularly in the valuation of financial instruments, some questions have been raised regarding the increased "volatility" in the financial statements of financial institutions, stemming from a more general recognition of (realised and unrealised) gains and losses and potential impact within the scope of financial stability and at the prudential level. At this latter level, and given that accounting records continue to be the basis for the calculation of major prudential indicators, rules were defined to regulate on how the new accounting standards will affect own funds.

7.1.2 INTERNATIONAL ENVIRONMENT

On 13 June 2000 the European Commission issued a communication on the European Union's financial reporting strategy, which proposed the adoption of IAS for some types of accounts and companies. Two years later, with the purpose of contributing to a better functioning of capital markets as well as to an enhanced investor protection, this proposal materialised in Regulation No 1606/2002, becoming compulsorily applicable in all Member States. In accordance with its provisions, from 1 January 2005 onwards, companies whose securities are admitted to trading on a regulated EU market must prepare their financial consolidated accounts in conformity with those accounting standards[5]. With regard to companies only having debt securities admitted to public trading, Member States may provide that such requirements will apply to each financial year starting no later than 1 January 2007.

Another option that was left to national discretion was the possibility of widening the scope of application of IAS, so that Member States might require or allow the application of these standards (1) in the preparation of individual financial statements of companies with listed securities and (2) in the preparation of consolidated and/or individual financial statements of companies without listed securities.

It is important to mention the fact that (1) the adoption of IAS is not automatic - in order to be endorsed, all these standards must be published in a Community Regulation (this is a dynamic process that started in the second half of 2003 and intends to cover all standards issued by the IASB) and that (2) Community Regulations are directly implemented in Member States' entities. Therefore, these regulations are not subject to transposition into

3. In April 2001 the IASC was reorganised and renamed International Accounting Standard Board (IASB), its current designation.
4. Excluding the countries that recently joined the EU.
5. As defined in Article 4 of this Regulation.

national law, except in the cases where options are given to the Member States in question (e.g. in terms of scope of application, such as the case of Regulation No 1606/2002).

This convergence process was accompanied at the European Union level by the issue of some accounting legislation aimed at bringing closer into line the legal framework in force with the updated one. This was the case, for example, of Directive No 2001/65/EC, that allowed for a wider range of financial instruments to be measured at fair value, and of Directive No 2003/51/EC, also known as Modernisation Directive, that amended several accounting concepts in the light of the principles defined in IAS.

7.1.3 INTERVENTION OF BANCO DE PORTUGAL WITHIN THE SCOPE OF THE PROCESS OF CONVERGENCE TO IAS

In 2004 Banco de Portugal set up a working group, in co-operation with the Portuguese Banking Association (APB), with the purpose of analysing the implementation of IAS in the banking sector. This group discussed the scope of application of these standards and listed the main accounting, prudential and operational issues arising from their adoption. In addition, quantitative impact studies were conducted and the main guidelines were established, to be applied to the new accounting and prudential regimes, including the definition of transitional periods to delay the most relevant impacts.

The actions of Banco de Portugal were also developed at international level, through the participation in working groups created within the scope of the Committee of European Banking Supervisors (CEBS), which has been analysing the major impact of the adoption of IAS on the prudential supervision of financial institutions, namely on how their solvency is measured. The prudential treatment of the accounting changes introduced by the new standards, mainly in the context of the calculation of own funds, is a common concern to most European Union countries.

Another work stream within the scope of CEBS included the development of standardised models for the financial reporting to European Union supervisors. These models are being subject to a public consultation process to be carried out until 8 July this year.

7.1.4 THE NEW ACCOUNTING REGIME OF COMPANIES SUBJECT TO SUPERVISION BY BANCO DE PORTUGAL

The Portuguese Government issued legislation on options left open by Regulation No 1606/2002 through Decree-Law No 35/2005 of 17 February, and conferred upon Banco de Portugal the power to regulate the scope and application of IAS as regards the consolidated accounts of companies subject to its supervision.

These powers added to those conferred upon Banco de Portugal by the Legal Framework of Credit Institutions and Financial Companies as regards the establishment of accounting standards applicable to the institutions it supervises, in the preparation of accounts on an individual basis.

Within this legal framework, Banco de Portugal defined the accounting regime to be applied to situations not covered by that Regulation[6], which, in general terms, is characterised by requiring the application of IAS in the preparation of consolidated accounts, as well as the application of the so-called Adjusted Accounting Standards (AAS) in the preparation of individual accounts of institutions[7]. The AAS concept corresponds to a framework relatively close to IAS, which includes some exceptions, namely:

6. Through Notice No 1/2005 published on 28 February.
7. Excluding, inter alia, savings banks (except for Montepio Geral and Angra do Heroísmo savings banks) and exchange offices.

- maintaining the previous valuation and provisioning rules for credit granted;
- delaying of the impact on accounts arising from the transition to IAS 19 criteria (retirement pensions and other employee benefits)[8];
- restricting the application of some options envisaged in IAS (e.g. not enabling tangible assets to be measured at fair value).

In the course of 2005 institutions covered by the new regime[9] may choose, on a transitional basis, to continue to apply the previous accounting standards, and during this period they should take the necessary measures to prepare the transition process. Entities using this option in the preparation of their consolidated accounts must report to Banco de Portugal, as at 31 December 2005, the recalculation of financial statements for that year, in conformity with IAS.

7.1.5 REVIEWING PRUDENTIAL REGULATIONS IN THE CONTEXT OF THE NEW ACCOUNTING STANDARDS

7.1.5.1 OWN FUNDS AND MINIMUM OWN FUNDS REQUIREMENTS (SOLVENCY)[10]

Changes introduced by the new accounting standards[11] raise several questions as to how the solvency of institutions is measured and in particular how own funds are calculated. These questions are related to the prudential treatment to be given to a wide range of situations, namely:

- unrealised gains from assets and liabilities that started to be measured at fair value;
- assets not derecognised, or partially derecognised, that have been sold in securitisation transactions;
- deferred taxes recorded on the assets side;
- redeemable shares that start to be classified as liabilities;
- hybrid debt instruments that include a liabilities component and a capital component (e.g. convertible bonds);
- consolidation of special purpose entities;
- impacts recorded at the moment of transition.

However, work leading to the assessment of the impact of IAS introduction led to the conclusion that not all accounting changes should be directly reflected in own funds. Hence, the principle is adopted according to which the risk profile of institutions should not be substantially affected by mere changes in the accounting system.

Based on this principle and taking into account the common ground reached within the scope of CEBS as far as the prudential treatment of some of the new items is concerned, as well as the work developed in co-operation with APB and the recommendations of the Basel Committee on this subject, Banco de Portugal issued a number of new rules regarding the calculation of own funds and own funds requirements. These are aimed at in-

8. IAS, in their current version, are available on the website of the Portuguese Accounting Standards Board (www.cnc.min-financas.pt).
9. Obviously, excluding the cases covered by Article 4 of Regulation No 1606/2002.
10. See Notice No 2/2005 published on 28 February, amending Notice No 12/92 on the calculation of own funds, and Notice No 1/93 on the calculation of requirements for investment portfolio credit risk.
11. Amid the most relevant changes is the growing use of fair value accounting for balance-sheet items, the changes in some criteria of recognition and derecognition of assets and liabilities, the introduction of new accounting items, the reclassification of capital elements as liabilities and vice versa and the enlargement of the composition of consolidation.

stitutions that started to prepare their accounts in conformity with the new accounting standards (these rules are known as "prudential filters").

In the calculation of own funds, stress should be laid on the introduction of the following changes:

- Recognition of deferred taxes recorded on the assets side as a positive element of original own funds up to 10 per cent of the value of the latter (IAS and AAS);
- Recognition of 45 per cent of unrealised gains on assets available for sale as a positive element of additional own funds (IAS and AAS);
- Recognition of 45 per cent of unrealised gains on investment properties and other tangible fixed assets as a positive element of additional own funds (IAS);
- Exclusion of unrealised gains and losses associated with liabilities representing own credit risk (IAS and AAS);
- Exclusion of unrealised gains and losses, except those that represent impairment, associated with credit classified as available for sale (IAS and AAS)[12];
- Exclusion of unrealised gains associated with credit measured at fair value through the profit and loss account (IAS and AAS)[11];
- Exclusion of unrealised gains and losses associated with cash flow coverage operations, in the cases where the covered instrument is measured at amortised cost or when the coverage focuses on a future operation (IAS and AAS);
- Deduction of the sum of the differences - when positive - between the value of regulatory provisions defined by Banco de Portugal[13] and the value of impairment, calculated with regard to entities belonging to the composition of consolidation (IAS)[14].

It should also be noted that the prudential regime of own funds does not directly incorporate the classification between debt instrument and capital instrument envisaged in IAS. The fact that there are elements that, being previously recorded as liabilities, can be reclassified in the accounts as equity or vice versa does not affect the eligibility criteria of those elements in the calculation of own funds.

Benefiting from this revision and similarly to other countries, Banco de Portugal also started to accept provisions for general credit risks as a positive element of additional own funds[15].

With regard to the calculation of minimum own funds requirements, changes were only introduced in the calculation of requirements for credit risk not associated with the trading portfolio of institutions. The calculation of requirements for the trading portfolio defined in Notice No 7/96 does not result directly from the accounts, and thus, since there have been no changes in the trading portfolio concept, for prudential purposes, all procedures defined for the calculation of those requirements remained unchanged.

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12. The concept of "credit" must be understood in broad terms, in accordance with the provisions of paragraph 18 (a) of Notice No 12/92, including, for example, investments in credit institutions that, in accounts prepared in conformity with AAS, are subject to IAS 39 (Financial instruments - recognition and measurement).

13. The concept of "provisions" corresponds, in this case, to that defined in Notice No 3/95 and is exclusively used within the scope of application of this Notice.

14. Only those entities that are subject to the provisions laid down in Notice No 3/95 (credit institutions and financial companies, including branches of institutions having their head office in countries not belonging to the European Union).

15. Up to a maximum of 1.25% of weighted assets, calculated in accordance with Notice No 1/93.

Changes introduced in the calculation of minimum own funds requirements are chiefly aimed at adjusting the accounting value for which on-balance-sheet elements must be considered. If only 45 per cent of an unrealised gain from an asset available for sale is recognised as a positive element of own funds, this gain must be incorporated into the value of that asset, for the purposes of calculating minimum own funds requirements.

In addition, and taking into account the different impact recorded in the transition, Banco de Portugal established three transitional periods for the deferral of their prudential recognition:

- Up to 31 December 2007 the recognition in own funds and own funds requirements of impacts arising from changes in the valuation criteria of financial instruments and non-financial instruments, of the change in the treatment of exchange rate differences in financial holdings, of the recording of deferred taxes on the assets side and of the accounting of financial instruments with underlying shares issued by the institution itself[16];
- Up to 31 December 2009 the recognition in own funds of the impact arising from the adoption of IAS 19 (Employee benefits - Pension funds), except those related to post-employment medical care[17];
- Up to 31 December 2011, the recognition in own funds of the impact arising from the calculation of liabilities on account of post-employment medical care[16].

7.1.5.2 PROVISIONING REGIME[18]

The adoption of the new accounting standards also had implications on the definition of the provisioning regime of institutions subject to supervision by Banco de Portugal, although this issue is only raised at the level of accounts prepared on an individual basis, in conformity with AAS. Under the new regulations, and for the exclusive purpose of their application, the term “provisions” continued to be used to refer to value adjustments and impairment losses.

In comparison with the previous regime, the new standards maintain the provisioning rules defined for credit[19] and impose the compulsory setting-up of provisions for impairment for other financial assets, to an amount always higher than the amount that would result from the setting-up of provisions for country risk. Reference started also to be made to the setting-up of provisions for impairment as regards non-financial assets.

Due to changes in the valuation rules of securities which, in general, start to be measured at fair value, against profits and losses or reserves, according to the type of portfolio they are integrated in, these assets cease to be subject to the setting-up of provisions for latent losses, except if these losses correspond to impairment.

As a consequence of the previous changes, released provisions are compulsorily allocated to the setting-up or increase in other provisions. Their amount, not yet allocated to the above purposes, is recorded under a specific item of reserves and is not eligible for own funds.

16. Defined in paragraph 10 of Notice No 2/2005.
17. Defined in paragraph 13-A (4) of Notice No 12/2001.
18. See Notice No 3/2005 published on 28 February amending Notice No 3/95.
19. Excluding credit granted to credit institutions and credit represented by securities, which, in the context of IAS, are subject to the valuation rules envisaged in IAS 39.

7.1.5.3 RETIREMENT PENSIONS AND OTHER EMPLOYEE BENEFITS[20]

With the adoption of the new accounting standards, the recording in accounts of charges with retirement pensions and other employee benefits started to be made in conformity with IAS 19, which in general terms is not very different from the previous model.

As in the previous regime, this standard also makes a distinction between what corresponds to the cost for the year and to an increase in liabilities due to actuarial deviations. The "corridor" rule is also applied; thus part of these deviations may be recorded in the accounts with no impact in operating accounts.

However, there are some factors that at the transition date may generate materially relevant impacts on institutions' accounts, namely:

- Immediate recognition in results carried forward of expenditure on early retirements, whose recognition could previously be deferred;
- Possible change in actuarial assumptions, namely of the discount rate and the mortality table;
- Inclusion of new items in the calculation of liabilities, such as post-employment medical care and death grants.

These factors justified a transitional regime for the deferral of the resulting impacts, at both the accounting and prudential level (see 7.1.5.1). Similarly, the minimum financing levels of pension funds that must cover these liabilities were adjusted due to this deferral.

7.1.5.4 SUPERVISION ON A CONSOLIDATED BASIS[21]

With the adoption of the IAS, the composition of consolidation of institutions supervised by Banco de Portugal, subject to the presentation of consolidated accounts, started to include other entities that were previously not covered by that composition of consolidation, namely insurance and other companies, even those with predominantly non-financial activity. National legislation defining the presentation of accounts by institutions supervised by Banco de Portugal[22], including the definition of the composition of consolidation, was amended in 2005[23]. Therefore, its provisions were brought closer into line with those resulting from the application of IAS.

Given that prudential supervision on a consolidated basis, incumbent on Banco de Portugal, continues to focus only on financial institutions, it was necessary to change the existing regulations, in order to clarify that, whenever the composition of consolidation defined in conformity with IAS included companies carrying on dissimilar business activities, supervision would be conducted on a more restricted composition that would exclude those entities. Holdings in branches that are excluded for this motive will be treated in the consolidation process through the equity method.

In addition, Banco de Portugal will analyse on a case-by-case basis the inclusion of some new companies in the composition of consolidation[24], based on the interest that its integration has for supervision purposes.

7.1.5.5 OTHER PRUDENTIAL REGULATIONS

Given the new asset valuation rules introduced by the new accounting standards, regulations on the calculation of major risks were changed[25], so as to clarify that on-bal-

20. See Notice No 4/2005 published on 28 February amending Notice No 12/2001.
21. See Notice No 6/2005 published on 28 February amending Notice No 8/94.
22. Decree-Law No 36/92 published on 28 March.
23. Decree-Law No 35/2005 of 17 February.

ance-sheet elements must be considered for their net value when entered in the balance sheet.

It is assumed that there are other issues that may, quite probably, lead to the introduction of regulatory changes. These changes will be disclosed in due time, when deemed necessary in the course of monitoring the new standards' implementation process, taking into consideration, where possible, developments in the New Capital Accord of the Basel Committee.

7. 2 The New Capital Accord: current situation

7.2.1 Introduction

Since the end of the 1980s, initiatives at international level have been stepped up, in order to adapt the legal framework of credit institutions to the new reality of the financial services, namely as regards the capital adequacy rules. These initiatives, which were further promoted in the past few years, have been framed by two factors: the guarantee of financial stability and the strengthening of the financial innovation process.

Developments in the meantime occurred justify a reference to 1988, which represents an important milestone, as the Basel Committee on Banking Supervision (BCBS) published one of the recommendations with the strongest impact on prudential regulation: The Basel Capital Accord of 1988. Ten years later, the Capital Accord was subject to a revision, which ended with the publication, in June 2004, of the document entitled "International Convergence of Capital Measurement and Capital Standards: a Revised Framework", the so-called "New Capital Accord".

It should be noted that, at first sight, the transition between the recommendations published in 1988 and 2004 is often regarded as a process of disruption. Nevertheless, this was an evolutionary process, as can be seen, for instance, by the change introduced in 1996, regarding the possible use of internal models in the determination of minimum capital requirements for the coverage of market risks.

7.2.2 GENERAL FEATURES OF THE NEW CAPITAL ACCORD

The Capital Accord was based on two principles (sufficiency of capital and competitive neutrality). The New Capital Accord in addition to preserving these principles, also aimed at:

- Ensuring higher sensitivity of capital requirements to risk, so that the own funds levels match the risk profile of institutions;
- Expanding the capital adequacy regime, without restricting it to the fixation of minimum regulatory ratios, so as to recognise the relevance of the performance of supervisory authorities and market discipline;

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24. Namely special purpose entities (SPEs) that hold in their balance sheet assets securitised by the consolidating group. Although IAS 27 (Consolidated and separate financial statements) envisages a control concept quite close to that defined in the so-called 7th Directive (Directive No 83/349/EEC on consolidated accounts) and SIC 12 (Consolidation - Special Purpose Entities), IAS 27 introduces additional criteria on SPE consolidation, namely based on a wider concept of control. The latter should be assessed on the basis of the substance (to the detriment of form) of the relationship between the two entities (a number of criteria are followed and account is taken of "all relevant factors" that may specifically indicate the existence of a relationship, even when there is no share in the capital). Banco de Portugal must consider this framework, inter alia, when assessing the inclusion of a SPE in the composition of consolidation for prudential purposes.

25. Through the issue of Notice No 5/2005 of 28 February, that reworded paragraph 11 of Notice No 10/94.

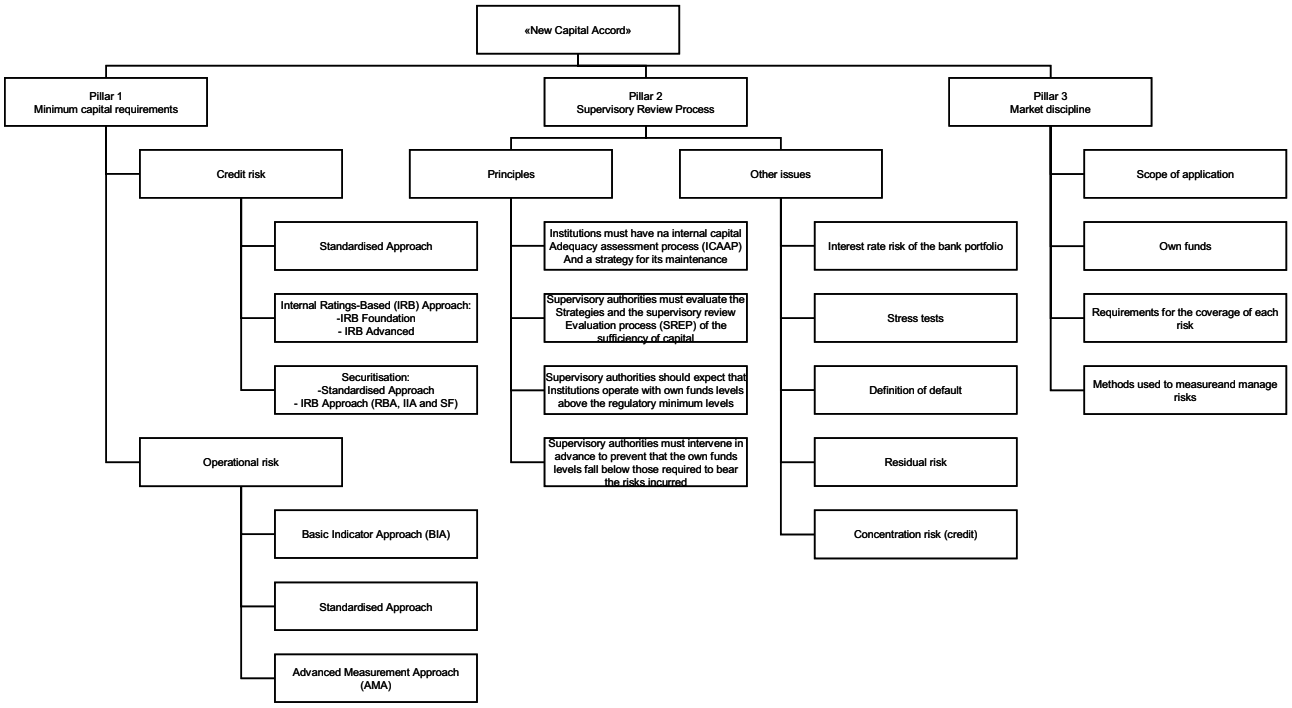
- Disseminating the “best practices” across the financial system, by developing several incentives rewarding the institutions’ risk measurement and management ability.

It is important to recall, in general terms, that the prudential regime proposed in the New Capital Accord is built on three pillars:

- Calculation of minimum capital requirements for the coverage of credit, market and operational risks - Pillar 1;
- Convergence of supervisory policies and practices (which may originate, inter alia, the setting of differentiated minimum capital requirements, according to the risk profiles or the soundness of the institutions’ internal control and management systems) - Pillar 2;
- Supply of information to the market and the general public, so as to ensure higher transparency on the institutions’ financial situation and solvency - Pillar 3.

To facilitate the analysis, the following table illustrates the three Pillars of the New Capital Accord:

FIGURE 7.2.2.1



Minimum capital requirements, defined within the scope of Pillar 1, are chiefly intended to improve the measurement capacity of the credit risk and the autonomisation of operational risk[26].

With regard to credit risk, the BCBS proposes two approaches for the calculation of the capital required for its coverage. The first is the Standardised Approach, largely based on ratings disclosed by the rating agencies. In general, it consists in weighting risks according to the type of borrower and exposure. The second, which has two variants, is the Internal Ratings-Based (IRB) Approach and enables the utilisation of internal methodologies

26. Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, including legal risk.

for the calculation of capital requirements. Under the IRB Foundation Approach, through the determination of probabilities of default (PD). Under the IRB Advanced Approach, in addition to the PD, through the calculation of the loss-given default (LGD) and of the value of the exposure at default (EAD). In all variants, the weighted value of the exposure results from the product between PD, LGD and EAD. It should be noted however that the use of the IRB Approach, in both variants, depends on the prior authorisation of the supervisory authorities, which is based on the confirmation of the fulfilment of several qualitative and quantitative requirements.

Turning to the IRB Approach - Foundation and Advanced Approaches - it should be noted that the determination of the capital requirements is only based on the coverage of unexpected losses, determining that unexpected losses are covered by provisions[27].

Still within the scope of Pillar 1, but at operational risk level, three main capital requirements determination methods are proposed, to which correspond an increasing degree of sophistication and risk sensitivity and, as a consequence, stricter approval and utilisation criteria. In sum:

- Under the Basic Indicator Approach (BIA), requirements are determined as a percentage (? = 15%) of a relevant operational indicator (gross income)[28];
- Under the Standardised Approach, capital requirements, broken down into business line, are determined as a percentage (between 12 per cent and 18 per cent) of a relevant operational indicator (gross income) for this business line;
- Under the Advanced Measurement Approach (AMA), institutions may use their own models to calculate the capital requirements for operational risk. The eligibility of institutions, for the use of these approaches, depends on the fulfilment of specific quantitative and qualitative criteria.

7.2.3. THE NEW CAPITAL ACCORD AND THE FINANCIAL STABILITY

Taking into account the structure of the New Capital Accord described in the previous section, this section analyses its possible incidence on the financial stability plan.

Pillar 1 (minimum capital requirements) is expected to show higher sensitivity to effective credit risk requirements. Besides, under Pillar 1, it will be possible to validate an institution's ability to use its own methodologies for the determination of capital requirements and to cover other risk sources, namely the operational risk.

Under Pillar 2 (supervisory review process) institutions are expected to: (i) mobilise further resources to identify and analyse the risks they may face; (ii) try to measure, with greater accuracy, the impact of potential losses underlying such risks; and (iii) resort to risk mitigation instruments. In this context, it should be noted that Pillar 2 strategy is based, on the one hand, on the assessment by institutions, of their risk profile, which highlights their measurement and judgement ability, and on the other hand, on the appreciation of this internal assessment by the supervisory authorities, which however does not mean the transfer of the management responsibility to these authorities.

27. It is important to recall that any excess or lack of provisions will be (differently) reflected in own funds, respectively in complementary own funds and in base own funds.

28. This operational indicator results from the following components: (+) interest and similar income (-) interest payments and similar costs (+) securities revenue (+) commissions received (-) commissions paid (+/-) results from financial operations (+) other (net) operational income.

Under Pillar 3 (market discipline) the information disclosed in the several markets is expected to be sufficient and consistent, so as to promote the confidence and credibility of the system. In particular, market participants are expected to have access to information enabling them to reward or penalise management practices - according to the respective soundness -, through the influence that they may exert on management, namely, by reflecting the financial situation of institutions on indebtedness costs/limits and on the capital valuation.

Thus, by focusing the attention on the microeconomic level, the interplay between the three pillars, by introducing a successive "validation system" (institutions, supervisory authorities and markets), is targeted at promoting realistic approaches on risk management and capitalisation levels, aimed at safeguarding the stability of the financial system.

On the other hand, the contribution to financial stability will depend, in principle, on the "geographical scope" of the new framework as a regulatory standard. This can be made easier through incentives to prudent management, which includes a broadly based discussion on the regulatory framework - involving, inter alia, supervisory authorities, institutions, advisors, and market analysts - and due to the fact that the proposed rules are based on practices already adopted by the main international institutions.

Likewise, the establishment of weightings according to risk incorporates elements that intensify the cyclical behaviour of regulatory capital, which led to the introduction of measures aimed at smoothing the possible effects of the new capital requirements on the widening of the business cycle (e.g. flattening of risk weighting curves for exposures to companies, with particular attention to SMEs, and calculation of PD and LGD using data on longer time horizons).

Bearing in mind that the banking activity is by its nature pro-cyclical, it is important to evaluate whether the new regulatory framework adds to the deterioration of the cyclical interaction between the financial system and the real economy. Among the factors that may add to the smoothing of this interaction, the following should be mentioned:

- The capitalisation levels should take into account all economic risks to which an institution is exposed, in parallel with the strategic objectives;
- Under certain circumstances, the holding of capital above the minimum amount required by the authorities, justified by the fact that the minimum capital requirement corresponds, from the rationale behind the rating, to the investment grade rating (BBB-), thus signalling a minimum solvency requirement. For several reasons, the institution may want a higher rating, for instance, to have access to market financing or because the additional capital margin enables a larger strategic flexibility;
- The use of stress tests (in particular, under Pillar 2) will tend to strengthen the economic allocation of capital from a "through the cycle" perspective.

7.2.4 IMPACT ON THE FINANCIAL SYSTEMS

One of the main structuring principles of the New Capital Accord is the maintenance of the current global capitalisation levels, in order to preserve the soundness and solvency of financial systems, despite the expected redistribution of requirements between systems and institutions.

Among the initiatives to assess the effects of the new Regulatory Framework, mention should be made of those undertaken by the BCBS, within the scope of the "Quantitative

Impact Studies" - QIS), and by the European Commission, commonly referred to as "Consequences Study"[29].

Third Quantitative Impact Study (QIS3)

QIS3, like the previous impact studies, analysed the effects of the implementation of the New Capital Accord, at the level of minimum capital requirements for the coverage of credit and operational risks; besides, it also intended to calibrate the proposals of the BCBS. Formally, it was implemented on 1 October 2002, having ended with the presentation of results on 5 May 2003.

Based on data made available on the BCBS website, the results for the Standardised Approach (credit risk) suggest an increase in the capital requirements in all groups of countries considered (G10, EU and other countries[30]). Under the IRB Foundation Approach, banks belonging to Group I (internationally active banks with more than EUR 3 billion Tier 1 capital) would only record slight changes in the requirements, while for those belonging to Group 2 (the remaining institutions), in the case of G10 and the EU, significant reductions would be recorded (19 per cent, on average). This was due to the fact that in these markets there is a concentration of institutions with a higher weight in the retail segment. Under the Advanced IRB Approach, there would be a reduction in capital requirements, both for G10 banks, and for EU banks (between 2 and 6 per cent respectively, on average). These results are illustrated in Table 7.2.4.1.

In general, the values that result from the impact study are in line with the BCBS objectives, i.e., minimum capital requirements would remain broadly unchanged in the case of internationally active banks, admitting that they use the IRB Approach[32], signalling the existence of incentives to use the Advanced IRB Approach. In the case of smaller-sized institutions, chiefly oriented towards the domestic market and/or the retail segment (with particular emphasis on mortgage credit), capital requirements for the G10 and EU as a whole might also drop markedly, in the assumption of a transition from the Standardised Approach to the IRB Approach.

TABLE 7.2.4.1

OVERALL RESULTS

Overall change in capital requirements[31]

	Standard			IRB Foundation			IRB Advanced		
	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
G10 Group 1	11%	84%	-15%	3%	55%	-32%	-2%	46%	-36%
Group 2	3%	81%	-23%	-19%	41%	-58%			
EU Group 1	6%	31%	-7%	-4%	55%	-32%	-6%	26%	-31%
Group 2	1%	81%	-67%	-20%	41%	-58%			
Other Groups 1 & 2	12%	103%	-17%	4%	75%	-33%			

SOURCE: Basel Committee on Banking Supervision.

29. The original name of the document is "Study on the Financial and Macroeconomic Consequences of the Draft Proposed New Capital Requirements for Banks and Investment Firms in the EU" (MARKT/2003/02/F) and is available on the European Commission website.

30. Including, Australia, Brazil, Bulgaria, Chile, China, Czech Republic, Hong Kong, Hungary, India, Indonesia, Malaysia, Malta, Norway, Philippines, Poland, Russia, Saudi Arabia, Singapore, Slovakia, South Africa, South Korea, Tanzania, Thailand and Turkey.

31. Maximum and minimum figures refer to institutions' results. The figures for operational risk were, in general, calculated on the basis of the Standardised Approach (the Advanced Measurement Approach was only used by one institution).

32. It should be noted that internationally active banks with more than EUR 3 Tier 1 capital, therefore, belonging to Group I, were requested to use the IRB Approach.

33. QIS4 covered only internationally active banks of the USA and Germany.

Finally, it should be noted that the BCBS will undertake another quantitative impact study (QIS5)[33], which will start in early October 2005. The objective of this study is similar to that of previous versions, save for the fact that it may be the last overall exercise before the implementation of new regulatory proposals.

"Consequences Study"

In reply to a request of the European Council regarding the presentation of a report on the consequences for the European economy, in particular for SMEs, of the regulatory framework presented by the BCBS, the European Commission published on 8 April 2004, a document that analyses the impact on capital requirements of the EU financial sector, as well as the respective repercussions on the economy.

On the basis of the methodology applied and taking as a reference the EU market, the proposals for a regulatory change would lead to a slight reduction in the overall capital requirements, while the effects on EU GDP growth would be negligible in the long term.

It is important to recall that in the methodology adopted, no assumption was made regarding changes in the behaviour of institutions, namely, as regards a possible redefinition of the business model, involving, inter alia, the structure /composition of the financial group, the geographical location and the concentration of the activity in the core business areas. This methodological option, which is justified by the nature and complexity of the analysis, requires some caution in the extrapolation of conclusions from the presented results.

Turning to the pro-cyclicality, the Report refers that "(…) the procyclical effects of the proposed new capital rules will probably be quite moderate" (p. 131). However, the assessment of these effects may include the possible consequences on the changes in risk sensitivity levels, on the use of more efficient risk management techniques and on the capacity of the competent authorities to give full replies, if the cyclical nature of the new regulations becomes evident.

7.2.5 THE NEW CAPITAL ACCORD IN THE NATIONAL LEGAL FRAMEWORK: CURRENT SITUATION

The incorporation of the New Capital Accord[34] in the Community legislation will be chiefly made through the amendments proposed to the Codified Bank Directive (2000/12/EC), although amendments are also introduced in the Capital Adequacy Directive (93/6/EEC), commonly referred to as "CAD II"[35]. In general, the Community legislative process is aimed at guaranteeing the convergence of prudential requirements, taking into account the specificity of the European Banking systems and the diversity of the implementation of prudential measures (e.g. consolidation methods and composition) and the distinct nature of the requirements (legally binding rules versus recommendations).

With respect to the incorporation of the New Capital Accord in the Community legal instruments, the European Commission defined a specific modus operandi, which can be summarised as follows:

34. It is important to recall that the Committee, as well as the European Commission, have continued the work related to the new capital adequacy regime. These are the cases of the double default rules, which assess the probability of both a borrower and a guarantor defaulting on the same obligation, the trading review, namely, the criteria for the inclusion in the trading review or in the bank portfolio, and the capital requirements for the coverage of the counterparty risk associated with OTC derivatives, reporting operations and securities loans (Note: these changes are included in the document entitled "The Application of Basel II to Trading Activities and the Treatment of Double Default Effects", published by the Basel Committee of Banking Supervision, in April 2005. In the same vein, the European Commission published a document entitled "Activities Related Issues and the Treatment of Double Default Effects").

35. On the whole, the "Community legislative package" (2000/12 + 93/6) is commonly referred to as "Capital Requirements Directive" (CRD).

- The key components of the three Pillars are provided for in the "amended" Codified Banking Directive. The full adoption of this Directive will follow a co-decision procedure (involving the European Council and the European Parliament), although subsequent revisions to the technical annexes can be made, in their majority, through a comitology procedure (basically European Commission and European Banking Committee);

- The amendments to be introduced in CAD II will have a much smaller scope and are justified, namely, due to (a) the fact that the new capital adequacy regime covers, within the European Community, investment firms (whose prudential regime is provided for in this Directive)[36], (b) the revision of the trading portfolio concept, (c) the introduction of capital requirements for the coverage of market risks relating to positions on new instruments (e.g. credit derivatives), (d) the change in interest rate risk requirements (trading portfolio), and (e) the change in the calculation method of capital requirements for settlement risk[37].

Currently, the draft directives are expected to be approved by the European Parliament, at the first hearing, in September; this will enable their adoption and publication in late December; Member States will have a period of one year for their transposition into national law (1 January 2007). However, the more advanced internal approaches (IRB Advanced and AMA) can only be implemented from 1 January 2008 onwards. During the interim period, financial groups/institutions should use one of the simplified approaches of the new prudential regime.

The preparation of draft rules and regulations, which will ensure the transposition of the amendments to Directives 2000/12/EC and 93/6/EEC into national law, will be one of the core internal works. In principle, the first stage of the transposition will consist in the preparation of draft decree-law(s) that (a) amend or introduce legislative rules (e.g. Legal Framework of Credit institutions and Financial Companies) and/or that, in accordance with the Constitution[38], (b) enable Banco de Portugal to issue regulations (e.g. amendment to Notice No 1/93 - Solvency Ratio).

The components that, in a first analysis, will be involved in the transposition of directives, are the following:

- Decree-Law(s) that entrust Banco de Portugal with the required enabling powers, also including changes to the Legal Framework of Credit institutions and Financial Companies;
- Changes to all prudential notices of Banco de Portugal - e.g. Notices Nos 12/92 (concept of own funds), 1/93 (capital requirements for credit risks), 7/96 (capital requirements for market risks), 10/94 (limits to large exposures) and 10/2001 (securitisation transactions);
- New prudential notices, for instance on capital requirements on operational risk, or on other risks (e.g. interest rate risk of the bank portfolio);
- Changes to instructions of Banco de Portugal on prudential issues (in particular those that substantiate the periodic reporting to Banco de Portugal).

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36. As well as in the "Investment Services Directive" (ISD).

37. The works under way in Basel and Brussels ("trading review"), in principle, will be translated into further changes to CAD II, which will "appear" as amendments proposed by the European Parliament (at the first hearing).

38. The transposition of Community Directives shall be made through Laws or Decree-Laws, in accordance with the provisions of the Constitution of the Portuguese Republic.

Given the wide range of the issues covered, it should also be noted that the transposition works, transversally, involve several domains, namely:

- National discretionary options;
- Interpretation of several provisions laid down in the Directives, which are not fully specified (e.g. “significant number” of exposures and “significant” risk transfers);
- Recognition process and eligibility criteria of the ECAI (external credit assessment institutions) rating;
- Scope of application of the Internal Capital Adequacy Assessment Process (ICAAP) and outline of the Supervisory Review Evaluation Process (SREP) - Second Pillar, including the Risk Assessment System (RAS);
- Risks considered under Pillar 1, but not fully captured in the respective process (e.g. concentration), and therefore covered under Pillar 2, as well as risks not included under Pillar 1 (e.g. interest rate risk of the bank portfolio and strategic risk);
- Technical conditions and specifications included in the “stress tests”;
- Assessment of the fulfilment of minimum requirements for use in the advanced approaches (IRB and AMA).

The latter area is a representative example of the rationale behind Community works: the convergence of supervisory policies and practices. This should be seen from a threefold perspective. First, the regulatory instruments should be neutral in competitive terms (ensuring a level playing field). Second, the specific nature of each market must be recognised, without being only restricted to the national discretionary options. Third, and acknowledging the increasing internationalisation of the different domestic banking systems within the European Union, the rationalisation of the resources of supervisory authorities, for instance, through the co-operation in the internal model approval and validation process.

The Committee of European Banking Supervisors (CEBS), created in November 2003, contributes to the interpretation of Community Directives and to the convergence of Member States’ or national supervisory authorities practices throughout the Community. Under the aegis of this Committee, and with the participation of Banco de Portugal, several actions are being taken in fields such as the exchange of information and the validation of internal models. Some of these actions are currently substantiated in the publication of consultation documents, such as “Implementation of Pillar 2 of the Revised Basel Accord and the Relevant Provisions of the Capital Requirements Directive” (CP03), “Standardised Consolidated Financial Reporting Framework (CP06)”, “Common European Framework for Supervisory Disclosure (CP05)” and “Common Framework for Reporting of the Solvency Ratio (CP04)”.

Although the definition of Community Regulatory Framework is still open to discussion, which is reflected in the works aimed at the convergence of the practices followed by national supervisory authorities, it should be noted that Banco de Portugal has launched several internal initiatives, for both the disclosure and monitoring of[39] institutions/groups plans, which will be stepped up until the date of transposition of the respective Community directives.

39. In this respect, note the organisation of a Cycle of Conferences “Basel II” during the first half of 2004. This cycle of conferences provided the cornerstone of the structure, content and implications of the New Capital Accord, identifying possible divergences between BCBS recommendations and Draft Directives of the European Commission, promoted debate and the exchange of opinions and presented application examples.

Part II Articles

DETERMINANTS OF BANKS' FINANCING COSTS IN THE BOND MARKET*

Diana Bonfim and Carlos Santos****

Abstract

In the recent past, the bond market has become an important financing source for some European banks. The costs of such funding source differ significantly between institutions, as well as throughout time. As a consequence, it is important to identify the determinants of this variability. The monitoring of spreads over time allows for the estimation of potential funding costs in bond markets for each bank. In order to empirically assess the determinants of such variability, an extensive database was built, containing information on the characteristics of each issue and each issuer, as well as on the evolution of secondary market spreads of each security through time. Database exploration allowed us to conclude that longer residual maturities and subordination clauses are associated with higher spreads. In turn, higher issue amounts and the existence of collateral work in the opposite sense. In what concerns the profile of the issuer, it was observed that higher solvency, liquidity and efficiency levels are positively evaluated by the market, yielding lower spreads. Finally, we studied the impact of macroeconomic conditions on the time evolution of spreads, concluding that spreads tend to increase in periods with higher long-term interest rates and in periods of economic slowdown.

1. Introduction

The bond market has become one of the main financing sources of many European banks. However, the costs underlying such funding differ significantly across banks, as well as throughout the economic cycle. It is thus important to understand which factors determine such variability. As a consequence, the main goal of this study is to analyse the factors that determine the spreads on fixed rate bonds issued by European banks, taking into account specific characteristics of each issue and of each issuer, the latter obtained from the financial statements of issuer banks.

The funding cost in the bond market can be approximated by the difference between the yield of each bond and the yield of a Government bond with equal (residual) maturity (which is assumed to bear nil or constant credit risk). The assessment of this spread at the date of issue is useful, reflecting the borrowing cost at that moment. However, it is also interesting to evaluate the evolution of the spreads for each security throughout time (in the secondary market), given that this information allows for an estimate of the cost the issuer would support if it issued a new bond with similar characteristics (in other words, the spread in the secondary market allows for the estimation of potential funding costs).

The monitoring of the assessments performed in the markets can be very useful from the financial stability viewpoint, as there is evidence that some market indicators may embody valuable information to anticipate future developments in banks' financial situation. Gropp et al (2002) study the predictive power of some market indicators on the financial fragility

* The opinions in this article represent the views of the authors and are not necessarily those of the Banco de Portugal. The authors would like to thank António Antunes and Nuno Ribeiro for their helpful comments and suggestions. Any errors or omissions remain our own.
** Banco de Portugal, Economic Research Department.

of European banks, concluding that such indicators may help to predict possible deteriorations in banks' financial situation.

The rest of the work will be structured as follows: Section 2 analyses possible determinants of private debt spreads, namely in what concerns bank debt, taking into account some of the contributions found in the literature. Section 3 presents the data used in the estimation of the econometric models chosen to analyse the determinants of European banks bonds' spreads. Section 4 summarises the methodology applied, while section 5 analyses the main results. Finally, Section 6 concludes.

2. Determinant factors of private debt spreads

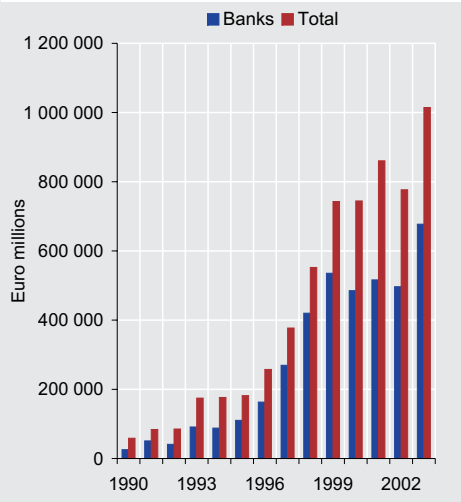
Part of the variability in spreads is probably related to the specific characteristics of the issue. Therefore, those factors should be considered in the investigation of the elements that play a part in the determination of the funding cost in debt markets. For instance, the residual maturity of the security may significantly influence the spreads. For instance, Landschoot (2004) finds, for a sample of European bonds, that spreads increase in line with the residual maturity of the securities, as a longer maturity may imply a higher default risk. The issue amount may also be a determining variable for the price of the bond. Sironi (2003) points out this idea, as the amount of the issue can influence its liquidity in the secondary market. As the European banks' bond market has not yet reached a liquidity level comparable with that of the USA, this factor should also be considered in the analysis. In addition to the factors already mentioned, the existence of collateral and of subordination clauses may affect the credit risk of the issue and, as a consequence, the spread vis-à-vis riskless debt securities. The rating of the issue may also condition its price. However, the issuer's rating may be more representative of the global risk of the issuer and, as such, it may be more relevant than the specific rating of the issue. It should be noticed that the simultaneous use of both variables could generate collinearity problems. Sironi (2003) points out significant correlation between these variables, noting that, on average, issue ratings are relatively lower than those of the issuer, particularly for subordinated securities.

Controlling for the effect of the above-mentioned specific characteristics of each issue, this article looks for an assessment of which characteristics of issuers are more relevant in the determination of funding costs. In this domain, there is ample literature on the factors determining spreads in bonds issued by corporations, particularly for US non-financial corporations. Some recent empirical contributions in this field are Collin-Dufresne *et al* (2001), Elton *et al* (2001) and Anderson and Sundaresan (2000). Landschoot (2004) also adds on the topic, considering bonds issued by European corporations. Still, besides being important to know, in general, the factors determining the spreads on bonds issued by firms, it is also important to assess the factors determining the spreads on bonds issued by banks. There are three main reasons to perform such analysis. Firstly, banks have increasingly resorted to bond funding during the last years, particularly in the euro area[1] (Chart 1). Secondly, considering the specificity of banks' activity (namely their possibility to, by definition, have access to alternative funding sources, and their prominent role in debt markets), it can be expected that their determinants of funding costs can be different from those of non financial corporations. Elton *et al* (2001) find significant differences between the spreads of bonds of the financial and non-financial sectors, as well as in their time structure. The authors justify such differences with different sensitiveness of bonds issued by these sectors both to systematic factors as well as to idiosyncratic shocks. In fact, the simple existence of an explicit and mandatory regulatory framework applied to

1. Bondt (2004) analyses the factors underlying the recent developments in this market.

CHART 1

EVOLUTION OF THE VOLUME OF BONDS IN THE EURO AREA



SOURCE: Bondware.

most financial institutions implies a different sensitiveness of the financial system to these factors. Finally, some recent studies analyse the effect of market discipline on banks through the way markets value banks' subordinated debt (see Evanoff et al (2001 a,b), for the US, and Sironi (2003) for a sample of European banks).

Considering the several contributions mentioned above, one can point five groups of variables which can help explain differences in spreads across different banks: i) asset quality; ii) capital structure; iii) liquidity; iv) solvency; v) profitability. A sharp decrease in banks' asset quality may contribute to an increase in bond spreads. In turn, a high degree of leverage, as well as deterioration in banks liquidity, may imply an increased difficulty to meet short-term liabilities, something that the market may price negatively. High solvency ratios may be positively valued and, finally, a decrease in profitability may signal some deterioration in banks' financial situation (even though extremely high profitability levels may imply higher spreads, in case they are associated with excessive risk taking). It should be noted that some of these variables might be significantly correlated. As a consequence, even though all these variables can be considered theoretically relevant for the determination of spreads, they might not be simultaneously considered in econometric modelling, as this could lead to spurious results, due to multicollinearity problems.

In addition to the investigation of issue and issuer characteristics as determinant factors of banks' bond spreads, it can also be interesting to explore the influence of macroeconomic variables on the funding costs of banks. On the one hand, the global evolution of interest rates should significantly condition the spreads in bond markets. Available empirical evidence suggests that a decrease in interest rates should be accompanied by a reduction in spreads (i.e., the lower the level of interest rates, the lower tends to be the difference between private and public funding costs (see, for instance, Duffee (1998)). On the other hand, the stance of economic activity may also play a determining role in the dynamics of spreads throughout time. During an expansion period, spreads will tend to decrease, signalling a global reduction in the risk associated with debt issuers, as economic agents tend to have a positive perception on the future economic situation in such periods. In turn, during a recession, default risk may increase significantly, which may translate into

higher spreads. For instance, Santos (2003) finds that the inclusion of a binary variable identifying recession periods allows for better results when modelling the access of firms to the bond market. Nevertheless, it is important to consider that the sensitiveness of the spreads to business cycles shall be much higher for lower rated issuers than for those with lower credit risk (Crouhy *et al* (2000) underline the importance of considering these different types of sensitiveness in credit risk modelling). In this sense, though spreads on banks' bonds may reveal some sensitiveness to the cyclical position of the economy, it should not be as significant as that of lower-rated non-financial corporations, given that most European banks have relatively high rating notations.

3. Data

The starting point in building up the database used in our empirical analysis was collecting information on bond issues performed by European banks between 1999 and 2003. The definition of the beginning of the sample period was associated with the establishment of the European Monetary Union, which generated sizeable structural changes in securities markets. Namely, from 1999 onwards, the volume of bonds issued by European banks increased significantly. Furthermore, taking into account solely bonds issued after 1999, we can restrict our database to bonds issued in euros, what avoids having to take into account exchange rate market factors (which may have a determinant impact on the evolution of bond spreads). Data on bond issues and their characteristics were obtained from Dealogic Bondware. Information was collected for all issues of banks from euro area countries. The database was constructed solely with fixed rate bonds (excluding not only variable interest rate bonds, but also convertible bonds), in order to make the computation of bond spreads simpler. For each issue, it was gathered information concerning the issuer, issue and issuer rating, maturity, subordination clauses, collateral, amount issued and spread at issue date. We collected information on 10.322 bonds.

As previously mentioned, the secondary market spread may be more informative than the spread at issue date for two main reasons. On the one hand, by taking into account the spread in secondary markets, one is forced to consider just bonds with some liquidity, what makes possible to analyse how market participants price the risk underlying a given security. On the other hand, the spread in the secondary market may be a proxy for the evolution of potential funding costs in bond markets over time, given that such spread should be close to the cost the bank would have to support to issue a new bond with similar characteristics at that moment. In order to calculate these spreads, information was collected from Bloomberg for all securities identified in Bondware. For a large part of the initial sample of bonds, regular information on its yield to maturity was not available. In most cases there was no information at all and, in some other cases, the information was sparse and irregular, reflecting in part the relatively low liquidity of euro area bond markets during the period under analysis. Taking into account only bonds that had a relatively regular pricing in secondary markets, it remained a sample of 4.253 bonds. For these bonds, the spread was computed as the difference between its yield to maturity and the yield on German government bonds. The spread was computed vis-à-vis the government bond with the closest maturity, using a linear interpolation procedure to construct a full maturity spectrum.

The last step in the construction of the database was to gather information from the issuer banks' financial statements. Detailed financial information was collected on 137 euro area banks from Bankscope. The information collected was as detailed as possible, in order to allow for econometrically testing several plausible theoretical hypothesis. Given that for a small part of the sample it was not possible to retrieve information from Bankscope, from

the crossing of these two databases resulted 4.161 bonds, on which the empirical analysis will be focused. For each of these bonds, the database contains information on issue characteristics, accounting and market information on the issuer, as well as the evolution of the spread through time. As a result, this database constitutes a very extensive information source on bonds issued by European banks since 1999.

Given that most banks' financial information is available only on an annual basis, we considered annual, half-year and quarterly averages of bond spreads. Taking into account all these averages (with or without time lags), it was concluded that the most robust and significant relationship is usually established between the spreads annual average and variables from the financial statements in the same year. This may be associated with the fact that market participants are, to some extent, forward-looking agents, reflecting gradually in the spreads information released throughout the year, which ends up being summarised, in some way, in end-of-year financial statements.

There is just an additional note regarding the treatment of rating information. Given that there is information available from three different rating agencies, which have different (non-numeric) scales amongst them, it was constructed a correspondence between each of these scales and a numeric scale from 1 to 23 (in which 23 is the best rating notation possible).

In Table 1 there is a brief statistical summary of some of the variables considered in the sample. The analysis of standard deviations suggests that there is considerable time and cross-sectional variability in the sample. As can be seen in the table, the number of observations for each variable varies widely. There is less information available for issuers than for their respective bond issues. Such reality conditioned the integration of some information dimensions in econometric modelling, most notably in what concerns the analysis of the impact of asset quality on bond spreads.

Nearly 85 per cent of the bonds in the sample were issued by German banks. Therefore, the conclusions of this study are to a large extent dominated by the characteristics of German banks and of their issues. In what concerns issue characteristics, it should be mentioned that most German bonds do not have subordination clauses, what may help to explain the relatively lower spread levels of these bonds (in line with what is seen for Belgium and the Netherlands)[2]. Finally, it is also worth mentioning that during the sample period there was a gradual convergence of bond spreads from different euro area countries (as can be observed in Chart 2)[3].

2. For Germany, in 2004, 98 per cent of the bonds issued by banks had no subordination clauses (96 per cent for the full sample period).

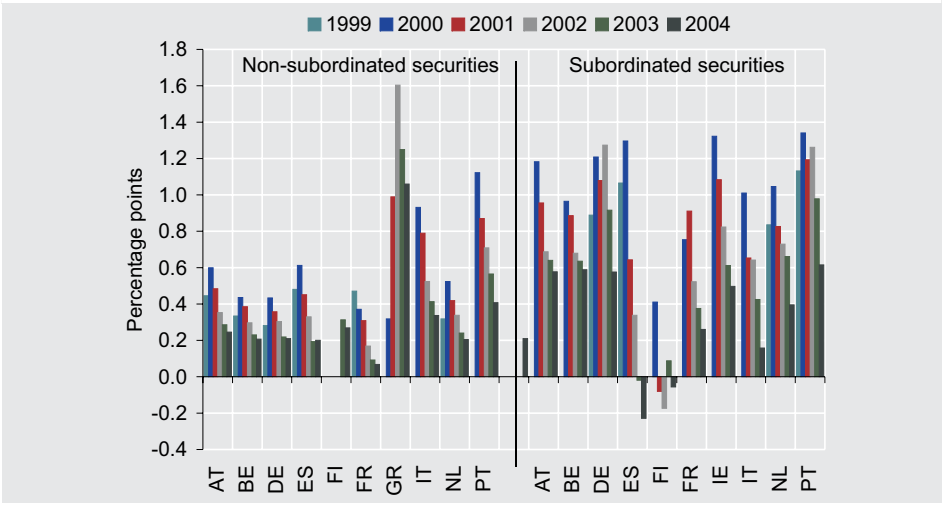
3. Bonds issued by Portuguese banks have relatively high spreads during the period under analysis. However, during this time span there was a remarkable convergence towards the euro area average. Hence, in 2004, the average spread for Portuguese bonds was 0.41 p.p., what compares with 0.21 p.p. for the whole sample (for subordinated bonds, the spread for Portuguese issuers was 0.62 p.p., compared with 0.39 p.p. for the entire sample). It should be noticed, however, that Portuguese banks issue mostly variable interest rate bonds. Given that our database includes only fixed rate bonds, there is a very limited number of observations for Portuguese banks (only 10 bonds). Finally, even though average issue amounts are slightly higher for Portuguese banks than for the rest of the sample, these banks are, on average, smaller than most banks considered in the sample. Portuguese banks have, on average, relatively higher profitability and efficiency levels.

TABLE 1

SUMMARY STATISTICS FOR THE FULL SAMPLE

	Number of obs.	Average	Standard--deviation	Min.	Max.
Issue amount	24942	224.3	404.0	0.1	5000
Final coupon	24942	4.1	1.2	0.0	17
Year	24966	2002	1.7	1999	2004
Spread q1	10666	0.30	0.3	-2.0	6.7
Spread q2	11419	0.28	0.3	-2.2	9.3
Spread q3	8719	0.32	0.3	-1.8	8.7
Spread q4	9491	0.31	0.3	-2.1	10.5
Spread h1	11702	0.29	0.3	-2.1	7.8
Spread h2	9858	0.32	0.3	-2.0	9.2
Annual spread	13710	0.29	0.3	-2.1	8.4
Number of employees	16429	8629	14075	2.0	126757
Total assets	18084	168387	132382	157	927918
Customers' and short-term liabilities	18001	97033	92148	0	506738
Interest rate margin	18084	1443	1472	-2125	10313
Net income before taxes	18084	389	843	-2862	13969
Prov. cred. overdue as % int. rate margin	17773	28.7	33.0	-41.4	524.7
Credit overdue over gross credit	1958	2.4	2.2	0.0	15.2
Write-offs as % gross credit	733	2.5	5.8	0.0	29.9
Tier 1 ratio	11762	7.1	4.2	4.3	86.9
Capital ratio	11933	10.9	4.3	6.1	87.9
Capital as a % of assets	18080	2.5	11.4	-749.7	93.2
Capital as a % of credit	17978	6.3	12.6	0.1	932.2
Capital as a % liabilities	18048	2.6	2.7	-94.6	123.1
Subordinated debt as % own funds	17132	27.4	7.9	0.0	65.5
income	18084	259	706	-2229	13513
Credit	17981	71840	53230	0	345330
Net income as % average assets	18084	0.7	1.3	-73.8	6.8
ROA	18084	0.2	0.8	-2.9	48.5
ROE	18084	4.5	12.2	-110.0	144.0
Dividend pay out	14008	30.3	35.5	-184.4	835.3
Cost to income	18015	55.4	18.9	6.6	183.3
Net assets as % cust. and short-term liab.	17966	78.6	89.0	0.0	602.0
Net assets as % deposits and funding	18015	24.2	9.6	0.0	130.5
Market capitalisation	3009	11220	15616	72	210278
EPS	3009	0.6	4.6	-20.8	48.4
PE close	3009	13.0	11.9	-15.0	293.1
Subordinates (Y/N)	24966	0.0	0.2	0	1
Average issue rating	18294	22.6	1.1	16.0	23.0
Collateral (Y/N)	24966	0.9	0.3	0	1
Average issuer rating	17934	20.1	2.8	15.0	23.0
Change in share prices	2315	-0.2	0.2	-0.7	0.5
Residual maturity	23735	5.9	3.6	0.0	34.2
10-year interest rate	24966	4.7	0.5	4.2	5.4
GDP (growth rate)	20805	1.8	1.3	0.7	3.9
For Portuguese bonds:					
Issue amount	60	243.5	140.5	20	400
Annual spread	39	0.86	0.3	0.3	1.4
Total assets	48	38578	20581	6803	67685
Capital ratio	48	9.9	1.0	8.1	11.7
ROA	48	0.9	0.4	0.2	2.1
Cost to income	48	61.1	6.0	51.5	72.1
Net assets as % cust. and short-term liab.	40	11.5	4.4	3.8	18.5
Residual maturity	60	7.5	2.6	0.9	12.1
For German bonds:					
Issue amount	21630	204.2	392.1	2.5	5000
Annual spread	11918	0.29	0.3	-1.3	8.4
Total assets	15384	161367	121152	157	927918
Capital ratio	10061	10.5	2.0	7.7	23.6
ROA	15384	0.1	0.4	-1.3	8.6
Cost to income	15342	54.7	18.9	13.4	183.3
Net assets as % cust. and short-term liab.	15344	87.5	93.2	0.0	602.0
Residual maturity	20501	5.7	3.4	0.0	34.1

CHART 2
AVERAGE SPEADS BY COUNTRY



4. Methodology

In order to identify the factors that contribute to the determination of spreads in the bond market, we resorted to an econometric model of the type:

$$Spr_{i,t} = a + \sum_{j=1}^{n} b_j v_{j,i,t} + Dum_t + v_{i,t}, \text{ where}$$

$Spr_{i,t}$ stands for the spread of issue *i* at moment *t*

$\sum_{j=1}^{n} b_j v_{j,i,t}$ stands for the joint effect on the spread of issue *i*, at moment *t* of the *n* variables considered in each model, and

Dum_t stands for the dummy variables for each of the periods (years) considered in the estimation and, in one of the specifications, for each of the issuers.

This model allowed for the successive testing, both in isolated and combined way, of the importance of explanatory variables associated with issue features, with the characteristics and performance of the issuer and with macroeconomic variables, such as GDP growth or risk-free interest rates. The inclusion of dummy variables for each year captures the effects of the factors that affect simultaneously all bonds, even though in a different way through time. The modelling setup reflects to a large extent the restrictions imposed by data availability, in what concerns both the time span covered and the frequency of the data available for most explanatory variables.

The model was estimated using pooled OLS. In most regressions, a clustering procedure was applied, based on the pair (issuer, year). Such procedure, with no impact on the estimates of the coefficients associated with the regressors, takes into account that observations are independent between groups, but not necessarily within groups. Therefore, this clustering procedure conditions standard error estimates as well as the variance and co-variance of the estimators. It was also evaluated the possibility of exploring the database under a panel data setup. However, given that there are, on average, only 2 years of observations for each bond, the use of fixed-effect estimators does not offer sizeable ad-

vantages when compared with alternative estimation techniques, most notably if the clustering procedures mentioned above are applied.

5. Results

As previously mentioned, the methodology adopted allowed us to test the empirical significance of a set of factors, some of them associated with the issue characteristics, others with the performance and features of the issuer and, finally, others regarding overall economic developments (namely in what concerns economic growth and short and long-term interest rate levels). Table 2 summarizes the main results obtained.

The theoretical importance of most variables considered is supported by the results obtained in the regressions. For instance, when taking into account solely variables strictly related to issue characteristics, it is possible to conclude that bonds with longer residual maturities and with subordination clauses show relatively higher spreads: for each additional year of residual maturity, there is a premium of nearly 2 basis points (b.p.), whereas the inclusion of a subordination clause may imply an increase in the spread of 30 b.p. In the opposite direction, the presence of collateral and higher issue amounts contributes to a reduction in spreads. The results also support the idea that better rated issues imply lower financing costs for banks in bond markets[4].

When taking into account the specific characteristics of the issuer, it is possible to conclude that the theoretical assumptions regarding the effects of solvency and liquidity on spreads are not rejected. In other words, a higher ability to withstand unexpected losses and to guarantee short-term liabilities is priced by markets in a positive way, yielding lower spreads (for instance, for each additional percentage point in the solvency ratio, the spread should decrease by 0.2 b.p.[5]). In addition, more efficient issuers (with lower cost to income ratios) usually benefit from lower funding costs (similarly to solvency and liquidity indicators, the multiplier associated with this ratio, despite being significant, is relatively low (0.1 b.p.)). This variable can be regarded as a proxy for profitability[6]. Other profitability variables were tested, but none showed up to be significant. Further, leverage variables also did not display significant coefficients in the estimations performed. Such result may be perceived in two different ways: on the one hand, it can reflect the presence of collinearity problems between these leverage and solvency variables or, on the other hand, it can imply that, for the banking sector, market participants may consider that the observance of regulatory capital requirements is relatively more important in the assessment of a bank's financial situation. The results concerning asset quality are not presented given that, in our opinion, the reduced number of observations for these variables should not be sufficient to justify their inclusion in the set of explanatory variables. All in all, the results obtained regarding the significance and magnitude of variables associated with the issue and the issuer are robust when taking them simultaneously into account, increasing in a substantial manner the explanatory power of the model.

Similarly, the inclusion in the set of explanatory variables of macroeconomic indicators does not change the explanatory power nor the coefficients associated with issue and is-

4. It should be stressed that the latter result is obtained in a modelling setup relatively different from the others, namely in what concerns the clustering procedure. In this regression, it is not considered the clustering based on the pair (issuer, year). Instead, it is considered a dummy variable for each issuer, in order to group observations by their issuer.
5. The relatively low value of this multiplier can in part be explained by the fact that banks usually operate with solvency ratios above the regulatory minimums.
6. In this specification it was taken into account a dummy variable for German issuers. Without the inclusion of such variable, the solvency ratio is not significant at a 10 per cent confidence level. This can reflect the fact that German banks have, on average, relatively low solvency ratios (and with low dispersion), in spite of presenting lower spreads than the rest of the sample.

TABLE 2

MAIN RESULTS

	Issue		Issuer	Issue and issuer	Issue, issuer and macro variables		
	1	2	3	4	5	6	7
Residual maturity	0.018	0.025	0.027	0.021	0.021	0.021	0.021
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Issue amount (log)	-0.028	-0.014		-0.027	-0.027	-0.028	-0.026
	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)	(0.00)
Collateral (Y/N)	-0.055			-0.063	-0.062	-0.064	-0.062
	(0.00)			(0.00)	(0.00)	(0.00)	(0.00)
Subordinated (Y/N)	0.300	0.257		0.332	0.333	0.333	0.348
	(0.00)	(0.00)		(0.00)	(0.00)	(0.00)	(0.00)
Issue rating		-0.022					
		(0.00)					
Tier 1 ratio			-0.003	-0.002	-0.002	-0.002	-0.002
			(0.04)	(0.06)	(0.06)	(0.06)	(0.11)
Net assets as % cust. and short-term liab.			-0.003	-0.001	-0.001	-0.001	-0.002
			(0.01)	(0.03)	(0.02)	(0.04)	(0.02)
Cost to income			0.001	0.001	0.001	0.001	0.001
			(0.05)	(0.08)	(0.10)	(0.09)	(0.08)
3-month interest rate – euro area						0.037	
						(0.05)	
10-year interest rate – euro area					0.133	0.069	
					(0.00)	(0.04)	
National GDP (growth rate)							-0.031
							(0.10)
Dummy Germany			-0.060				
			(0.06)				
Control variables	Year dummies	Issuer dummies	Year dummies	Year dummies			Year dummies
Constant	0.369	0.814	0.199	0.350	-0.237	-0.066	0.419
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.58)	(0.00)
Methodology	pooled OLS with clusters	pooled OLS	pooled OLS with clusters	pooled OLS with clusters	pooled OLS with clusters	pooled OLS with clusters	pooled OLS with clusters
R^2	0.21	0.31	0.23	0.32	0.31	0.31	0.32
P-value F test	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Number of observations	13 648	9 913	5 756	5 751	5 751	5 751	5 751

NOTE: p-value between parenthesis.

suer variables. We estimated three distinct models, taking into account short and long-term euro area interest rates and GDP growth rates for each euro area country in the sample. Overall, the results obtained are consistent with what is suggested by economic theory. In fact, a higher interest rate level should be associated with higher spreads (model 5), whereas the (contemporaneous) growth in GDP should favour its reduction

(model 7). Finally, a higher (positive) slope in the yield curve (defined as the difference between long and short-term interest rates) is also associated with a reduction in those spreads (model 6)[7]. It should be stressed that the slope of the yield curve is a variable that theoretically and empirically finds some support as a proxy for expectations on future economic developments.

6. Conclusion

During the last few years, euro area bond markets have become an important funding source for European banks. The possibility of obtaining funds with relatively long maturities in increasingly deep securities markets makes this opportunity relatively attractive for banks, as well as for those offering such financing.

This work intended to empirically examine some of the factors that may contribute to the determination of banks' funding cost through bond issuance by taking into account three variable dimensions. Firstly, we explored the impact that specific issue characteristics might have on the spread. A longer residual maturity may account for a relative increase in spreads. Further, the introduction of subordination clauses should have a similar effect. In turn, higher issue amounts and the presence of collateral seem to work in the opposite direction, implying a decrease in spreads. Secondly, we evaluated the impact of issuer characteristics on its relative financing cost in bond markets. In this domain, we looked at five sets of variables: asset quality, leverage, liquidity, solvency and profitability. However, after testing several alternative specifications, it was concluded that not all of these variables are significant in determining financing costs in bond markets. In fact, controlling for the residual maturity of each bond, we concluded that high solvency, liquidity and efficiency levels (efficiency can be regarded as a proxy for profitability, to some extent) are positively evaluated by market participants, yielding lower spreads. Finally, taking simultaneously into account issue and issuer features, we added macroeconomic variables to our analysis, given that they may also affect banks' funding costs. This specification confirms our previous conclusions regarding issue and issuer characteristics. Furthermore, this additional specification suggests that funding costs in bond markets tend to increase during periods of higher (long-term) interest rates (what should also imply an increase in the cost of capital and, hence, in the cost of alternative funding costs), as well as in periods of economic slowdown (observed or expected).

The construction of the database that supports this study allowed us to identify and quantify some of the factors that affect the cost banks have in obtaining funding through bond markets. Such analysis makes it possible to identify which characteristics of the issue and, most notably, of the issuer market participants perceive as implying higher risk levels, demanding, as a consequence, a higher premium in the transaction of such securities. Further research on this topic may include an extension of the sample period or the inclusion of higher data frequency, in order to make it possible, for instance, to perform sensitivity tests in situations of increased instability. However, increasing data frequency makes more difficult the use of issuer characteristics, given that for most banks only annual financial statements are available. Another possibility would be to consider bonds issued before 1999, in order to analyse a complete business cycle. Such extension of the sample period would allow to characterize more accurately instability periods, as well as to understand if there is any change in the factors that determine banks' funding costs in such pe-

7. In fact, it should be noticed that equation 6, with the functional form *spread = f(..., s, l)*, can be re-written as *spread = f(..., l, l-s)*, in which *s* stands for the short-term interest rate and l stands for the long-term interest rate.

riods[8]. However, the bond market in euro area countries went through deep structural changes since 1999, what can undermine some comparisons in different years.

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8. In the period under analysis, it was not possible to find any evidence that supports the hypothesis that the above-mentioned determinant factors change in periods of increased instability (defined as periods in which occur sudden and widespread increases in spreads). This may be, in part, associated with the frequency of available data.

APPENDIX

SUMMARY STATISTICS OF THE VARIABLES USED IN THE FINAL SPECIFICATION

Full sample	Average	Standard--deviation	Min.	Max.
Annual spread	0.3	0.3	-2.1	8.4
Issue amount	224.3	404.0	0.1	5000.0
Residual maturity	5.9	3.6	0.0	34.2
Collateral (Y/N)	0.9	0.3	0.0	1.0
Subordinated (Y/N)	0.0	0.2	0.0	1.0
Tier 1 ratio	7.1	4.2	4.3	86.9
Net assets as % cust. and short-term liab.	24.2	9.6	0.0	130.5
Cost to income	55.4	18.9	6.6	183.3
10-year interest rate	4.7	0.5	4.2	5.4
GDP (growth rate)	1.3	1.2	-1.1	11.1
Sample used in the estimation	**Average**	**Standard--deviation**	**Min.**	**Max.**
Annual spread	0.3	0.2	-1.1	4.2
Issue amount	254.6	389.9	0.1	5000.0
Residual maturity	5.0	2.8	0.0	30.5
Collateral (Y/N)	0.9	0.3	0.0	1.0
Subordinated (Y/N)	0.0	0.2	0.0	1.0
Tier 1 ratio	7.3	3.7	4.3	84.3
Net assets as % cust. and short-term liab.	27.5	9.1	0.2	59.2
Cost to income	61.3	15.2	6.6	104.4
10-year interest rate	4.8	0.4	4.2	5.4

INDEBTEDNESS AND WEALTH OF PORTUGUESE HOUSEHOLDS *

Luísa Farinha and Sara Noorali****

1. Introduction

During the 1990s, particularly in the second half of the decade, Portuguese households' indebtedness increased at a strong pace. From a value of nearly 20 per cent of disposable income, in 1990, it increased to 40 per cent, in 1995, reaching 118 per cent in 2004 (Chart 1). In 2003, within the euro area, that value was only below that of the Netherlands (Chart 2).

To correctly assess the consequences of the rise in households indebtedness on financial stability, on the transmission of monetary policy and on the evolution of economic activity, developments occurred on the assets side – financial and real – cannot be ignored. In the case of difficulties arising on debt servicing from the current income of households, as a result of an adverse shock (for example the increase in interest rate and/or in unemployment), the possibility to unplie a fraction of wealth may contribute to minimize the impact of the shock on households consumer decisions and, ultimately, to enable the solvency of the respective liabilities. In fact, both real (especially as regards credit for house purchase) and financial assets are frequently used as a guarantee for loans. It should be noted, however, that the mobilization of real assets, which have by nature low liquidity, to meet the payment of debts may be a slow process that involves additional costs.

The aggregate level indicators provide information on average terms but do not allow by themselves to adequately evaluate the financial situation of individual households, which is expected to present a high heterogeneity according to its demographic and socioeconomic characteristics. The wealth accumulation by the households is a dynamic process that reflects consumption and savings decisions as a function of current circumstances and expectations about the future. Using a simple model of consumption and savings throughout the life cycle it can be shown that the diversity of households' individual characteristics, namely the age of its members, implies the existence of significant inequalities in the distribution of savings and wealth. That diversity also implies significant differences on the distribution of the impact of a change in the interest rate, a rise in unemployment or a drop in the assets prices on the households' consumption and financing decisions. These considerations clearly point to the importance of having information at a microeconomic level.

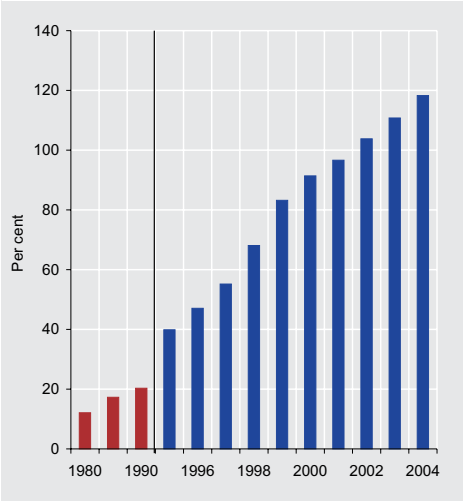
This article presents a set of aggregate indicators regarding the wealth of Portuguese households that are complemented with a more detailed analysis of the distribution of some ratios, with emphasis on indebted households. This analysis used the microeconomic data from the Households' Wealth and Indebtedness Survey. The results obtained both with aggregated and disaggregated data, suggest, globally, that the net wealth situation of households does not present high fragilities. There are, however, groups, namely

* The opinions of this article represent the views of the authors and are not necessarily those of the Banco de Portugal. The authors are entirely responsible for any errors and omissions.

** Banco de Portugal, Economic Research Department.

CHART 1
HOUSEHOLDS' INDEBTEDNESS

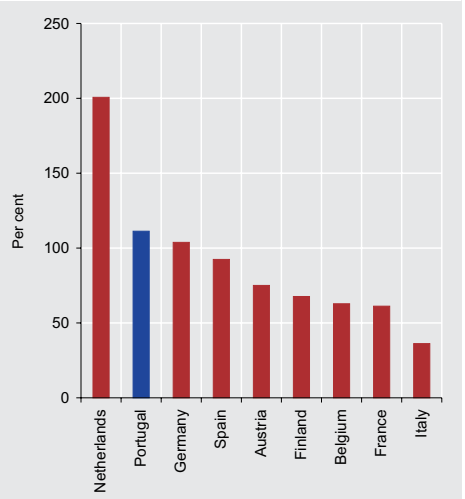
As a percentage of disposable income



SOURCES: *INE* and Banco de Portugal.

CHART 2
HOUSEHOLDS' INDEBTEDNESS

As a percentage of disposable income, in 2003
International comparisons



SOURCE: Eurostat.

the younger age households, where situations of some vulnerability can be found, in particular, when the distribution of the debt-to-asset ratio is analysed. Therefore, these groups will be more sensitive to eventual unfavourable shocks such as a continuous rise in unemployment, a significant rise in interest rates and a drop in the prices in the real estate market.

In section 2, a brief analysis of households' wealth is made using aggregate data. On the basis of a simple model of life cycle, section 3 starts with the presentation of some theoretical foundations for the empirical analysis that takes into account the heterogeneity of households. This is followed by the presentation of a set of summary statistics characterising households' wealth obtained using disaggregated data and by the analysis of the debt-to-asset ratio for several subclasses of households. In section 4, some conclusions are pointed out.

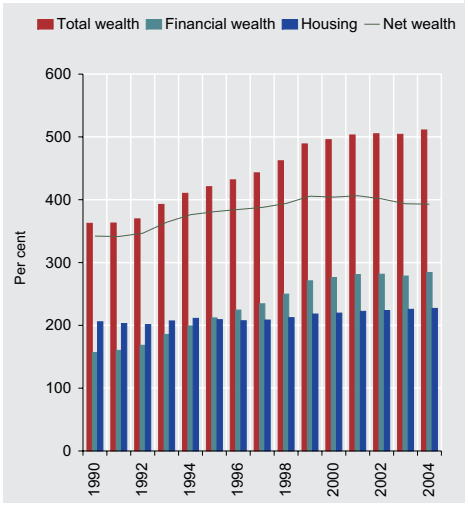
2. Evolution of households' wealth: aggregate data

According to estimates of the financial and non-financial wealth[1] of Portuguese households for the period 1980-2004, this sector total wealth, as a percentage of disposable income, presented an upward trend over the considered period (Chart 3). The value of the housing stock[2] as a percentage of the disposable income also showed a slight increasing path, especially in the second half of the 1990s. In what concerns financial wealth, an upward trend was visible during the 1990s. As to its composition, in global terms, the financial assets portfolio remains dominated by deposits although it become more diversified (Chart 4). For this diversification may have contributed the liberalisation process started in the 1980s with the opening of the banking system to private initiative, followed by the modernization of the banking system, the emergence of new institutions and financial products, the liberalisation of interest rates, the abolition of credit limits and the liberalisation of capital flows at the end of 1992. The privatization process initiated in 1989 contributed strongly to increase the depth and the liquidity of the capital market, which al-

1. Cardoso and Cunha (2005).
2. Given the lack of information regarding non-financial wealth, it was considered as a non-financial asset only the housing component, which represents almost the total non-financial wealth of households. The value of the housing stock represented 44.4 per cent of total wealth of households in 2004 (56.7 per cent in 1990).

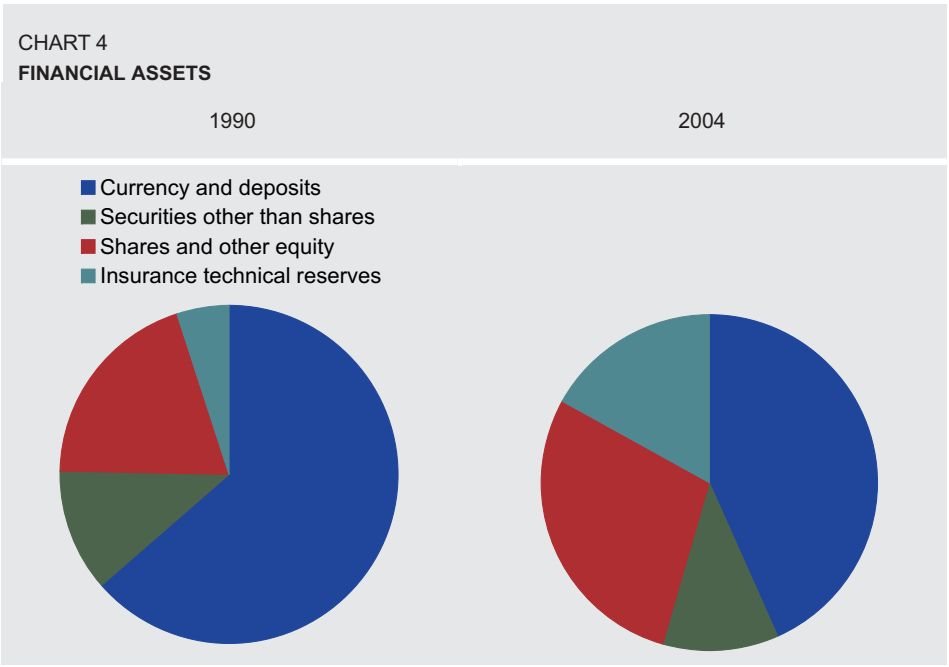
CHART 3
HOUSEHOLDS' WEALTH

As a percentage of disposable income



SOURCE: Cardoso and Cunha (2005).
NOTE: Trade credit was excluded in the calculation of net wealth.

CHART 4
FINANCIAL ASSETS

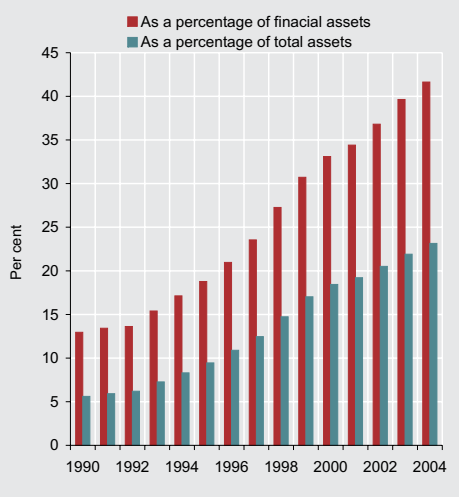


SOURCE: Cardoso and Cunha (2005).

lowed investors, in particular households, to diversify their portfolios. In turn, households' investments in life insurance and pension funds, seen as a necessary complement to the public schemes of retirement, have gained increasing importance since the beginning of the 1990s. In the case of life insurance this evolution may reflect, partially, the increase of credit for house purchase. The increasing importance of investment on pension funds reflects, on the one hand, the rise in the number of companies which established defined benefit pension schemes and, on the other hand, voluntary households decisions with the aim of obtaining a complement to social security public schemes of retirement. It should be said that the last ones have benefited in this period from fiscal incentives which are a stimulus for its constitution.

CHART 5

LIABILITIES AS A PERCENTAGE OF FINANCIAL ASSETS AND OF TOTAL ASSETS



SOURCE: Cardoso and Cunha (2005).
NOTE: Liabilities do not include trade credit.

Considering values of wealth net of liabilities it can be seen, from 2000 onwards, that the rise in households' financial investment was more than compensated by the higher indebtedness leading to the decrease in the weight of net financial wealth as a percentage of households' disposable income. In the same period, total net wealth recorded some stabilisation due to the strong contribution of house acquisition.

In the analysis of the financial situation of households, the debt-to-asset ratio is also a frequently used measure as it gives information about the higher or lower capacity of households to solve the debt agreed. During the period from 1990 to 2004, both the ratio of liabilities to financial assets and the ratio of liabilities to total assets increased (Chart 5). In the same period, an upward trend can also be seen in the ratio of debt to real assets.

3. Households' wealth and indebtedness: microeconomic analysis

3.1 THEORETICAL FOUNDATIONS

Most theories regarding consumption and income evolution throughout the life of economic agents admit, that individuals smooth their consumption pattern during life, even though their income presents a very marked temporal pattern. In fact, labour income is null when individuals are very young, go through an increasing path, reach a maximum, and start decreasing slightly before retirement when it is zero (or equal to the retirement pension). In this context, it's expected that early in life, when labour income is very low or inexistent, individuals finance the "desirable" consumption level by demanding credit. When income increases (typically on intermediate ages) individuals will save, partly to repay the previously agreed credit. Finally, savings accumulated during this phase of the life cycle (when income reach a maximum) will finance consumption after retirement, where incomes - essentially from pensions - are lower.

Using a very simple model, it may be possible to simulate the consequences, on consumers' decisions, of a strong slowdown in the interest rate, as the one that took place in the recent past in the Portuguese economy. Assuming each agent lives 80 years, an additive

utility function is used, divided in four phases, each with 20 years. In the first phase, the agent, who does not inherit any asset, has no wage and only consumes. In the second and third phases, the agent receives labour income, pays interest agreed and earns interest on investments made (i.e., in net terms, pays interest in the case of a negative liquid position). It is also assumed that labour income in the third phase is globally higher than that in the second. In the last phase, the agent retires, with no wage and only spending accumulated savings and respective interests.

With a logarithmic additive utility function, i.e.,

$$U = \log c_1 + \log c_2 + \log c_3 + \log c_4$$

where *c1, c2, c3* and *c4* represent consumption in each phase of the life cycle, it is easy to show that, if the interest rate is constant throughout life, the agent consumption in period *i* will be

$$c_i = \frac{1}{5-i} z_i \qquad (1)$$

where z_i is the initial wealth (in period *i*), understood as net assets detention in the beginning of the period and respective interests at rate *r*, plus the present value of its current and future labour income, summarized as w_i:

$$z_i = (1+r)\, a_i + \sum_{j=i}^{4} \frac{w_i}{(1+r)^{j-i}} \qquad (2)$$

It should be noted that $w_1 = w_4 = 0$. In turn, net assets detention develops according to $a_i = a_{i-1} + s_{i-1}$, where s_i is the previous period savings.

It is assumed that an unexpected strong decrease in the interest rate *r* occurs. It is a simplified hypothesis, but facilitates the model resolution, and, given the duration of each phase, does not seem to be especially abusive. This change will have different consequences according to the phase of the life cycle in which the agent is.

In general terms, equation (2) shows that there is a direct income effect, given by the term $(1+r)\, a_i$. Given that a_i was determined in the previous period, it does not change with the variation on *r*. If the agent is a net creditor (a_i positive), the interest rate decrease will reduce the interest component of his total wealth. If the agent is a net borrower (a_i negative) his total wealth will increase because he has to pay less interest. In turn, the decrease in the interest rate will lead to an increase in the present value of future labour income.

For borrowers, the effect of the interest rate decrease is unequivocal: total wealth increases, which induces an increase in current consumption through equation (1). For creditors, the effect is uncertain though if the agent is retired (and therefore without labour income) the effect will always be negative.

With a reasonable calibration of the model, the effects of the decrease in *r* on different variables may be analysed, by comparison with a situation of a high interest rate but with the same flow of future labour income. Table 1 presents the simulation results of the interest rate decrease effects on income, on consumption and on individuals' indebtedness in different phases of the life cycle. It has no effect on income of very young agents (who have no labour income, neither wealth). However, total wealth (which includes the present

TABLE 1

IMPACT OF THE INTEREST RATE REDUCTION

	Young no-workers	Young workers	Adult workers	Retired
Income in the period	0	++	+	- -
Indebtedness at the end-of-period	++	+	-	0
Consumption in the period[(a)]	++	++	+	- -

NOTE:
(a) Proportional to total wealth in the period (see equation (1)).

value of future incomes) increases through the reduction of the discount rate (see equation (2)). Therefore consumption of this age group will increase, which is only possible through indebtedness.

For workers in the second phase of the life cycle, the present value of future labour income increases with the decrease in the interest rate. In addition, and given that these agents are typically net borrowers, the interest burden decreases. This implies that total wealth increases (see equation (2)), as well as current income, due to the debt burden decrease. Consumption, naturally, increases. The effect on indebtedness at the end-of-period must be lower than for those not yet in the labour market.

Regarding workers in the third phase of the life cycle, the effect of the interest rate change on their total wealth must be positive, given that these agents are yet typically net borrowers. There is no future income effect, given that is assumed that, in the next phase, wages are null. Income must increase through the reduction of debt servicing. Consumption increases, and indebtedness at the end-of-period decreases, given that the debt balances were already low at the beginning of the period.

Finally, for the retired the impact of the interest rate change is negative on total wealth, on income (only interests) and on consumption. The effect on indebtedness must be null.

Despite the limitations of this analysis, given the very simplified hypotheses, the results of this simulation are consistent with the evolution observed recently in Portuguese indebtedness, in the context of the strong decrease in interest rates. There is evidence that the younger individuals were the ones that contributed more to the increase in indebtedness. Using this model, it should also be said that these individuals will also be the most affected in the case of an interest rate rise. In this case, the present value of future labour income will fall and, by having no assets (that earn interests), they will not benefit from a rise in interest rates. Therefore, they will reduce significantly their consumption.

3.2 SUMMARY STATISTICS CHARACTERIZING HOUSEHOLDS' WEALTH

The analysis presented in this section is based on microeconomic data obtained from the Households' Wealth and Indebtedness Survey (*Inquérito ao Património e Endividamento das Famílias, IPEF*)[3] of 2000. These data concern a sample of households for which detailed information on income, wealth and debt is available, complemented with other aspects such as the age, the education level, and the labour market situation of the household head. The information from the *IPEF* is very useful, on the one hand, because it allows the analysis of the distribution of variables such as households' debt, wealth and income. On the other hand, it enables the analysis of different ratios, such as indebtedness and debt burden, by subgroups of households according to their age, income, education and labour situation of their members. It must, however, be used with some caution given that there is evidence that some groups of households are under represented, in particular the younger age ones. It should also be noted that the *IPEF* results show some inci-

dence of non-response due to refusal or lack of knowledge, with particular incidence on financial wealth variables[4], which implies that extrapolations for the universe should be avoided. Nevertheless, indicators calculated for subgroups of the sample are less affected by these problems which enable to take conclusions with some confidence.

Table 2 presents some summary statistics that characterise the composition and the distribution of households' wealth, based on the 2000 sample of the *IPEF*. According to the indicators presented in Table 2, the difference between the average and median values reflects the asymmetric character of the wealth distribution. The net financial wealth average value for the sample aggregates stands around €120 thousand while the median value does not reach €65 thousand, which means that the average is too much influenced by very high extreme values. As expected, given the dynamic nature of the wealth accumulation process, the results show that the distribution of wealth is more asymmetric than that of income. The asymmetry is more evident in the financial component.

The observation of the Lorenz curves provides more detailed and graphically intuitive information on wealth inequality (Chart 6). These curves relate the cumulative relative frequencies of the sample with the proportion of wealth, income, etc. The closer the curve is to the diagonal the lower will be the inequality distribution of the variable in study. In Chart 6 it is clear that the distribution of wealth, particularly financial wealth, is strongly concentrated. It should be noted, for example, that 10 per cent of the households hold almost 74 per cent of financial assets.

As mentioned, it is expected that the distribution of wealth changes according to the demographic and socioeconomic characteristics of households. Charts 7A to 7C present data concerning the median values of households net wealth, financial assets and non-financial assets disaggregated simultaneously by the age of the households' head and in-

3. This survey was carried out by the *INE* with the support of the Banco de Portugal.
4. For details on the *IPEF* sample see Farinha (2003 and 2004).

TABLE 2

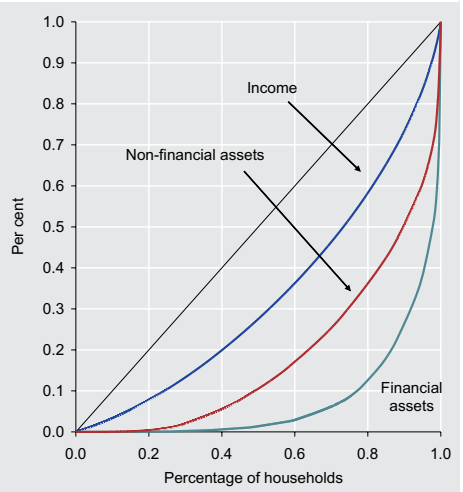
WEALTH AND INCOME DISTRIBUTION IN 2000

(EUR thousands)

	Income	Total wealth	Financial assets	Non-financial assets	Net wealth	Debt
Percentiles						
10%	0.504	2.619	0.000	1.247	1.870	0.000
25%	0.716	22.421	0.125	14.964	18.206	0.000
50%	1.052	70.580	1.621	64.844	64.220	0.000
75%	1.540	132.306	7.856	124.700	124.700	0.838
90%	2.283	220.718	24.192	207.001	214.982	19.952
Minimum	0.319	0.000	0.000	0.000	-379.042	0.000
Maximum	10.725	5082.750	2162.289	5075.269	5082.750	488.822
Observations with positive values						
Number	3 763	3 639	3 133	3 465	3 561	1 140
Percentage	100.0	96.7	83.3	92.1	94.6	30.3
Average	1.293	126.147	12.240	113.907	119.781	6.366

SOURCE: *INE*.

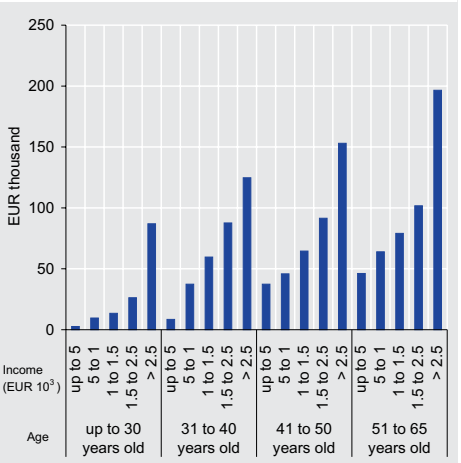
CHART 6
INCOME AND WEALTH LORENZ CURVES



SOURCE: *INE*.

CHART 7A
NET WEALTH MEDIAN

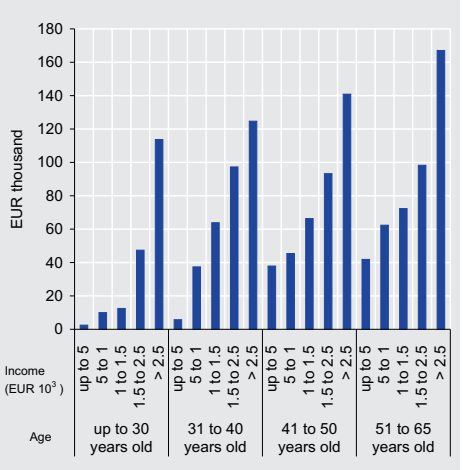
By classes of age and income



SOURCE. *INE*.

CHART 7B
NON-FINANCIAL ASSETS MEDIAN

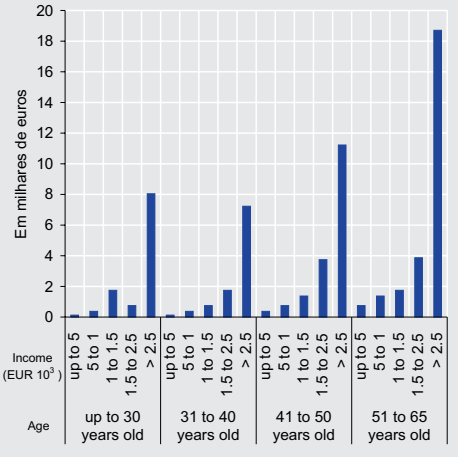
By classes of age and income



SOURCE: *INE*.

CHART 7C
FINANCIAL ASSETS MEDIAN

By classes of age and income



SOURCE: *INE*.

come[5]. The intersection of the two variables enables to analyse the impact of each one on wealth, isolating the effect of the other. According to the results obtained, net wealth - total assets less households' debt - seems to change directly with income and the age of the households' head. In fact, the three charts point to the following conclusions:

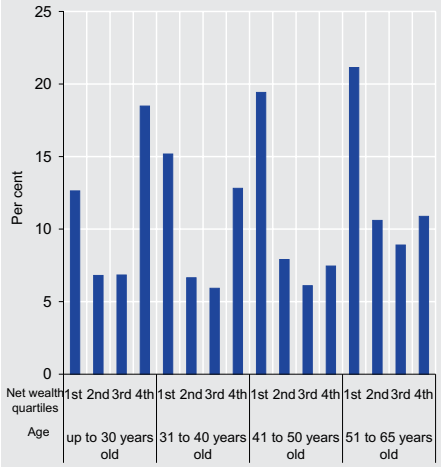
- in each age class, the income effect is positive, i.e., higher income is associated with higher net wealth, financial assets and non-financial assets;
- in general, net wealth, financial assets and non-financial assets increase with age, despite the class of income considered;

5. Median values are used because they give more information about the central values of the distribution than the average (which is influenced by extreme values).

CHART 8A

FINANCIAL ASSETS AS A PERCENTAGE OF TOTAL ASSETS

By classes of age and net wealth quartiles

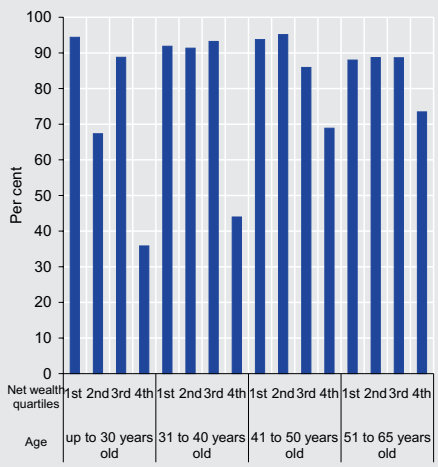


SOURCE: *INE*

CHART 8B

DEPOSITS AS A PERCENTAGE OF FINANCIAL ASSETS

By classes of age and net wealth quartiles

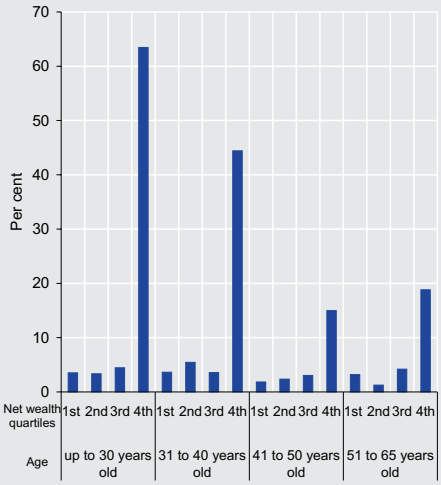


SOURCE: *INE*.

CHART 8C

SHARES DIRECTLY ACQUIRED AS A PERCENTAGE OF FINANCIAL ASSETS

By classes of age and net wealth quartiles

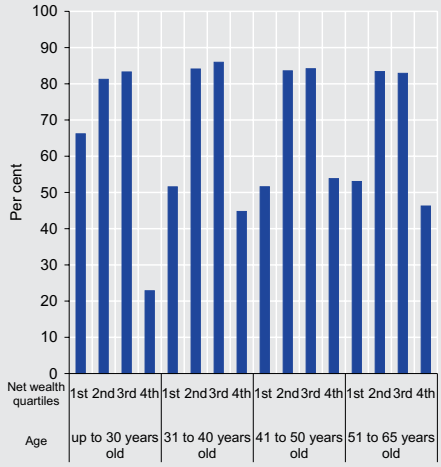


SOURCE: *INE*.

CHART 8D

HOUSING AS A PERCENTAGE OF NON-FINANCIAL ASSETS

By classes of age and net wealth quartiles



SOURCE: *INE*.

- the effect of age on wealth is more pronounced in the case of households with lower income.

Results on the composition of households' wealth by type of investment are presented in Graphs 8A to 8D, using age and net wealth classes of the households' sample. These results suggest that:

- in general, the majority of wealth, i.e. more than 80 per cent, is invested in non-financial assets, despite the age or the level of households wealth;
- the proportion of financial assets increases with age in the case of households with lower wealth. In the other classes the relation is not clear;

- households' portfolios are dominated by deposits, except in the case of households whose head is less than 40 years old and that belongs to the highest quartile of net wealth (Charts 8B and 8C). These households show an attraction for more risky products;
- around 80 per cent of non-financial assets correspond to the value of the main house in the subclasses of intermediate wealth, despite the age stratum. In the extreme classes of wealth, housing represents between 40 and 50 per cent of total assets despite the class of age over 30 years (Chart 8D).

3.3 FINANCIAL SITUATION OF HOUSEHOLDS WITH DEBT

The disaggregated data at microeconomic level enables to analyse separately and with detail the financial situation of indebted households, which is crucial to obtain indications of the principal vulnerabilities presented by the sector.

Globally, the information from the *IPEF* of 2000, as well as data on an aggregated level, suggests that the less favourable situations, though having some expression, do not

TABLE 3

PERCENTAGE OF HOUSEHOLDS WITH NEGATIVE NET WEALTH

Classes of income (EUR thousands)				
up to .5	**.5 to 1**	**1 to 1.5**	**1.5 to 2.5**	**> 2.5**
1.9	2.4	2.6	2.7	1.3

Classes of age			
up to 30 years old	**31 to 40 years old**	**41 to 50 years old**	**51 to 65 years old**
6.1	4.0	2.1	1.4

Classes of education			
No education or basic schooling (1st cycle)	**Basic schooling (2nd cycle)**	**Basic schooling (3rd cycle)**	**Secondary or upper level schooling**
1.8	4.0	2.7	2.8

SOURCE: *INE*.

TABLE 4

BY CLASSES OF TOTAL WEALTH

Classes of wealth[(a)]	% households with debt	Debt/income[(b)]		Debt burden	
		average	p75	average	p75
R1	16.2	1.731	7.858	0.067	0.171
R2	21.3	2.671	6.921	0.061	0.146
R3	21.4	5.318	12.815	0.049	0.120
R4	25.5	5.469	14.987	0.086	0.184
R5	28.3	14.339	30.820	0.108	0.196
R6	36.3	13.360	25.183	0.133	0.192
R7	37.6	9.588	20.542	0.107	0.163
R8	40.0	10.516	27.136	0.109	0.185
R9	42.4	7.153	17.173	0.074	0.171

SOURCE: *INE*.
NOTES:
(a) For example, households included in R1 are the sample 10 per cent less wealthy and those in R10 are the 10 per cent more wealthy.
(b) Monthly income.

seem to be a source of great concerns. It should be noted, for example, that the net wealth value of the 10th percentile is positive, i.e., even the 10 per cent less wealthy have on average more assets than liabilities on their balance (Table 2). In fact, according to these data, the percentage of households with negative net wealth is below 5 per cent in the generality of the samples considered, except for those households where the head is less than 30 years old (Table 3).

Table 4 shows information regarding the percentage of indebted households for the various subclasses defined according to the value of the percentiles of total wealth. According to this information, the percentage of households with debt is relatively small in households with lower wealth (around 16 per cent), being around 34 per cent in the 10 per cent more wealthy. Considering only households with debt in each subclass, it can be seen that both the median value and the 75th percentile value for the debt-to-income ratio increase with wealth until a certain level and than tend to decrease. The debt burden shows, in turn, a similar pattern. The highest values of the debt-to-income ratio and of debt burden appear on the third quartile of wealth.

Finally, Charts 9A to 9C, present the median and the 75th percentile values of the debt-to-asset ratio for the different subsamples defined according to the degree of indebtedness (relatively to income), the debt burden and the age of the households head. This information suggests the following conclusions:

- the situation of households as given by the debt to total assets ratio seems relatively comfortable for the generality of the households' classes; even the 75th percentile of the ratio does not exceeds, in general, the value of 50 per cent;

- the higher vulnerabilities are found on the youngest age classes, on the more indebted and on those with the highest debt burden.

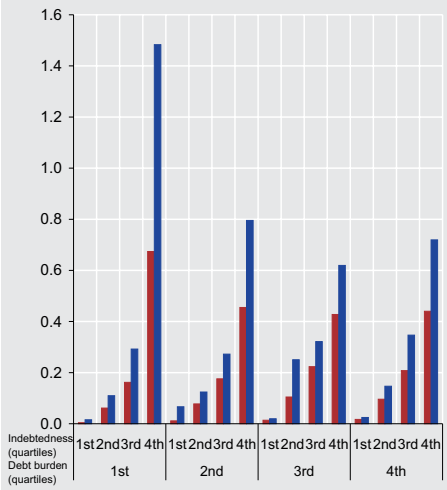
4. Conclusions

In aggregate terms, the last two decades showed that households' wealth increased at higher rates than those of the disposable income. Therefore, despite the strong increase in indebtedness, net wealth as a percentage of disposable income kept an upward trend until the end of the 1990s, followed by a relative stabilization in the most recent period. However, liabilities grew more than assets, so that the debt-to-asset ratio increased in aggregate terms, reaching the value of 23.1 per cent in 2004 that compares with 5.6 per cent in 1990. As disaggregated data at microeconomic level is available it is possible to assess if some households' stratums are more vulnerable in the case of occurrence of an adverse shock in interest rates, in economic activity and/or in asset prices. The results obtained suggest that, despite the high inequality of wealth distribution, no very serious situations were found in what concerns the possibility of households' insolvency, even in the more vulnerable stratums, particularly the younger ones. This reflects, to a large extent, the fact that credit for house purchase – secured by a mortgage – constitutes a large amount of the increase in credit obtained by households.

However, even if the actual financial situation of households does not represent a very high risk to financial stability in the short term, the fact that highly indebted households, are more sensitive to changes in interest rates, implies that consumption volatility may rise, in the case of a sharp increase in interest rate and/or in unemployment. This situation may also have implications on financial stability. According to the life cycle model, the

CHART 9A
HOUSEHOLDS WITH DEBT

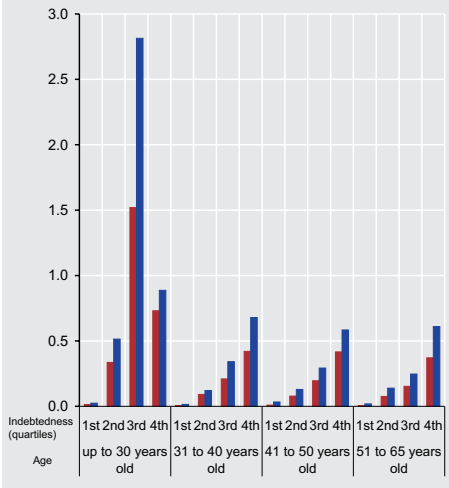
Debt-to-asset ratio – median value and 75th percentile
By classes of indebtedness[a] and debt burden



SOURCE: *INE*.
NOTE:
(a) Indebtedness: total households' debt over monthly income.

CHART 9B
HOUSEHOLDS WITH DEBT

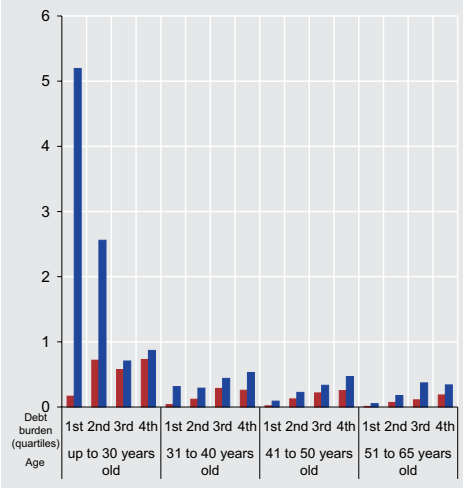
Debt-to-asset ratio – median value and 75th percentile
By classes of indebtedness[a] and age



SOURCE: *INE*.
NOTE:
(a) Indebtedness: total households' debt over monthly income.

CHART 9C
HOUSEHOLDS WITH DEBT

Debt-to-asset ratio – median value and 75th percentile
By classes of debt burden and age



SOURCE: *INE*.

more serious situations may occur in the youngest age groups, highly indebted, with a lower income and a higher propensity to switch to unemployment.

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ESTIMATES OF EXPECTED LOSSES IN CREDIT PORTFOLIOS - AN APPLICATION OF SURVIVAL ANALYSIS TO FIRMS WITH DEFAULTED CREDIT*

António Antunes** and Nuno Ribeiro**

1. Introduction

The management and the analysis of risk in loan portfolios have been gradually assuming a more prospective nature, appealing to the notion of expected loss in a given future time horizon. This development results from the technologic progress in the storage, processing and transmission of large volumes of information, in conjunction with advances in financial economics. These factors have been contributing to setting up new paradigms in credit institutions practices, in particular in those with more geographically diversified loan portfolios.

The dissemination of more sophisticated credit risk management techniques catalysed changes in rules concerning the accounting of losses in loan portfolios and in the regulatory approach to banks' provisioning and capital adequacy.

The adoption of the International Accounting Standards and their application in the European Union (Regulation 1606/02) imply adjustments to the value of the loan portfolio, so-called "impairment adjustments". The requirements for considering a loan (or a pool of loans) as impaired involve the observation of objective events deemed as equivalent to default or quasi-default. Even though making appeal to the idea of expected loss, the notion of impairment is not totally coincident with the ex-ante estimate of expected loss of a loan portfolio. The New Basel Accord (or Basel II) introduces the notion of probability of default, which, combined with that of recovery rate, allows for estimates of average losses in a portfolio. Further, it allows for the estimation of extreme values of the distribution of losses, which are underlying the concept of own funds requirements.

In addition, in those countries in which there is a regulatory distinction between specific and general provisions, the former tend to reflect expected losses in loan portfolios and the latter serve as an addition cushion for unexpected events, being eligible, at least partially, as regulatory own funds.

This work approaches the statistical characterisation of the recovery and extinction process of companies with observed episodes of default in their liabilities. Asymptotic probabilities of recovery are analysed, alongside its short run dynamics, both contingent on the companies observed characteristics.

The remaining of this article is organised as follows. In section 2, the specific provisioning regime prevailing in Portugal is summarised, with a focus in its philosophy. In section 3, survival analysis and its specificities when applied to the problem under consideration are described. In section 4, we describe the databases used, as well as the main hypotheses

* The opinions of this article represent the views of the authors and are not necessarily those of the Banco de Portugal. The authors are entirely responsible for any errors and omissions.

** Banco de Portugal, Economic Research Department.

and procedures taken in the estimates under the methodology described in section 3. In section 5, some of the results are presented in the way most comparable to the specific provisioning concepts, and recovery rates are calculated, the latter with applicability in both impairment assessment and calibration of models of capital requirements. In the final section, the results are summarised, the limitations of this approach are pointed out, and future research avenues are highlighted[1].

2. The specific provisioning regime in Portugal

Specific provisioning levels, as understood in the regime prevailing in Portugal, are the minimum amount necessary to cover the expected losses associated to already observed credit delinquencies (or other specific situations of counterparties with high probability of going into default, for instance different credits concerning the same debtor or companies from an economic sector subject to particularly adverse shocks). The rationale underlying general provisioning is that of a complement to specific provisions, in such a way that the aggregate of both types of provisions should reflect the expected loss in the loan portfolio, both on loans with past due instalments and regular loans.

This work aims at studying companies for which a delinquency event is observed at a given point in time in order to obtain statistics for the expected loss in a loan, given that the debtor (with a set of characteristics) has defaulted.

The specific provisioning rules in Portugal embody severity criteria for defaults, such as the time elapsed since the loan became past due, the ratio between the past due portion of each loan and the gross amount in debt (and cumulatively, the ratio between the past due portion of all loans of the same debtor and the total gross debt of that same debtor), the existence or not of guarantees, and the initial maturity. The information available for undertaking this work uses only the first two of the abovementioned criteria, given the non-availability of information on guarantees and the precise maturity of loans in the *Central de Responsabilidades de Crédito* (*CRC*, the main source of data in this work, which is the compulsory credit register managed by the Banco de Portugal). For the general case of an unsecured loan and with a maturity of no more than 5 years, the minimum provisioning requirement during the first quarter after the identification of delinquency consists of 1 percent of the amount past due, rising to 25 percent in the second quarter, to 50 percent in the third quarter, 75 percent in the fourth quarter and full coverage after one year. In addition, having passed 6 months after the identification of delinquency, or if the ratio between past due instalments and the gross amount in debt in the same loan is at least 25 percent ($r \geq 25\%$), the previous provisioning percentages coverage apply to the full amount of the credit in debt - and not only to the past due portion (see Table 1).

TABLE 1

MINIMUM SPECIFIC PROVISIONING REQUIREMENTS FOR LOANS WITHOUT COLLATERAL AND WITH MATURITIES OF LESS THAN 5 YEARS

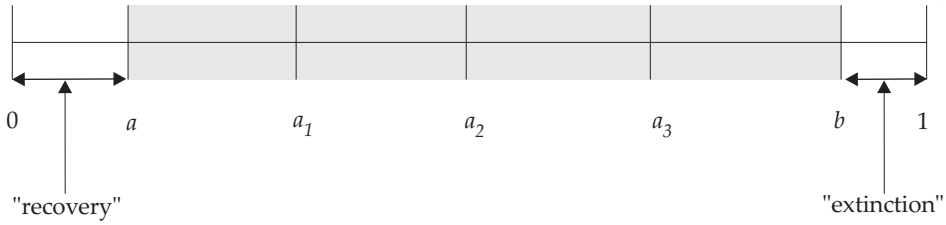
	1st quarter	2nd quarter	3rd quarter	4th quarter	5th quarter and afterwards
Share of the overdue credit	1%	25%	50%	75%	100%
Share of the total debt (se $r < 25\%$)	$r \leq 0.25\%$	$r \leq 6.25\%$	50%	75%	100%
Share of the total debt (se $r \geq 25\%$)	1%	25%	50%	75%	100%

1. See Antunes (2005) for a complete description of the model and its main conclusions.

3. The approach used

Let us define default ratio as the quotient between the total past due amount and the gross credit liability of a firm. In line with Portugal's specific provisioning practices, we shall use this quantity to characterize the severity of default. Let us define a set of "states" for a firm based on its default ratio. Each firm will be in a given state if its default ratio *r* belongs to the interval associated with that state, with upper and lower bounds defined below. This set of states will be used to operationalise the approach that we shall use (see Chart 1).

CHART 1



Let us assume that a firm with default ratio smaller than a given threshold *a* will not be classified as being under actual default. The value for *a* must be sufficiently low so that such classification would be premature in the case the firm's default ratio has always been negligible, or, in the case the firm has already had a default ratio higher than *a*, we can consider that the firm has "recovered". Inversely, above *b* firms are deemed "extinct" and their liabilities will be considered totally unrecoverable. The "recovery" and "extinction" states are absorbing, that is, once a firm moves from an intermediate situation (with ratio between *a* and *b*) to each of the absorbing states, any future observation of the same firm in an intermediate situation will be viewed as a new firm. In addition, when the default ratio is between *a* and *b*, we can define intermediate default states. These states are defined as intervals of the default ratio, $]a,a_1[$, $[a_1,a_2[$, $[a_2,a_3[$ and $[a_3,b[$, for example. Each of these intervals will correspond to a different range of the default severity: the state defined by interval $[a_3,b[$ will be associated with a higher default severity than the state corresponding to interval $]a,a_1[$.

The intermediate states are, as their designation suggests, non-absorbing, since a firm can move successively from one to the other, and also to the absorbing states. These transitions can be characterized using survival analysis (see below). That will allow us to estimate the probability of transition to each of the absorbing states, both in asymptotic terms and over time. The strategy used for the estimation of recovery and extinction probabilities comprises two different phases: in the first, we econometrically estimate the characteristics of the transitions between states; in the second, we use the estimated models to calculate paths of fictitious firms, so that we can predict their asymptotic behaviour and their evolution over time.

As for the econometric phase, the estimation of transition probabilities between states, conditional on the firm's characteristics and on the time the firm has stayed in the current state, uses survival analysis with competing risks. This approach allows us to estimate the probability per unit of time that a firm transits to a different state, given a set of contemporaneous observable characteristics summarized in vector *x*, and the time elapsed *t* since it entered the current state. Introducing some notation, let us denote this conditional probability density by $h_{ik}(t|x)$, where *i* is the origin state and $k \neq i$ the destination state. In the academic literature, this function is known has the hazard function. Given the state space,

with two absorbing states and, as seen previously, four non-absorbing states, we shall estimate twenty models from the data. Once estimated, these functions will be used to answer to two fundamental questions:

- when will the transition to another state occur?

- once a transition occurs, to which state will the firm go?

We can answer to the first question by calculating the probability density function associated with the moment when the transition occurs. This is obtained as follows. The probability density of a transition from state *i* to any of the other states, conditional on the firm remaining in the current state up until *t*, is the sum of the hazard functions for each of the possible transitions, that is,

$$h_i(t|x) = \sum_{k \neq i} h_{ik}(t|x).$$

The functional form we used for the hazard, known in the literature as the Weibull function, was

$$h_{ik}(t|x) = e^{x\beta}\alpha\lambda^{\alpha}t^{\alpha-1},$$

where β is a vector of coefficients associated to the firm's characteristics, and α and λ are parameters. All these quantities will have to be estimated for each transition.

Finally, the probability that a firm is still in state *i* after *t* units of time since it entered that state implies the integration of the hazard function in that interval, and is given by:

$$F_i(t|x) = \exp\left\{-\int_0^t h_i(u|x)\,du\right\}.$$

Note that when *t* goes to infinity, if function $h_i(t|x)$ does not converge to 0 too fast, then the probability of remaining in state *i* converges to 0. Note also that if *t* goes to 0, this probability is 1. Finally, the probability density that the transition occurs at time *t*, $f_i(t|x)$, will be given by the product between the probability that the firm remains in state *i* at moment *t*, and the probability density of transition to any other state, given that it has survived up to that moment in that state. Mathematically,

$$f_i(t|x) = h_i(t|x)F_i(t|x).$$

The answer to the second previously stated question is obtained using the hazard functions for the different transitions. The probability that a transition, when it occurs, is to state *k*, is given by expression

$$\pi_{ik}(x) = \int_0^{+\infty} h_{ik}(u|x)F_i(u|x)\,du.$$

The interpretation of this expression is simple: we integrate the probability density that the transition occurs from state *i* to state *k* on all possible durations.

With $f_i(t|x)$ and $\pi_{ik}(x)$ it is possible to simulate the firms dynamics in the state space given their characteristics *x*. These calculations involve the creation of a large number of fictitious firms, which are then observed as time evolves, with the transitions between

states governed by the stochastic processes summarised by $f_i(t|x)$ and $\pi_{ik}(x)$. Since there are two absorbing states - recovery and extinction - the path of a specific firm will end in either of them. We can then calculate the extinction probabilities conditional on the firms' characteristics. Lancaster (1992) presents in a detailed fashion this type of analysis.

This model may be used to characterize the behaviour of firms over the recovery/extinction process. For instance, conditional on the firm's current state (that is, on its default ratio) and its characteristics, we can observe if the recovery, if it occurs, is slow or fast when compared to extinction.

4. Databases and hypotheses

The firms under observation in this exercise are all those firms registered as credit beneficiaries (with the exception of self-employed entrepreneurs) in the *Central de Responsabilidades de Crédito (CRC)* with at least one non-performing loan episode between January 1995 and December 2001. The credit history of the firms prior to the first communication of a bad loan episode is unknown, as is the period of time between two non consecutive communications. When constructing the default ranges referred to in the previous section, we assumed that firms with total liabilities below 100 euros are not classified as having defaulted (as the episode could just be a spurious situation or have resulted from a litigation process initiated by the debtor). Thus, for firms with total liabilities above or equal to 100 euros, four states were defined in terms of the default ratio: the first between 10 and 25 percent (state 1); the second between 25 and 50 percent (state 2); the third between 50 and 75 percent (state 3); and the fourth between 75 and 90 percent (state 4). These limits are motivated by the provisioning rules describe above, and also by robustness and precision tests carried over and presented in Antunes (2005). To the left and right of the lower and upper limit of 10 and 90 percent, respectively, we find the absorbing states "recovery" and "extinction". Thus, we shall consider that a firm recovered if its default ratio falls below 10 percent, and has become extinct if it rises above 90 percent. While arbitrary, these values permit us to achieve three goals: an acceptable precision for the recovery and extinction probabilities; the use of conservative values for the loss given default measure; and the operationalisation of the recovery and extinction concepts. The latter aspect is important in that the legal registration of the bankruptcy of firms is incomplete, has low refresh frequency, and lags the actual bankruptcy event by a sizable lapse of time.

In trying to characterize the firms under study, that is, to quantify vector *x* defined in section 3, we used economic data for firms available for statistical purposes, such as the activity sector, sales, the number of employees and the headquarters' location.

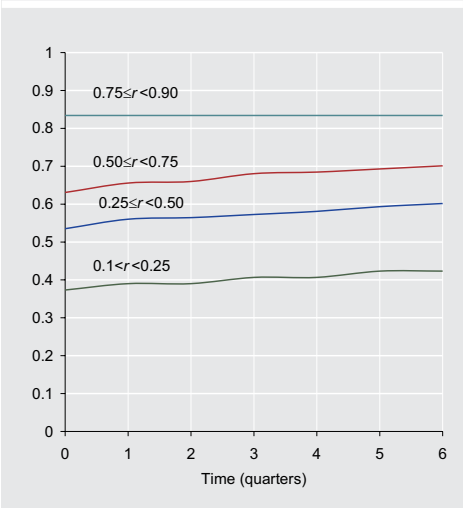
5. Some results compatible with the notion of specific provision in Portugal

5.1 EXAMPLE FOR A TYPICAL FIRM

We can observe in Graph 2 the asymptotic extinction probabilities for firms in different non absorbing states and for different survival times in the current state. The values used in the graph are conditional on the state and survival time in current state, but not on the trajectory after the observation. We used a firm with 20 employees, yearly sales of 1 million euros, located in the Lisbon area, and total credit liabilities between 10 and 100 thousand euros[2].

CHART 2

PROBABILITY OF EXTINCTION WITH PERMANENCE IN THE SAME STATE



First we can see that the extinction probability varies positively with the default ratio. This means that we can indeed use that measure for gauging the extinction probability. The second relevant observation is that the extinction probability grows slightly as a function of the survival time in the current state. This implies that the entry state largely defines the perspectives of the firm in terms of recovery/extinction. In terms of provisioning rules, this result implies that provisions should be made shortly after the default episode is detected, because the extinction probability will not vary much if the firm stays for a long time in the same state. In Chart 2 we can see that if a typical firm (as described above) without any previous default episode shows up with a default ratio between 10 and 25 percent, the probability that eventually the firm will recover is around 62 percent, and the probability that it will become extinct is 38 percent.

On the other hand, if we know that the firm has had for 5 quarters a default ratio between 10 and 25 percent, the probability of extinction increases to 42 percent, while that of recovery falls to 58 percent. The increase in extinction probability due to a prolonged stay in a given state exists, but is small.

For the sake of provisioning rules and loss monitoring, it is relevant to know how long it will take until all uncertainty associated with the final outcome of the process dissipates. Table 2 shows the fraction of firms that have recovered as a function of the time elapsed since default, independently of the transitions that might have occurred until recovery. The table also shows the same information for firms that will eventually disappear.

Let us look at an example. Suppose that a typical firm (as described above) shows up at a given moment with a default ratio between 25 and 50 percent (state 2). It is estimated that within one year the probability that it has recovered is 17 percent, the probability that it has become extinct is 12 percent, and the probability that neither of these outcomes has happened is 71 percent[3]. The percentage of dissipated uncertainty will thus be 29 percent.

2. The figures for the number of employees and total sales are close to their population averages: 18.3 and 1.28 million euro, respectively.
3. Notice that this is the probability of being in any of the non absorbing states.

TABLE 2

	State 1				State 2				State 3				State 4			
	$0.1 < r < 0.25$				$0.25 \leq r < 0.50$				$0.50 \leq r < 0.75$				$0.75 \leq r < 0.90$			
Year	Recov.	Ext.	Total	LGD	Recov.	Ext.	Total	LGD	Recov.	Ext.	Total	LGD	Recov.	Ext.	Total	LGD
1	0.32	0.06	0.38	0.09	0.17	0.12	0.29	0.14	0.13	0.24	0.36	0.25	0.06	0.63	0.70	0.64
2	0.49	0.17	0.66	0.22	0.33	0.31	0.64	0.34	0.26	0.45	0.71	0.47	0.11	0.73	0.84	0.75
3	0.57	0.28	0.84	0.33	0.40	0.43	0.83	0.47	0.32	0.54	0.86	0.57	0.14	0.78	0.93	0.80
4	0.60	0.33	0.92	0.38	0.44	0.48	0.92	0.52	0.35	0.59	0.93	0.62	0.16	0.81	0.96	0.82
5	0.61	0.35	0.96	0.41	0.45	0.51	0.96	0.55	0.36	0.61	0.97	0.64	0.16	0.82	0.98	0.83

CHART 3A
DEFAULT RATIO
BETWEEN 10% AND 25%

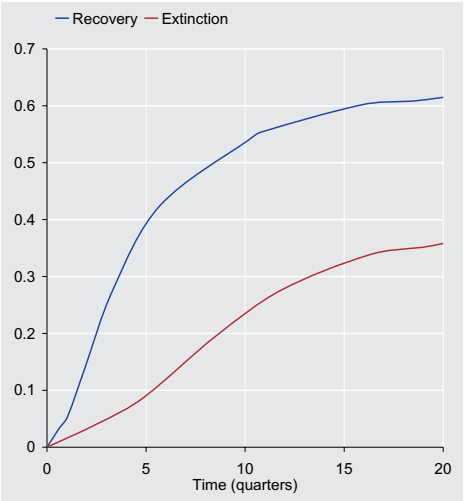


CHART 3B
DEFAULT RATIO
BETWEEN 25% AND 50%

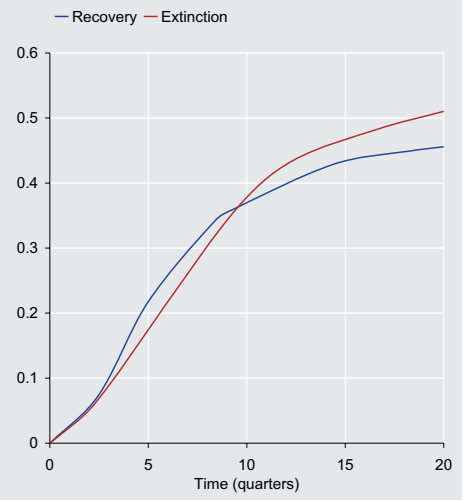


CHART 3C
DEFAULT RATIO
BETWEEN 50% AND 75%

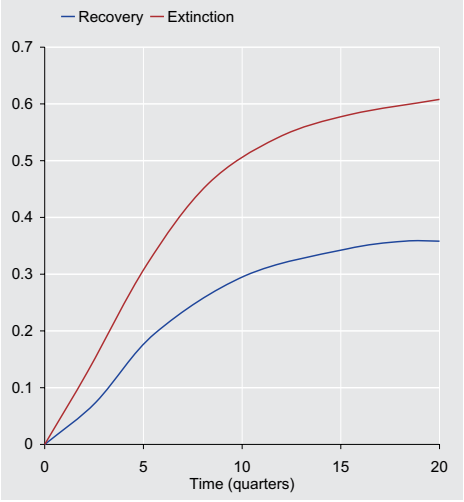
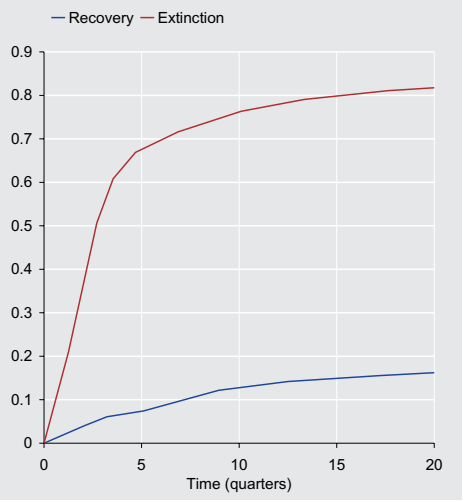


CHART 3D
DEFAULT RATIO
BETWEEN 75% AND 90%



Let us use the previous example to calculate a measure of loss given default (LGD) within 1 year. This is a measure of the expected value of lost credits in a given horizon once the default episode is identified. We obtain a value not higher than 14 percent. This is calcu-

lated by multiplying the extinction probability (0.12) by the fraction lost (which we shall take as being 1), plus the probability of recovery (0.17) times the lower limit of the least severe state (0.1)[4].

Let us continue with the example of a firm in state 2. The probability that the firm has recovered after 3 years is 40 percent; this figure is 43 percent for extinct firms. This corresponds to 83 percent of resolved uncertainty. For a 3-year horizon, the loss given default measure is estimated in 47 percent, closer to the asymptotic value of 58 percent[5]. These results suggest that the quantification of loss expectations should be performed over a horizon of at least 3 years.

The recovery and extinction pattern is not uniform over time. In Graph 3 we can observe the expected time profile of the recovery and extinction process at the time of default, conditional to the default severity. The information in Graph 3 is similar to the one reported in Table 2; the graph displays the values in continuous form. For moderate default severity (*r* between 0.25 and 0.5), the extinction of the firm will occur slower than recovery. Within one year after default, about 36 percent of firms that will ever recover have already done so[6]; for the firms that will become extinct, that figure is 23 percent. This pattern is reversed for less favourable states. For example, if at the time of default, the default ratio lies between 75 and 90, after one year the firm is extinct in 63 percent of the cases (on a total of 83 percent of firms that will eventually become extinct); this value is approximately 6 percent in the case of recovery (on a total of 17 percent of firms that will recover).

This analysis can be extended to accommodate any firm type and other firm or loan characteristics, namely the existence of collateral - if that information is available. For that purpose, it is enough to calculate the recovery and extinction probabilities for a given set of combinations of characteristics, and then obtain the values for actual firms using interpolation. Given the characteristics of the firms population, this will allow in turn the calculation of loss given default measures directed to each particular situation, and also the aggregation for a given credit portfolio. For example, we estimate in a first approach (using the baseline hazard for each transition and taking into account the distribution of firms in the *CRC* in terms of default severity) an average LGD of 46 percent. This is close to the value indicated in the New Capital Accord for uncollateralized loans, which is 50 percent. However, this value should be used cautiously, as only the average firm characteristics were taken into account, not those of each firm in the database.

5.2 SENSITIVITY OF THE RESULTS TO THE FIRMS' DIMENSION

An interesting question is to know the impact of a firm's size on its recovery and extinction probabilities. Let us suppose a firm identical to the typical firm defined above but 10 times as large. This implies that the firm will have 200 employees, yearly sales of 10 million euros, and total credit between 100 thousand and 1 million euros. We show the evolution of this firm's expected recovery rate in Graph 4, as well as that of the typical firm (denoted by "ref."), for two of the initial states.

4. The hypotheses that the lost fraction is 1 in the first parcel, and the lower limit of the least severe state in the second parcel, imply that the estimate is an upper bound for LGD.
5. Since there are only two absorbing states, the asymptotic values of the recovery and extinction probabilities should be equal to those with time equal to zero in Chart 2. In this example, the figures are 53 and 47 per cent for extinction and recovery, respectively yielding an asymptotic LGD of 58 per cent.
6. This figure comes from the fact that, in state 2, 17 per cent of firms recover after one year (see Table 2), in a total of 47 per cent of firms that recover (Chart 2).

CHART 4A
DEFAULT RATIO BETWEEN 10% AND 25%

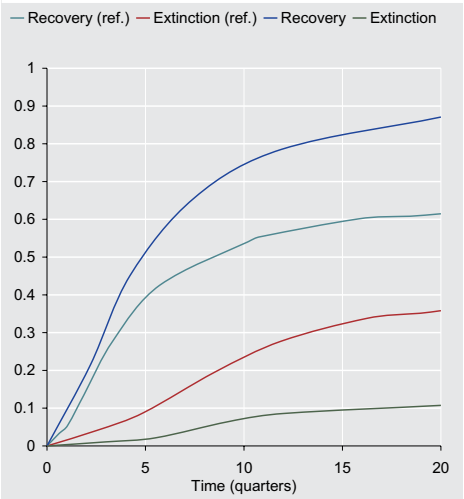
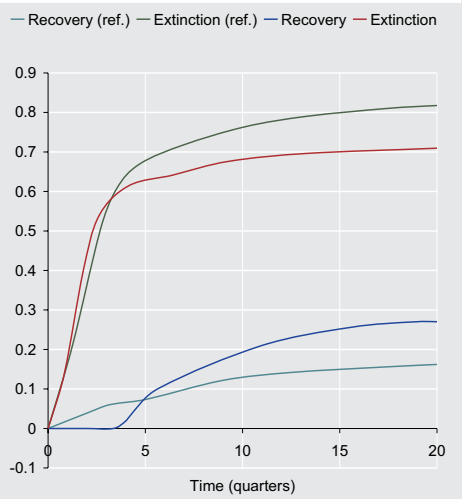


CHART 4B
DEFAULT RATIO BETWEEN 75% AND 90%



The most evident fact is that the recovery probability grows with the firm's dimension, irrespective of the original state; this finding corroborates existing results in the literature about Portuguese firms (Cabral and Mata, 2003). For instance, the probability of recovery of the larger firm is, for *r* between 0.1 and 0.25, 88 percent, against 62 percent of the typical firm. If *r* lies between 0.75 and 0.9, the corresponding figures are 29 and 17 percent, respectively.

In Graph 4 we can also verify that the recovery pattern of firms varies substantially with dimension. For instance, for the larger firm and r between 0.75 and 0.9, we see that only after one year the probability that a recovery is observed becomes positive. This contrasts with the behaviour of the smaller firm: about 36 percent of the firms that are going to recover have done so by the end of the first year.

6. Conclusions

This article presents a methodology for the analysis of the dynamics of non financial firms' recovery/extinction processes, based on survival analysis. The methodology is applied to firms with credit default episodes in Portugal and is explicitly used for obtaining estimates of the recovery rates, both over time and asymptotically.

The results obtained have some interesting applications in terms of the expected values of a creditor's loss once a default episode has been registered. First, the time that a given amount is defaulted seems to be less relevant than the severity of that default, as measured by the ratio of past due credit to total credit liabilities. Second, for moderate default severity, the uncertainty associated to the definitive loss of credit is resolved at a slower pace than the uncertainty associated to recovery. This pattern is reversed in the case of higher default severity. We estimate that the time horizon for calculating the loss given default should be at least 3 years. Finally, we show that the results are sensitive to the firm's size, both in terms of the recovery probabilities and the pattern of recovery over time. The probability of recovery increases with the firm's size irrespective of the original state. Additionally, larger firms in the most severe state only show recovery, in the case it occurs, one year after the default episode has occurred. This is in contrast with the behaviour of smaller firms: after one year, a large fraction of recovering firms will have done so.

The application has limitations in terms of the availability of information of the loans' residual maturity, and the existence of collateral. If such information were available, we would also need to know loan by loan values. Another limitation relates to the fact that the exercise was performed with individual liabilities aggregated on all institutions reporting to *CRC*, as opposed to institution by institution information that could be aggregated later. While not compromising the usefulness of the estimates, this makes the results less comparable to the provisioning rules in Portugal, which apply at the individual institution level.

References

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Annex

TABLE A.1

FINANCIAL MARKETS

End-of-year figures, in percentage	2000	2001	2002	2003	2004
Short-term interest rates					
3-month Euribor	4.86	3.29	2.87	2.12	2.16
USD 3-month Libor	6.40	1.88	1.38	1.15	2.56
Yields on (10-year) Treasury bonds					
Euro area	5.02	5.13	4.26	4.33	3.72
US	5.11	5.05	3.82	4.25	4.22
Implied volatility of 10-year Treasury bond yields					
Euro area	4.65	6.23	5.16	5.44	5.01
US	6.75	9.14	8.05	9.02	6.02
Implied volatility of stock indices					
S&P 500	23.15	20.25	27.1	15.7	12.18
DJES 50	24.09	25.16	35.12	19.35	11.77
Nasdaq 100	55.45	40.81	43.40	23.53	17.68
Spreads of non-financial corporate bonds[(a)] (in percentage points)					
Euro area					
AA rating	0.51	0.59	0.51	0.23	0.16
A rating	1.03	0.79	0.59	0.38	0.29
BBB rating	1.61	1.52	1.57	0.56	0.47
US					
AA rating	1.30	1.02	0.85	0.32	0.31
A rating	1.87	1.69	1.68	1.09	0.86
BBB rating	2.60	2.50	2.76	1.64	1.26
Debt flows of non-financial corporations (annual rate of change)					
Euro area					
Loans	15.1	7.2	3.8	3.4	3.4
Securities other than shares	18.0	23.2	3.3	13.0	2.1
US					
Loans	8.0	-2.3	-2.4	1.3	7.7
Securities other than shares	8.7	9.9	2.4	4.1	3.2

SOURCES:Bloomberg, ECB, Merrill Lynch and Federal Reserve.

NOTE:
(a) Spreads derived from the EMU Direct Government index and the US Treasury Master Index.

TABLE A.2

SHARES PRICE INDICES - PORTUGAL

	2000	2001	2002	2003	2004
Annual rate of change, in percentage; end-of-year figures.					
PSI GERAL	-7.5	-19.0	-20.7	17.4	18.0
Basic industries	32.6	-9.7	-14.2	15.1	15.6
General industries	0.6	-29.1	13.4	26.4	31.1
Cyclical consumer goods	-17.9	-10.8	-13.1	-0.5	-6.7
Non-cyclical consumer goods	3.4	-7.3	-14.0	23.0	-4.0
Cyclical services	-22.5	-27.8	17.0	23.7	29.3
Non-Cyclical services	-26.1	-17.7	-24.6	27.1	20.6
Utilities	6.5	-27.2	-31.4	38.0	15.5
Financial services	7.9	-14.6	-24.8	4.0	12.0
IT	87.0	-58.9	-37.9	4.5	24.0

SOURCE: Euronext Lisboa.

TABLE A.3

LIQUIDITY RISK

	Dec 2000	Dec 2001	Dec 2002	Dec 2003	Dec 2004
Credit-to-deposit ratio					
Banking system	114.3	121.0	127.7	126.9	126.2
Domestic banks	112.9	119.3	123.7	122.6	125.1
Coverage ratio of interbank liabilities by highly liquid assets					
Banking system	88.7	91.5	87.4	100.7	104.3
Domestic banks	86.8	93.4	98.9	123.9	136.3

TABLE A.4

LIQUIDITY GAP BY MATURITY LADDER

TOTAL FOR THE SYSTEM EXCLUDING OFF-SHORE FINANCIAL CENTRES

		Up to 1 month				Up to 3 months				Up to 1 year			
EUR billions		Dec 01	Dec 02	Dec 03	Dec 04	Dec 01	Dec 02	Dec 03	Dec 04	Dec 01	Dec 02	Dec 03	Dec 04
[1]	Cash and claims on central banks	7.8	8.2	15.4	8.7	7.8	8.2	15.4	8.8	8.4	8.5	15.5	8.8
[2]	- Reserve requirements (minimum amount of reserves)	3.2	3.3	3.4	3.2	3.2	3.3	3.4	3.2	3.2	3.3	3.4	3.2
[3]	Interbank assets	22.6	17.7	25.0	23.9	26.8	21.0	26.4	26.8	30.7	26.1	28.4	28.8
[4]	of which: credit institutions abroad	17.0	14.4	21.5	20.5	19.7	16.5	22.4	22.6	22.1	19.5	23.5	23.7
[5]	Debt securities	17.6	15.0	18.7	18.5	17.6	15.0	18.7	18.5	17.6	15.0	18.7	18.5
[6]	of which eligible by the ESCB	7.2	5.6	9.8	8.0	7.2	5.6	9.8	8.0	7.2	5.6	9.8	8.0
[7]	public debt (excluding those eligible by the ESCB)	4.1	4.5	3.4	4.2	4.1	4.5	3.4	4.2	4.1	4.5	3.4	4.2
[8]	Shares and other equity	1.3	1.6	0.9	1.3	1.3	1.6	0.9	1.3	1.3	1.6	0.9	1.3
[9]	of which eligible by the ESCB	0.6	0.6	0.0	0.0	0.6	0.6	0.0	0.0	0.6	0.6	0.0	0.0
[10]	Financial derivatives (assets-liabilities, if positive)	0.3	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0	0.0
[11]	Claims on third parties	1.0	0.9	1.7	3.1	1.1	1.0	2.1	5.5	1.1	1.1	2.1	6.6
[12]	Other assets	1.3	1.9	1.4	2.5	1.9	2.3	1.6	2.6	2.5	3.0	2.3	2.9
[13]	Credit institutions resources (including central banks)	20.4	16.9	19.0	11.9	32.1	27.3	27.1	22.4	41.8	39.0	38.7	29.6
[14]	of which: credit institutions abroad	15.2	11.9	13.0	8.2	25.4	21.0	20.5	15.5	33.8	31.1	31.0	22.2
[15]	Other loans	0.2	0.1	0.2	0.0	0.5	0.3	0.5	0.3	0.7	0.4	0.6	0.3
[16]	Debt securities	2.6	3.0	2.9	5.0	5.6	6.3	8.6	10.8	9.5	10.7	17.6	20.7
[17]	Financial derivatives (liabilities-assets, if positive)	0.0	0.1	0.2	0.6	0.0	0.2	0.2	0.5	0.0	0.1	0.3	0.3
[18]	Liabilities towards third parties (liabilities)	3.3	2.8	5.8	2.6	3.5	3.2	6.4	3.2	4.3	4.4	8.1	5.4
[19]	Other liabilities	5.4	3.9	4.6	4.7	6.2	4.1	4.9	4.9	6.6	4.2	5.1	5.2
[20]	Total assets of the banking system (all maturities)	278.5	283.0	304.1	315.6	278.5	283.0	304.1	315.6	278.5	283.0	304.1	315.6
	Memo:												
[21]	Instruments admissible for collection (assets)	3.6	2.8	3.1	2.2	3.6	2.8	3.1	2.2	3.6	2.8	3.1	2.2
[22]	Liquid assets (LA)=[1]-[2]+[3]+[6]+[9]+[10]+[11]+[12]	37.6	31.5	49.9	43.2	42.7	35.4	51.9	48.6	48.1	41.5	54.8	52.0
[23]	Volatile liabilities (VL)=[13]+[15]+[16]+[17]+[18]+[19]	31.9	26.8	32.7	24.7	47.9	41.3	47.8	42.2	62.9	58.8	70.4	61.5
	In percentage												
[24]	**Liquidity gap ([22]-[23])/([20]-[22])x100**	**2.4**	**1.9**	**6.8**	**6.8**	**-2.2**	**-2.4**	**1.6**	**2.4**	**-6.4**	**-7.2**	**-6.3**	**-3.6**

TABLE A.5

LIQUIDITY GAP BY MATURITY LADDER

DOMESTIC BANKS

Euro billions		Up to 1 month				Up to 3 months				Up to 1 year			
		Dec 01	Dec 02	Dec 03	Dec 04	Dec 01	Dec 02	Dec 03	Dec 04	Dec 01	Dec 02	Dec 03	Dec 04
[1]	Cash and claims on central banks	6.6	7.2	14.7	7.9	6.6	7.2	14.7	7.9	7.1	7.5	14.9	7.9
[2]	- Reserve requirements (minimum amount of reserves)	2.7	2.7	2.8	2.6	2.7	2.7	2.8	2.6	2.7	2.7	2.8	2.6
[3]	Interbank assets	14.1	12.1	17.6	18.7	17.0	14.7	18.6	20.2	19.9	19.2	20.3	21.6
[4]	of which: credit institutions abroad	9.6	9.7	14.6	15.7	11.4	11.1	15.2	16.6	13.0	13.6	16.2	17.3
[5]	Debt securities	16.0	13.5	14.7	13.7	16.0	13.5	14.7	13.7	16.0	13.5	14.7	13.7
[6]	of which: eligible by the ESCB	7.2	5.6	6.9	4.3	7.2	5.6	6.9	4.3	7.2	5.6	6.9	4.3
[7]	public debt (excluding those eligible by ESCB)	2.9	3.5	2.9	3.8	2.9	3.5	2.9	3.8	2.9	3.5	2.9	3.8
[8]	Shares and other equity	1.2	1.5	0.6	0.9	1.2	1.5	0.6	0.9	1.2	1.5	0.6	0.9
[9]	of which eligible by the ESCB	0.6	0.6	0.0	0.0	0.6	0.6	0.0	0.0	0.6	0.6	0.0	0.0
[10]	Financial derivatives (assets-liabilities, if positive)	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.0	0.0
[11]	Claims on third parties	0.7	0.4	0.8	2.2	0.8	0.4	0.8	2.3	0.8	0.5	0.9	3.4
[12]	Other assets	0.9	0.9	1.2	2.2	1.4	1.3	1.3	2.3	2.0	1.9	2.0	2.6
[13]	Credit institutions resources (including central banks)	15.7	14.3	14.5	8.9	24.3	21.9	20.7	15.3	32.2	30.3	28.4	20.1
[14]	of which: credit institutions abroad	11.3	10.1	9.4	6.0	18.6	16.6	15.0	11.5	25.2	23.7	21.8	16.0
[15]	Other loans	0.2	0.1	0.2	0.0	0.3	0.1	0.2	0.1	0.3	0.1	0.2	0.2
[16]	Debt securities	1.9	2.9	2.8	4.7	4.4	6.0	7.5	10.0	8.0	10.1	15.3	17.6
[17]	Financial derivatives (liabilities-assets, if positive)	0.0	0.2	0.2	0.5	0.0	0.2	0.3	0.4	0.0	0.2	0.4	0.5
[18]	Liabilities towards third parties (liabilities)	2.9	2.2	5.2	2.0	3.1	2.6	5.7	2.6	3.8	3.8	7.1	4.5
[19]	Other liabilities	5.2	3.1	4.1	4.3	5.9	3.1	4.1	4.3	6.3	3.2	4.3	4.6
[20]	Total assets of the banking system (all maturities)	229.0	233.9	248.1	254.3	229.0	233.9	248.1	254.3	229.0	233.9	248.1	254.3
	Memo:												
[21]	Instruments admissible for collection (assets)	3.4	2.5	2.7	1.9	3.4	2.5	2.7	1.9	3.4	2.5	2.7	1.9
[22]	Liquid assets (LA)= =[1]-[2]+[3]+[6]+[9]+[10]+[11]+[12]	27.6	24.0	38.5	32.7	31.2	27.0	39.7	34.5	35.6	32.5	42.3	37.1
[23]	Volatile liabilities (VL)=[13]+[15]+[16]+[17]+[18]+[19]	26.0	22.8	27.0	20.5	38.0	34.0	38.6	32.8	50.6	47.8	55.7	47.5
	In percentage												
[24]	**Liquidity gap ([22]-[23])/([20]-[22])x100**	**0.8**	**0.6**	**5.5**	**5.5**	**-3.5**	**-3.4**	**0.5**	**0.7**	**-7.8**	**-7.6**	**-6.5**	**-4.8**

TABLE A.6

BALANCE SHEET OF THE BANKING SYSTEM

On a consolidated basis

	EUR millions							Annual rate of change (in percentage)					
	1998	1999	2000	2001	2002	2003	2004	1999	2000	2001	2002	2003	2004
	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.
Cash and claims on central banks	8 867	10 829	9 642	10 063	8 762	15 430	8 637	22.1	-11.0	4.4	-12.9	76.1	-44.0
of which: cash and claims on Banco de Portugal	8 608	10 026	8 592	8 987	7 857	14 327	7 657	16.5	-14.3	4.6	-12.6	82.3	-46.6
Investment in other credit institutions	30 984	27 254	28 596	33 887	30 293	32 837	36 119	-12.0	4.9	18.5	-10.6	8.4	10.0
in the country	n.d.	n.d.	10 952	12 768	9 570	7 968	9 232	n.d.	n.d.	16.6	-25.0	-16.7	15.9
abroad	n.d.	n.d.	17 644	21 119	20 723	24 868	26 887	n.d.	n.d.	19.7	-1.9	20.0	8.1
Claims on customers (net of provisions)	103 523	131 213	160 235	181 468	194 219	199 477	206 631	26.7	22.1	13.3	7.0	2.7	3.6
credit overdue	n.d.	n.d.	3 553	3 903	4 462	4 881	4 164	n.d.	n.d.	9.8	14.3	9.4	-14.7
provisions	2 577	2 377	2 406	2 609	2 802	3 561	3 471	-7.8	1.2	8.4	7.4	27.1	-2.5
Provisions and financial fixed assets (net of provisions)	33 594	31 843	36 984	35 951	32 149	37 485	44 349	-5.2	16.1	-2.8	-10.6	16.6	18.3
of which: securities of public issuers (gross)	n.d.	n.d.	10 793	10 742	9 697	9 853	10 636	n.d.	n.d.	-0.5	-9.7	1.6	7.9
Non-financial fixed assets	4 468	4 631	4 600	4 735	4 578	4 551	4 315	3.7	-0.7	2.9	-3.3	-0.6	-5.2
Other assets	9 092	13 249	10 661	12 361	12 995	14 288	15 499	45.7	-19.5	15.9	5.1	9.9	8.5
Total assets	190 527	219 019	250 719	278 464	282 996	304 067	315 550	15.0	14.5	11.1	1.6	7.4	3.8
Central bank resources	1 690	3 158	3 462	2 766	1 284	3 147	3 899	86.8	9.6	-20.1	-53.6	145.0	23.9
of which: Banco de Portugal	1 383	2 658	3 300	2 258	1 031	2 766	3 195	92.2	24.2	-31.6	-54.3	168.3	15.5
Other credit institutions resources	41 748	44 920	51 834	57 017	54 503	54 546	49 184	7.6	15.4	10.0	-4.4	0.1	-9.8
in the country	n.d.	n.d.	10 024	11 099	7 767	5 569	7 129	n.d.	n.d.	10.7	-30.0	-28.3	28.0
abroad	n.d.	n.d.	41 810	45 918	46 736	48 977	42 055	n.d.	n.d.	9.8	1.8	4.8	-14.1
Customer resources	116 729	127 606	140 205	150 033	152 136	157 236	163 761	9.3	9.9	7.0	1.4	3.4	4.1
By residence of customer:													
Deposits of resident customers	n.d.	n.d.	109 976	113 870	116 485	117 673	122 667	n.d.	n.d.	3.5	2.3	1.0	4.2
Deposits of non-resident customers	n.d.	n.d.	30 181	36 101	35 538	39 440	41 006	n.d.	n.d.	19.6	-1.6	11.0	4.0
By type of deposit:													
Demand deposit	37 659	44 363	47 188	53 033	54 649	55 709	57 350	17.8	6.4	12.4	3.0	1.9	2.9
Time and savings deposits	78 975	83 195	92 969	96 938	97 374	101 404	106 323	5.3	11.7	4.3	0.4	4.1	4.9
Liabilities represented by securities	6 606	13 225	23 106	32 973	38 686	49 814	56 206	100.2	74.7	42.7	17.3	28.8	12.8
of which: bonds	5 239	10 072	18 214	27 309	30 921	37 444	42 307	92.3	80.8	49.9	13.2	21.1	13.0
Subordinated liabilities	3 892	4 521	5 392	8 076	8 721	8 883	9 207	16.2	19.3	49.8	8.0	1.9	3.7
Provisions	1 847	2 263	3 119	3 354	3 510	3 365	3 484	22.5	37.8	7.5	4.7	-4.1	3.6
Other liabilities	6 217	9 487	9 015	8 810	8 326	9 490	10 409	52.6	-5.0	-2.3	-5.5	14.0	9.7
Equity capital	11 798	13 840	14 587	15 436	15 830	17 586	19 398	17.3	5.4	5.8	2.5	11.1	10.3
Net profit/loss for the year	1 241	1 431	1 672	1 829	1 488	1 914	1 910	15.4	16.8	9.4	-18.7	28.6	-0.2
Total liabilities and own funds	190 527	219 019	250 719	278 464	282 996	304 067	315 550	15.0	14.5	11.1	1.6	7.4	3.8

TABLE A.7

PROFIT AND LOSS ACCOUNT

On a consolidated basis

	EUR millions							Annual rate of change (in percentage)					
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
1. Interest income	12 974	12 629	14 633	17 181	15 026	14 508	14 477	-2.7	15.9	17.4	-12.5	-3.4	-0.2
2. Interest expenses	8 164	7 622	9 401	11 246	9 077	8 606	8538	-6.6	23.4	19.6	-19.3	-5.2	-0.8
3. Financial margin (1-2)	**4 809**	**5 007**	**5 231**	**5 935**	**5 949**	**5 902**	**5 939**	**4.1**	**4.5**	**13.4**	**0.2**	**-0.8**	**0.6**
4. Income from securities	140	113	166	213	191	160	176	-19.0	46.8	28.5	-10.7	-16.2	10.2
5. Net commissions	1 414	1 548	1 662	1 670	1 758	2 037	2 320	9.5	7.4	0.5	5.3	15.8	13.9
6. Income from financial operations	610	549	625	417	437	529	481	-10.0	13.9	-33.2	4.7	20.9	-9.0
7. Income from affiliated companies and branches excluded from consolidation (net)[(a)]	102	62	228	147	112	370	361	-39.3	267.7	-35.6	-23.5	229.0	-2.5
8. Other operating profits (net)	425	442	408	641	707	842	945	4.0	-7.7	57.1	10.4	19.0	12.2
9. Other current income (4+5+6+7+8)	**2 691**	**2 714**	**3 090**	**3 089**	**3 206**	**3 937**	**4 283**	**0.8**	**13.9**	**0.0**	**3.8**	**22.8**	**8.8**
10. Gross income (3+9)	**7 500**	**7 721**	**8 321**	**9 024**	**9 154**	**9 839**	**10 222**	**2.9**	**7.8**	**8.4**	**1.4**	**7.5**	**3.9**
11. Staff costs	2 525	2 608	2 626	2 722	2 812	2 949	3 025	3.3	0.7	3.6	3.3	4.9	2.6
12. Other administrative costs	1 531	1 626	1 625	1 849	1 929	2 021	2 135	6.2	0.0	13.8	4.3	4.8	5.6
13. Administrative costs (11+12)	**4 056**	**4 234**	**4 251**	**4 571**	**4 740**	**4 970**	**5 160**	**4.4**	**0.4**	**7.5**	**3.7**	**4.8**	**3.8**
14. Overall gross income (10-13)	**3 444**	**3 487**	**4 070**	**4 453**	**4 414**	**4 869**	**5 062**	**1.2**	**16.7**	**9.4**	**-0.9**	**10.3**	**4.0**
15. Extraordinary gains	327	813	643	30	163	184	-20	148.2	-20.9	-95.4	450.1	12.8	-110.9
16. Depreciation for the year	613	640	590	625	667	677	685	4.5	-7.9	6.0	6.8	1.5	1.2
17. Net provisions	1 081	1 356	1 501	1 191	1 713	1 683	1 699	25.5	10.6	-20.6	43.8	-1.7	1.0
18. Income before taxes and minority interests (14+15-16-17)	**2 078**	**2 303**	**2 623**	**2 666**	**2 197**	**2 693**	**2 657**	**10.8**	**13.9**	**1.7**	**-17.6**	**22.6**	**-1.3**
19. Taxes on profit for the year	473	418	457	427	369	389	321	-11.7	9.2	-6.6	-13.5	5.4	-17.5
20. Income before minority interest[(b)] (18-19)	**1 605**	**1 885**	**2 166**	**2 240**	**1 828**	**2 304**	**2 336**	**17.4**	**14.9**	**3.4**	**-18.4**	**26.0**	**1.4**
21. Minority interests (net)	364	454	494	410	340	390	426	24.6	8.8	-16.9	-17.1	14.8	9.2
22. Profit/loss for the year (20-21)	**1 241**	**1 431**	**1 672**	**1 829**	**1 488**	**1 914**	**1 910**	**15.4**	**16.8**	**9.4**	**-18.7**	**28.6**	**-0.2**
Memo:													
Annual rate of change in average assets								7.5	15.8	11.6	6.1	4.9	3.9

NOTES:
(a) The item “Income from affiliated companies and subsidiaries excluded from consolidation” registers income generated by affiliated companies excluded from the consolidation of the banking groups considered, which is attributable to the group according to the percentage of shares held in these companies. Affiliated companies are companies whose management is under a significant influence, assuming that this situation occurs when the shares held correspond to at least 20 per cent of the voting rights. In turn, subsidiaries excluded from the consolidation are those whose management is under a relevant influence, carries on activities which are incompatible with the objective of consolidated accounts, namely commercial, industrial, agricultural and insurance corporations.
(b) Income before minority interests enables a more accurate measure of income generated by all consolidated assets and, therefore, it should be used in order to compare income with profitability on an individual basis.

TABLE A.8

BALANCE SHEET OF THE BANKING SYSTEM (DOMESTIC INSTITUTIONS)

On a consolidated basis

	Structure as a percentage of assets							Annual rate of change (in percentage)		
	1998	1999	2000	2001	2002	2003	2004	2002	2003	2004
	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.
Cash and claims on central banks	4.7	5.2	3.8	3.9	3.3	5.9	3.1	-12.5	88.0	-46.7
of which: cash and claims on Banco de Portugal	4.6	4.8	3.5	3.4	3.0	5.5	2.7	-11.9	95.7	-49.7
Investment in other credit institutions	14.2	11.0	9.7	9.4	9.4	9.3	10.0	2.4	4.6	10.3
in the country	n.d.	n.d.	4.1	4.4	3.2	2.5	3.0	-24.3	-17.6	20.5
abroad	n.d.	n.d.	5.7	5.0	6.2	6.8	7.0	25.7	16.3	6.5
Claims on customers (net of provisions)	55.6	61.6	64.0	65.9	68.6	66.2	67.8	6.3	2.4	5.0
credit overdue	n.d.	n.d.	1.4	1.4	1.6	1.7	1.4	17.3	10.7	-16.1
provisions	1.4	1.1	1.0	1.0	1.0	1.2	1.1	8.8	22.2	-6.0
Securities and financial fixed assets (net of provisions)	18.2	15.3	16.0	14.4	12.2	12.1	12.7	-13.1	5.0	8.1
of which: securities of public issuers (gross)	n.d.	n.d.	4.4	4.1	3.6	3.4	3.6	-11.4	-0.6	9.4
Non-financial fixed assets	2.5	2.2	1.9	1.8	1.7	1.5	1.4	-3.5	-3.1	-7.0
Other assets	4.9	4.8	4.5	4.7	4.8	5.0	5.0	3.4	11.5	2.8
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0	2.1	6.1	2.5
Central bank resources	0.9	1.5	1.5	1.1	0.5	1.2	0.5	-51.3	129.8	-54.7
of which: Banco de Portugal	0.8	1.4	1.6	1.0	0.4	1.1	1.3	-54.3	168.3	15.5
Other credit institutions resources	19.0	18.1	19.1	17.5	16.0	13.8	11.7	-6.8	-8.4	-13.2
in the country	n.d.	n.d.	3.7	4.3	2.8	1.9	2.5	-33.4	-29.0	34.1
abroad	n.d.	n.d.	15.4	13.2	13.2	11.9	9.2	1.8	-4.0	-20.6
Customer resources	64.0	61.8	56.7	55.2	55.4	54.0	54.2	2.5	3.3	2.8
By residence of the customer:										
Deposits of resident customers	n.d.	n.d.	45.2	43.1	43.5	41.2	41.8	2.9	0.5	4.1
Deposits of non-resident customers	n.d.	n.d.	11.5	12.1	12.0	12.8	12.3	1.3	13.3	-1.2
By type of deposit:										
Demand deposit	20.7	21.5	19.5	19.5	20.4	19.3	19.6	7.0	0.5	3.8
Time and savings deposits	43.3	40.3	37.2	35.7	35.0	34.7	34.6	0.1	4.9	2.3
Liabilities represented by securities	3.5	5.9	9.8	12.9	14.8	17.6	19.6	16.8	26.1	14.1
of which: bonds	2.8	4.8	8.0	11.2	12.4	14.4	15.8	13.0	23.2	12.7
Subordinated liabilities	2.1	2.2	2.3	3.1	3.3	3.2	3.3	10.0	2.6	4.7
Provisions	1.0	1.1	1.1	1.1	1.2	1.1	1.2	5.8	-2.4	9.5
Other liabilities	3.1	2.7	3.5	3.1	2.9	3.1	3.1	-4.5	14.9	2.7
Equity capital	6.4	6.6	5.9	5.9	5.8	6.0	6.5	1.6	9.2	10.0
Net profit/loss for the year	0.7	0.7	0.8	0.8	0.6	0.8	0.8	-18.7	28.6	-0.2
Total liabilities and own funds	100.0	100.0	100.0	100.0	100.0	100.0	100.0	2.1	6.1	2.5

TABLE A.9

BALANCE SHEET OF THE BANKING SYSTEM (DOMESTIC INSTITUTIONS)

On a consolidated basis

	EUR millions							Annual rate of change (in percentage)					
	1998	1999	2000	2001	2002	2003	2004	1999	2000	2001	2002	2003	2004
	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.	Dec.
Cash and claims on central banks	8 090	10 127	7 996	8 911	7 795	14 651	7 803	25.2	-21.0	11.5	-12.5	88.0	-46.7
of which: cash and claims on Banco de Portugal	7 903	9 378	7 270	7 899	6 957	13 613	6 853	18.7	-22.5	8.6	-11.9	95.7	-49.7
Investment in other credit institutions	24 436	21 464	20 470	21 495	22 020	23 029	25 401	-12.2	-4.6	5.0	2.4	4.6	10.3
in the country	n.d.	n.d.	8 539	10 013	7 583	6 246	7 528	n.d.	n.d.	17.3	-24.3	-17.6	20.5
abroad	n.d.	n.d.	11 931	11 482	14 437	16 783	17 873	n.d.	n.d.	-3.8	25.7	16.3	6.5
Claims on customers (net of provisions)	95 878	120 529	134 819	150 840	160 391	164 170	172 314	25.7	11.9	11.9	6.3	2.4	5.0
credit overdue	n.d.	n.d.	2 933	3 268	3 835	4 247	3 564	n.d.	n.d.	11.4	17.3	10.7	-16.1
provisions	2 451	2 241	2 038	2 252	2 451	2 994	2 815	-8.6	-9.0	10.5	8.8	22.2	-6.0
Securities and financial fixed assets (net of provisions)	31 320	29 870	33 778	32 895	28 573	29 992	32 408	-4.6	13.1	-2.6	-13.1	5.0	8.1
of which: securities of public issuers (gross)	n.d.	n.d.	9 185	9 471	8 393	8 340	9 124	n.d.	n.d.	3.1	-11.4	-0.6	9.4
Non-financial fixed assets	4 252	4 401	3 976	4 105	3 961	3 839	3 571	3.5	-9.7	3.2	-3.5	-3.1	-7.0
Other assets	8 403	9 317	9 475	10 772	11 140	12 417	12 763	10.9	1.7	13.7	3.4	11.5	2.8
Total assets	172 379	195 708	210 514	229 019	233 880	248 099	254 258	13.5	7.6	8.8	2.1	6.1	2.5
Central bank resources	1 596	2 979	3 133	2 611	1 272	2 923	1 326	86.6	5.2	-16.7	-51.3	129.8	-54.7
of which: Banco de Portugal	1 383	2 658	3 300	2 258	1 031	2 766	3 195	92.2	24.2	-31.6	-54.3	168.3	15.5
Other credit institutions resources	32 756	35 502	40 223	40 107	37 360	34 233	29 725	8.4	13.3	-0.3	-6.8	-8.4	-13.2
in the country	n.d.	n.d.	7 812	9 857	6 564	4 660	6 248	n.d.	n.d.	26.2	-33.4	-29.0	34.1
abroad	n.d.	n.d.	32 411	30 250	30 796	29 574	23 477	n.d.	n.d.	-6.7	1.8	-4.0	-20.6
Customer resources	110 268	120 976	119 381	126 449	129 669	133 938	137 732	9.7	-1.3	5.9	2.5	3.3	2.8
By residence of the customer:													
Deposits of resident customers	n.d.	n.d.	95 144	98 779	101 630	102 175	106 339	n.d.	n.d.	3.8	2.9	0.5	4.1
Deposits of non-resident customers	n.d.	n.d.	24 237	27 670	28 038	31 762	31 392	n.d.	n.d.	14.2	1.3	13.3	-1.2
By type of deposit:													
Demand deposit	35 655	42 062	41 040	44 603	47 708	47 931	49 753	18.0	-2.4	8.7	7.0	0.5	3.8
Time and savings deposits	74 561	78 911	78 341	81 845	81 960	86 006	87 978	5.8	-0.7	4.5	0.1	4.9	2.3
Liabilities represented by securities	5 970	11 589	20 632	29 635	34 608	43 629	49 764	94.1	78.0	43.6	16.8	26.1	14.1
of which: bonds	4 808	9 370	16 746	25 611	28 952	35 676	40 198	94.9	78.7	52.9	13.0	23.2	12.7
Subordinated liabilities	3 625	4 233	4 808	7 126	7 835	8 042	8 422	16.8	13.6	48.2	10.0	2.6	4.7
Provisions	1 740	2 153	2 412	2 601	2 751	2 685	2 940	23.7	12.0	7.8	5.8	-2.4	9.5
Other liabilities	5 429	5 302	7 417	7 048	6 730	7 731	7 942	-2.3	39.9	-5.0	-4.5	14.9	2.7
Equity capital	10 996	12 975	12 508	13 442	13 654	14 917	16 409	18.0	-3.6	7.5	1.6	9.2	10.0
Net profit/loss for the year	1 241	1 431	1 672	1 829	1 488	1 914	1 910	15.4	16.8	9.4	-18.7	28.6	-0.2
Total liabilities and own funds	172 379	195 708	210 514	229 019	233 880	248 099	254 258	13.5	7.6	8.8	2.1	6.1	2.5

TABLE A.10

PROFIT AND LOSS ACCOUNT (DOMESTIC INSTITUTIONS)

On a consolidated basis

	As a percentage of average assets							Annual rate of change (in percentage)		
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2002**	**2003**	**2004**
1. Interest income	6.82	6.20	6.14	6.44	5.32	4.68	4.55	-12.9	-7.8	-0.9
2. Interest expenses	4.17	3.64	3.89	4.13	3.11	2.64	2.55	-20.6	-11.0	-1.6
3. Financial margin (1-2)	**2.65**	**2.57**	**2.25**	**2.31**	**2.21**	**2.04**	**2.00**	**0.7**	**-3.2**	**0.1**
4. Income from securities	0.08	0.05	0.08	0.08	0.07	0.05	0.06	-11.4	-20.6	11.2
5. Net commissions	0.76	0.78	0.74	0.65	0.65	0.70	0.78	4.7	13.2	13.4
6. Income from financial operations	0.35	0.29	0.29	0.15	0.16	0.20	0.18	7.6	34.2	-11.0
7. Income from affiliated companies and branches excluded from consolidation (net)[(a)]	0.05	0.03	0.10	0.06	0.04	0.14	0.13	-21.7	247.9	-5.5
8. Other operating profits (net)	0.24	0.23	0.18	0.25	0.27	0.31	0.34	10.8	20.2	14.1
9. Other current income (4+5+6+7+8)	**1.47**	**1.38**	**1.38**	**1.20**	**1.18**	**1.40**	**1.48**	**4.0**	**23.9**	**8.1**
10. Gross income (3+9)	**4.12**	**3.95**	**3.64**	**3.51**	**3.40**	**3.44**	**3.48**	**1.8**	**6.2**	**3.3**
11. Staff costs	1.38	1.33	1.13	1.05	1.05	1.04	1.05	6.0	4.0	2.8
12. Other administrative costs	0.82	0.82	0.69	0.72	0.72	0.71	0.73	4.7	3.5	5.5
13. Administrative costs (11+12)	**2.21**	**2.15**	**1.82**	**1.77**	**1.77**	**1.75**	**1.79**	**5.5**	**3.8**	**3.9**
14. Overall gross income (10-13)	**1.91**	**1.80**	**1.81**	**1.74**	**1.62**	**1.68**	**1.70**	**-1.9**	**8.9**	**2.8**
15. Extraordinary gains	0.19	0.40	0.19	0.03	0.08	0.08	0.01	189.1	7.5	-91.7
16. Depreciation for the year	0.34	0.33	0.26	0.25	0.25	0.24	0.24	8.5	0.8	0.4
17. Net provisions	0.61	0.72	0.54	0.47	0.66	0.60	0.61	47.6	-4.2	3.8
18. Income before taxes and minority interests (14+15-16-17)	**1.15**	**1.15**	**1.20**	**1.06**	**0.79**	**0.92**	**0.85**	**-21.0**	**22.3**	**-5.8**
19. Taxes on profit for the year	0.26	0.22	0.21	0.17	0.13	0.13	0.09	-16.4	0.2	-27.1
20. Income before minority interests[(b)] (18-19)	**0.89**	**0.94**	**0.99**	**0.89**	**0.66**	**0.79**	**0.76**	**-21.8**	**26.8**	**-2.4**
21. Minority interests (net)	0.21	0.25	0.23	0.17	0.13	0.15	0.16	-17.3	16.8	9.2
22. Profit/loss for the year (20-21)	**0.68**	**0.69**	**0.77**	**0.72**	**0.53**	**0.65**	**0.60**	**-22.9**	**29.3**	**-5.0**
Average assets (EUR millions)	172 379	184 044	200 744	218 879	230 577	242 094	246 779	5.3	5.0	1.9

NOTES:

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

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

TABLE A.11

PROFIT AND LOSS ACCOUNT (DOMESTIC INSTITUTIONS)

On a consolidated basis

	EUR millions							Annual rate of change (in percentage)					
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
1. Interest income	11 761	11 414	12 336	14 101	12 275	11 322	11 225	-3.0	8.1	14.3	-12.9	-7.8	-0.9
2. Interest expenses	7 196	6 691	7 815	9 035	7 172	6 383	6 283	-7.0	16.8	15.6	-20.6	-11.0	-1.6
3. Financial margin (1-2)	**4 565**	**4 722**	**4 521**	**5 066**	**5 103**	**4 939**	**4 942**	**3.4**	**-4.3**	**12.1**	**0.7**	**-3.2**	**0.1**
4. Income from securities	132	98	161	180	159	127	141	-25.9	64.3	11.7	-11.4	-20.6	11.2
5. Net commissions	1 312	1 443	1 479	1 427	1 494	1 691	1 918	9.9	2.5	-3.5	4.7	13.2	13.4
6. Income from financial operations	595	534	573	338	363	488	434	-10.3	7.3	-41.1	7.6	34.2	-11.0
7. Income from affiliated companies and branches excluded from consolidation (net)[(a)]	88	48	205	123	97	336	318	-45.3	326.7	-39.9	-21.7	247.9	-5.5
8. Other operating profits (net)	408	422	359	558	618	742	847	3.5	-15.1	55.4	10.8	20.2	14.1
9. Other current income (4+5+6+7+8)	**2 536**	**2 545**	**2 777**	**2 626**	**2 731**	**3 384**	**3 657**	**0.4**	**9.1**	**-5.4**	**4.0**	**23.9**	**8.1**
10. Gross income (3+9)	**7 101**	**7 268**	**7 298**	**7 692**	**7 834**	**8 323**	**8 600**	**2.3**	**0.4**	**5.4**	**1.8**	**6.2**	**3.3**
11. Staff costs	2 385	2 456	2 264	2 292	2 430	2 527	2 596	3.0	-7.8	1.2	6.0	4.0	2.8
12. Other administrative costs	1 419	1 501	1 392	1 584	1 659	1 717	1 812	5.8	-7.3	13.8	4.7	3.5	5.5
13. Administrative costs (11+12)	**3 804**	**3 957**	**3 656**	**3 877**	**4 089**	**4 244**	**4 408**	**4.0**	**-7.6**	**6.0**	**5.5**	**3.8**	**3.9**
14. Overall gross income (10-13)	**3 297**	**3 311**	**3 642**	**3 816**	**3 745**	**4 079**	**4 192**	**0.4**	**10.0**	**4.8**	**-1.9**	**8.9**	**2.8**
15. Extraordinary gains	335	744	384	65	188	202	17	122.2	-48.4	-83.1	189.1	7.5	-91.7
16. Depreciation for the year	582	611	518	538	584	589	592	4.9	-15.1	3.9	8.5	0.8	0.4
17. Net provisions	1 059	1 318	1 094	1 030	1 521	1 457	1 513	24.5	-17.0	-5.8	47.6	-4.2	3.8
18. Income before taxes and minority interests (14+15-16-17)	**1 990**	**2 125**	**2 414**	**2 312**	**1 827**	**2 234**	**2 104**	**6.8**	**13.6**	**-4.2**	**-21.0**	**22.3**	**-5.8**
19. Taxes on profit for the year	454	397	421	372	311	311	227	-12.5	6.1	-11.7	-16.4	0.2	-27.1
20. Income before minority interests[(b)] (18-19)	**1 537**	**1 728**	**1 993**	**1 940**	**1 516**	**1 923**	**1 877**	**12.5**	**15.3**	**-2.7**	**-21.8**	**26.8**	**-2.4**
21. Minority interests (net)	364	454	452	365	302	352	384	24.7	-0.3	-19.4	-17.3	16.8	9.2
22. Profit/loss for the year (20-21)	**1 173**	**1 275**	**1 541**	**1 575**	**1 215**	**1 571**	**1 493**	**8.7**	**20.9**	**2.2**	**-22.9**	**29.3**	**-5.0**
Memo:													
Annual rate of change in average assets								6.8	9.1	9.0	5.3	5.0	1.9

NOTES:

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

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

TABLE A.12

CAPITAL ADEQUACY

On a consolidated basis

	EUR millions							Annual rate of change (in percentage)		
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2002**	**2003**	**2004**
	Dec.	**Dec.**	**Dec.**	**Dec.**	**Dec.**	**Dec.**	**Dec.**	**Dec.**	**Dec.**	**Dec.**
1. Own funds										
1.1. Base own funds	9 714.8	11 025.9	12 991.0	13 237.7	13 351.2	13 965.8	14 950.3	0.9	4.6	7.0
1.2. Complementary own funds	3 834.1	4 268.9	5 026.3	7 030.1	7 808.6	8 313.3	8 567.0	11.1	6.5	3.1
1.3. Deductions	821.1	512.7	2 272.6	2 998.8	2 829.1	2 616.6	2 318.9	-5.7	-7.5	-11.4
1.4. Supplementary own funds	12.7	27.3	0.4	1.2	0.0	1.6	2.1	-	-	26.2
Total own funds	12 740.4	14 809.5	15 745.1	17 270.1	18 330.7	19 664.1	21 200.5	6.1	7.3	7.8
2. Own funds requirements										
2.1. Solvency ratio	8 747.5	10 651.8	13 184.5	14 094.3	14 687.0	15 304.5	15 747.5	4.2	4.2	2.9
2.2. Position risks	234.3	180.6	284.2	289.1	219.6	365.5	530.9	-24.0	66.4	45.3
2.3. Settlement and counterparty risks	37.5	47.8	30.7	40.8	41.3	45.3	53.2	1.0	9.7	17.6
2.4. Foreign exchange risks	134.5	79.2	134.9	87.3	87.2	86.5	44.5	-0.1	-0.8	-48.6
2.5. Other requirements	0.1	0.0	20.7	1.5	0.1	0.1	0.9	-92.7	-28.8	1014.7
Total own funds requirements	9 153.9	10 959.4	13 655.1	14 513.1	15 035.1	15 801.8	16 376.9	3.6	5.1	3.6
3. Ratios								Annual rate of change (in percentage points)		
3.1. Own funds/Total requirements	139.2	135.1	115.3	119.0	121.9	124.4	129.5	2.9	2.5	5.0
3.2. Own funds/(Total requirements x 12.5)	11.1	10.8	9.2	9.5	9.8	10.0	10.4	0.2	0.2	0.4
3.3. Base own funds/(Total requirements x 12.5)	8.5	8.0	7.6	7.3	7.1	7.1	7.3	-0.2	0.0	0.2