2. MACROECONOMIC AND FINANCIAL RISKS

2.1. Overview

During 2008 and the first few months of 2009, the Portuguese banking system had to operate in a particularly bleak global macroeconomic and financial environment. There was still great uncertainty over the total amount of impairments that the international financial system had to bring to the surface. In addition, banks were still finding problems with financing in the wholesale markets, above all for medium to long-term operations. The only glimmer was the slight improvement in the conditions for short-term financing in the first months of 2009. Also in the frame were the dismal prospects for economic activity, with a severe global recession being forecast for 2009, which is likely to build downside pressure on the financial leverage of households, companies and banks. In this framework, there are a host of channels linking the financial system and economic activity that could clog up, exacerbating the economic and financial situation worldwide. Against such a highly uncertain backdrop, the main risk for financial stability hinges on the effects of the interaction between the financial system and the real economy. The two stack up so closely that their mutual interaction can lead to a downward spiral. Support measures for the financial system and the real economy may then be essential for the stability of the financial system and the necessary boost for economic growth.

There are many ways in which the financial system can stoke up the economic crisis. In the first place, the banks' financing problems have led to a major clampdown in access to bank credit, above all in the United States. With financing through the markets hampered, investment projects may be put on hold and private consumption may be squeezed. This could lead to insolvency among those economic agents with more vulnerable balance sheets. In addition, the turmoil in the financial system could lead to negative wealth effects, increasing the losses of some economic agents in the financial and property markets. As a last point, some of the measures put in place by the authorities across the globe to shore up the financial system could have a significant impact on public finances.

A worldwide recession cannot but have severe repercussions for the financial system. In the first place, there are the prospects of continuing problems in the property markets in those countries with overblown prices. This will continue to have a major impact on banks, above all through a fall in the asset values that underpin the loans. This situation will worsen as defaults rise. In the current climate, therefore, one of the main risks for the financial system across the globe is a rise in credit risk. This will likely affect most directly those banks that are more exposed to the property market (particularly in countries which have had property market price bubbles); it will also take a toll on sectors dependent on cyclical factors and on exports, operating in a world where trade has contracted markedly. Adding to this the general mood of uncertainty as economic conditions deteriorate, demand for credit is expected to slow. As a result, banking activity expansion is reined in and profitability hamstrung.

Portugal is a small open economy, highly integrated economically and financially. It is therefore very sensitive to the turmoil in the international financial system, to the global economic crisis and to the way that the two interact. The Portuguese financial system is not so much affected directly through the assets that triggered the current financial crisis, since it had relatively little exposure to these assets. Its woes have stemmed more from the impairment to financial assets that have resulted from the overall negative thrust in international financial markets. More importantly, Portuguese banks are also vulnerable to this turmoil because of their recourse to financing in the international wholesale markets. This has become important because of a significant and persistent discrepancy between domestic savings and investment. Against this backdrop, Portuguese banks have been adjusting their financing struc-

ture since the onset of the crisis. They have expanded their customer-based funds and, to a lesser extent, they have tapped into the Eurosystem.

In general terms, the risk factors described above have affected not only the stability of the Portuguese financial system but also the prospects for the country's economic activity, and this in turn has played its part in darkening the picture facing bank operations. Within the overall scenario, there are specific points of risk and vulnerability that may be especially relevant for the country's financial stability. In the first place, companies are likely to continue to see a major fall in external and domestic demand, particularly in sectors that are more sensitive to cyclical fluctuations. This may imply an increase in credit risk underlying exposures to these companies. There is also a high level of indebtedness in some households and companies (particularly in construction and in the property market), and this can hamper their capacity to adjust to negative shocks. Compounded by the possibility of difficulties in refinancing debt, this may well knock on to more defaults. This risk, however, could well be mitigated by the cuts in interest rates since the last quarter of 2008, since these moves have eased the debt service burden. In turn, the prospects for the housing market may worsen: on the one side, there is the economic downturn, with increased unemployment leading to income shortfalls associated with a general mood of uncertainty; and on the other side, even though there have not been unfettered overvaluations in recent years, the fall in demand could be aggravated by more stringent criteria used by the banks in their assessment of mortgage loan applications. In addition, there are some risks associated to exposure to emerging economies, even though the country's banks have no significant international exposure. The situation is limited and with low systemic risk (see "Section 4.2 *Activity and profitability*", of this Report). As a last point, there has been a rise in sovereign risk, associated inter alia with the measures taken by the State in support of the banking system, which could reduce the impact of government intervention in the economy, namely through an increase in financing costs for domestic economic agents.

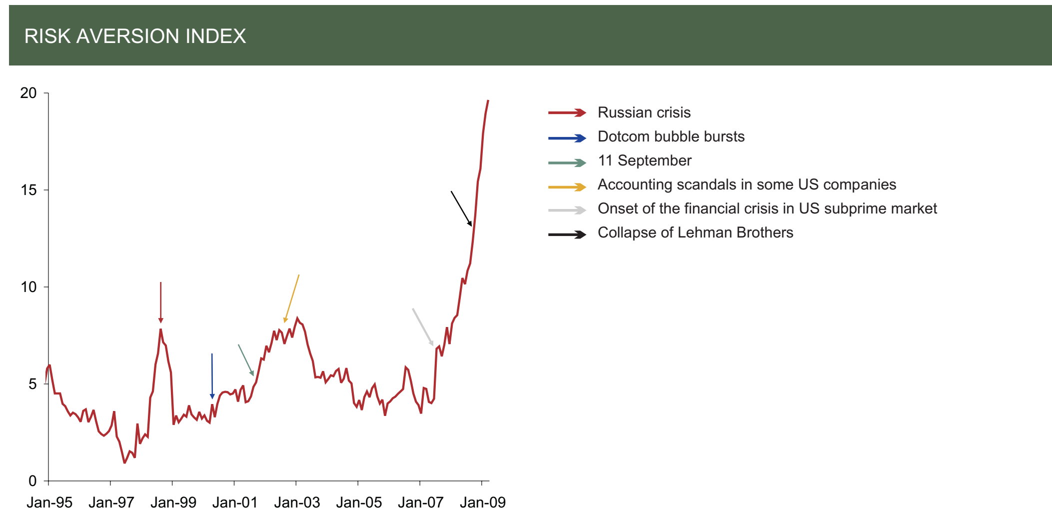
Against this backdrop, Portuguese banks are still facing a series of risks that are particularly virulent. In particular, the considerable slowdown in economic activity is likely to lead to a visible increase in credit risk, even though the fall in interest rates has mitigated this risk. Liquidity risk also continues to affect banking operations, given the problems in tapping into wholesale markets, above all for the medium to long term. This particular risk, however, is offset to a certain extent by the strong growth in customer deposits, the ECB moves to ensure liquidity and government measures to underpin the financial system. Given this, bank liquidity is not likely to hamper financing for the economy, above all when the demand for bank loans is generally seen to be falling. Furthermore, part of the scenario has been the fact that the market turmoil has brought in its wake a drop in the value of assets that are sensitive to market risk. This has had a downside effect on the profitability and solvency of Portuguese banks, with the risk of further losses still hovering over these markets. Moreover, the portfolios of bank employees pension funds have also been hard hit by the downward pressure on financial asset prices, especially shares. A number of measures have been taken over the last few months, however, to mitigate the effects of this, acting as a shield for banks' capital and profits.

2.2. Global risks and vulnerabilities

Banks operated throughout 2008 in the most gloomy of circumstances. The financial turmoil that surfaced in the summer of 2007 got worse in early 2008, as a number of financial groups posted losses and the possibility of economic recession loomed ever larger, against a backdrop of heightened risk aversion (Chart 2.2.1). In mid-March, the financial markets took another hammering, as fears grew for the survival of the North American investment bank Bear Sterns. Federal Reserve action at the time in solving the problem went some way to halting the slide on the international financial markets. Over the following weeks and months, however, solvency issues arose in other North American systemic finan-

Chart 2.2.1

RISK AVERSION INDEX



Source: Goldman Sachs.
Note: The Goldman Sachs risk aversion index measures the propensity to invest in risky as opposed to risk-free assets. The asset price model takes into consideration the future consumption of individuals. A high point on the chart indicates greater aversion to risk and, all else being equal, a lower propensity to invest in risky assets.

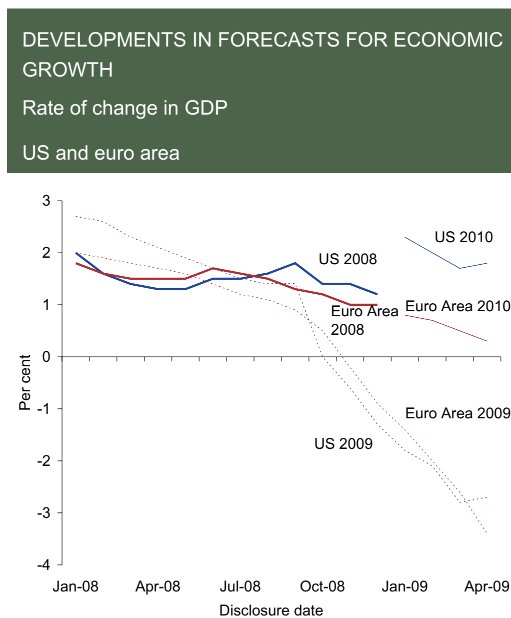
cial institutions, among them Fannie Mae, Freddie Mac and AIG. The North American authorities intervened, public funds in hand. In September 2008, however, they decided not to shore up the investment bank Lehman Brothers, which declared itself insolvent in mid month. The extent of the contagion that followed, both direct and indirect, could not have been anticipated. There was a dramatic increase in the perception of counterparty risk, bringing in its train a sudden worsening of the prospects for economic activity (Chart 2.2.2). With the global financial crisis now full-blown, a swathe of measures was announced across the world. Some were concerted, and aimed at getting the financial markets back on an even keel and thus bolstering confidence in the financial system (see "Box 2.1 *Measures taken*

Chart 2.2.2

DEVELOPMENTS IN FORECASTS FOR ECONOMIC GROWTH

Rate of change in GDP

US and euro area



Source: Consensus Economics.

by the Portuguese authorities relating to the financial system during the international financial crisis", of this Report). Since the end of the year under review, these measures have been complemented by others focusing on fiscal stimuli and support for the economy.

Seen overall, the impact of the financial turmoil on the economy has been far greater than could have been anticipated in the summer of 2007 (Chart 2.2.3). The turmoil can be traced back to a number of factors that had contributed to economic expansion over the previous years. Among them were the extent of leverage in the financial system, the spreading of risk and the historically low risk premiums in the market. The financial innovation that sprang from these dynamics was not duly regulated, above all in the United States, and it later became clear that a considerable part of the risks taken on board by the financial system was not covered by own funds. In addition, the incentives for those involved did not always take social well-being sufficiently into consideration. Salient among these were the policies

Chart 2.2.3 (to be continued)

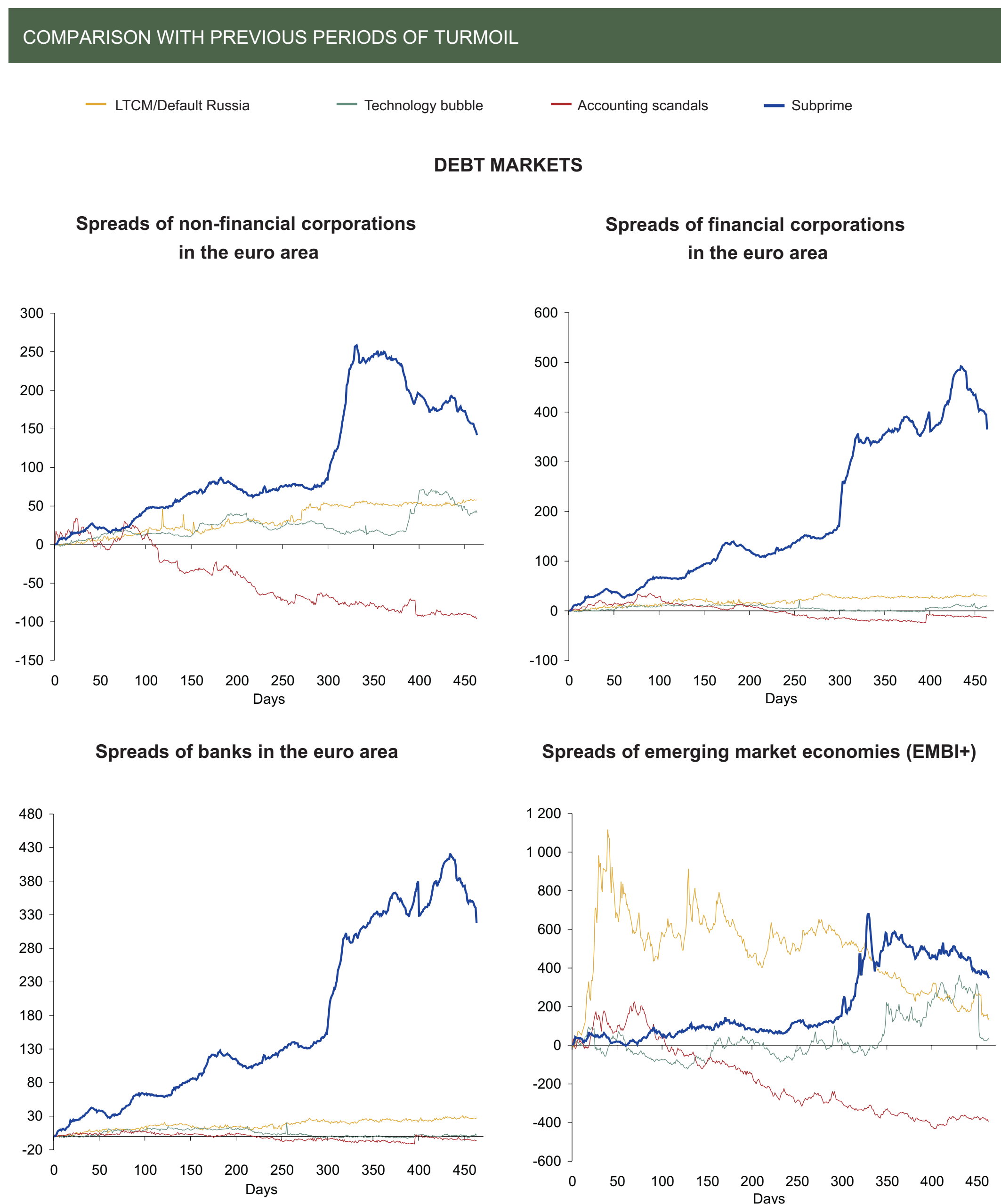
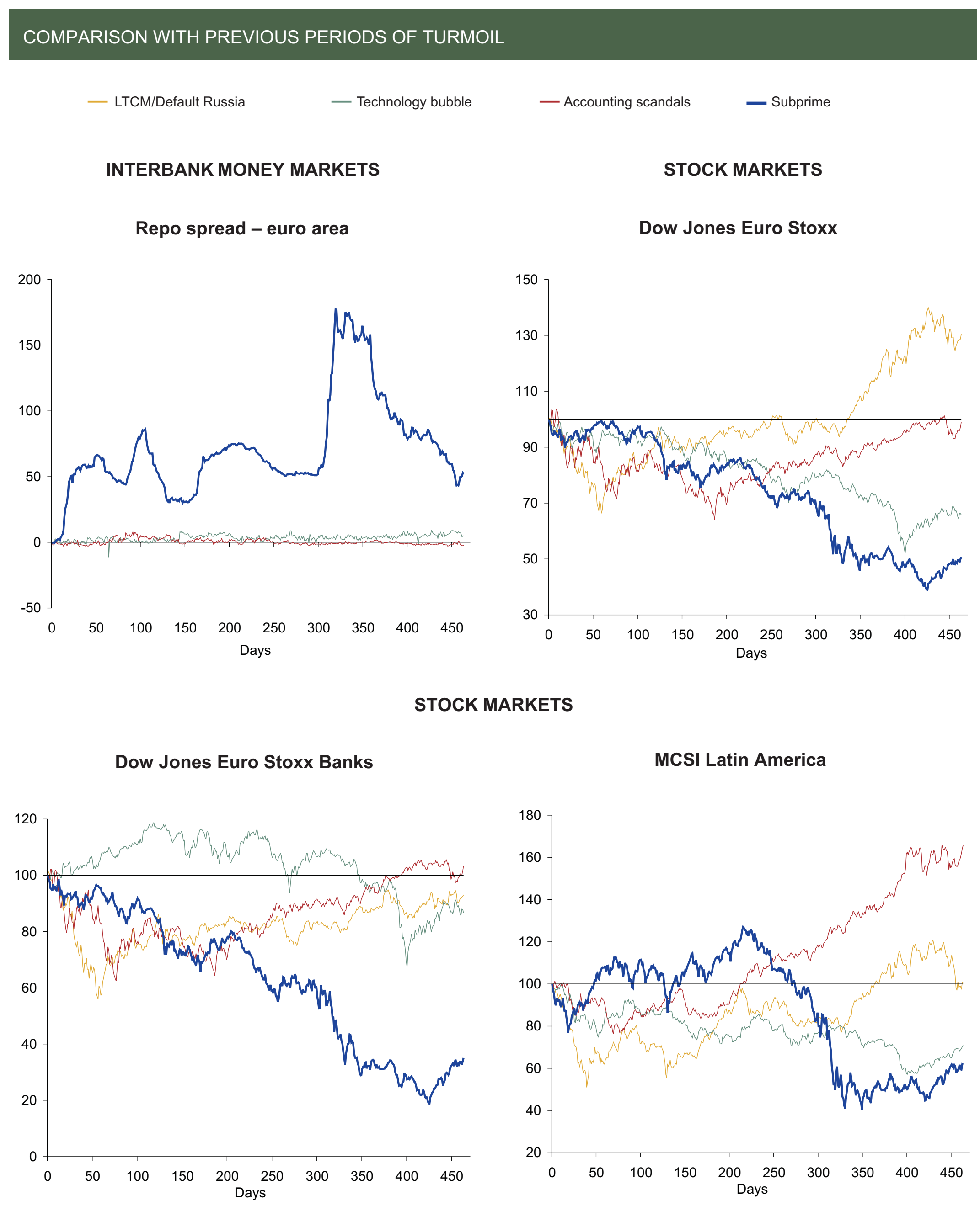


Chart 2.2.3 (continued)

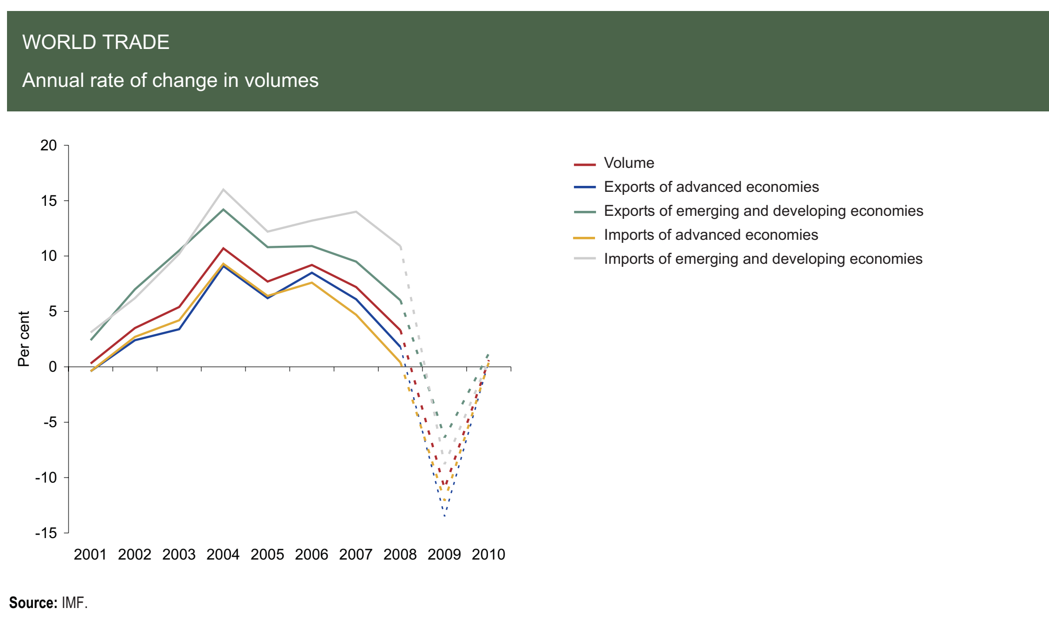


Sources: Bloomberg, JP Morgan, Merrill Lynch, Thomson Reuters and Banco de Portugal.
Notes: The x axis gives the number of working days since the maximum or minimum seen immediately before the turmoil in each period. Specifically, 17/07/1998 was considered for the LTCM crisis as the reference date, 10/03/2000 for the technology bubble, 25/06/2002 for the accounting scandals and 23/07/2007 for the subprime crisis. The spreads are differences, in b.p. compared with the point of reference. In the stock market indices, the reference date is standardised to 100. Given the duration of the current financial turmoil, there is some temporal overlap between the different periods of turmoil shown on the chart.

that related to risk management and financial institutions' remuneration packages. At the current juncture, there is still considerable uncertainty about the total losses from exposure to those assets that caused the turmoil. In the early stages of the market turbulence, the impact on the real economy was expected to be relatively mild, but as awareness grew of the fact that the direct and indirect losses to be borne by the banks were set to be steep, and as uncertainty grew as to the effects of the financial after-shocks on the real economy, the probability of recession gradually increased. The prospects for

Chart 2.2.4

WORLD TRADE
Annual rate of change in volumes



Source: IMF.

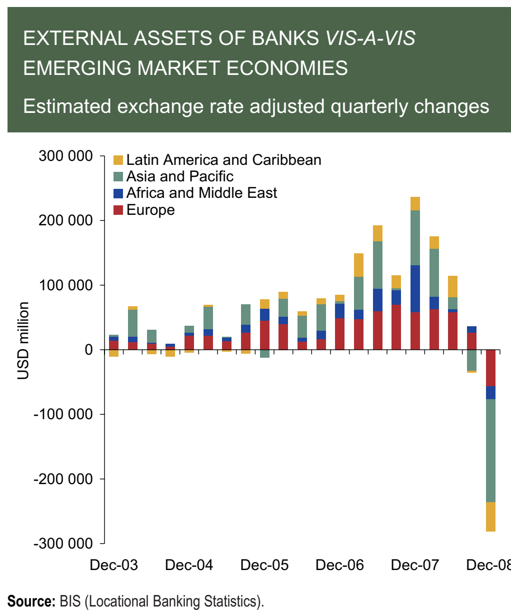
economic activity deteriorated sharply in the wake of the Lehman Brothers collapse, with the spread of losses that stemmed from it rippling round the world. In tandem, a widespread loss of confidence began to pervade the scene. Assets were offloaded on a large scale and no corner of the financial market was left unscathed. From the last quarter of the year onwards, the prospects for economic growth darkened around the world, with a global recession being forecast for 2009. According to the IMF, this will be the worst recession since the great depression, it will spare few countries in the world, and it will take its toll most of all on the advanced economies.

As economic activity has lost momentum, world trade has contracted significantly (Chart 2.2.4). As and from the third quarter above all, a general loss of confidence took hold, as uncertainty remained high and access to financing difficult. In addition, though to a lesser degree, some of the measures taken by authorities around the world were laced with protectionism. This took the form, for instance, of subsidies to specific sectors of the economy or a rise in tariffs on certain imports. Emerging market economies have also been affected by plummeting world trade as well as by a fall in what had previously been massive financial flows. The economies of Eastern Europe have been even more affected, above all because of their close interconnection with the banking system of western Europe. A substantial part of the banking system of these countries is in the hands of Austrian, Belgian, German, Italian and Swedish banks, and for some of these countries, the banking exposure to Eastern Europe, seen in terms of percentage of GDP, looms large. As deleveraging takes its course, those banks with exposure to emerging market economies have been reining in the credit being made available, in order to bring down the credit risk underlying their portfolios, to concentrate the available liquidity in domestic markets, and to strengthen their solvency ratios (Chart 2.2.5). The restrictions on access to credit are likely to make the situation of these economies even worse. In conjunction with this, the rise in credit risk looks set to negatively impact on those European banks that are most exposed to the countries in question. The worsening of credit quality in these economies is in part associated with foreign exchange losses, since a large part of the debt contracted in previous years, including by companies and households, is denominated in foreign currency.

Chart 2.2.5

EXTERNAL ASSETS OF BANKS *VIS-A-VIS* EMERGING MARKET ECONOMIES

Estimated exchange rate adjusted quarterly changes



Source: BIS (Locational Banking Statistics).

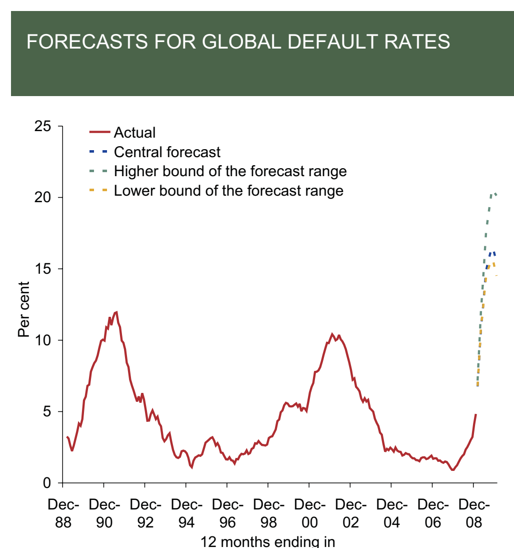
In short, the massive turbulence in the world's financial system has had a very adverse effect on the world economy, above all since the third quarter of the year under review. A number of factors could well bring more downside pressure to bear, with the negative impact extending over time in spite of support from authorities the world over. It goes without saying that the slowing of economic activity will have serious repercussions on the financial system. Moreover, the prospects for the financial system and for the real economy continue to be imbued with a high level of uncertainty as to the duration and size of the processes needed to put the previously accumulated imbalances to rights. One of the main risks in this area is connected with the effects of the interaction between the financial system and economic activity. Such effects could flow through a variety of channels. On the financial side, a system that runs smoothly is a fundamental pillar on which economic growth is built, playing its part in creating the conditions for optimal decisions on consumption, investment and savings among economic agents. On the economic side, a slowdown in activity will perforce have a negative cyclical impact on the activity, profitability and solvency of banks, given the nature of risks that they take on. With the dovetailing interaction between the financial system and the global economy, a downward spiral could be set in motion, with political measures needed to invert the cycle.

Within this particular framework, a closely interconnected cluster of risks can be pinpointed, all with a relevant role to play in the above mentioned amplifying mechanism: (i) increase in **credit risk**; (ii) **difficulties in accessing credit**; (iii) the size and duration of the process needed to correct the overvaluation of **property markets** in certain countries; and lastly (iv) uncertainty as to the **impact of measures to support the financial system and the economy**, where concerns are arising over the sustainability of public finances.

As the prospects for economic activity worsen, there is logically **greater credit risk** associated with the asset portfolios held by banks (Charts 2.2.6 and 2.2.7). A number of factors come together here to increase the likelihood of a general rise in default levels, with some specific sectors of the economy bearing the brunt. Firstly, although official interest rates are low, a continuing rise in unemployment is likely to make debt service more difficult for a considerable number of households. IMF forecasts published in April 2009 point to the unemployment rate in the advanced economies rising from 5.8 per cent in 2008 to 8.1 per cent a year later and 9.2 per cent in 2010. As this scenario unfolds, there is likely to be a

Chart 2.2.6

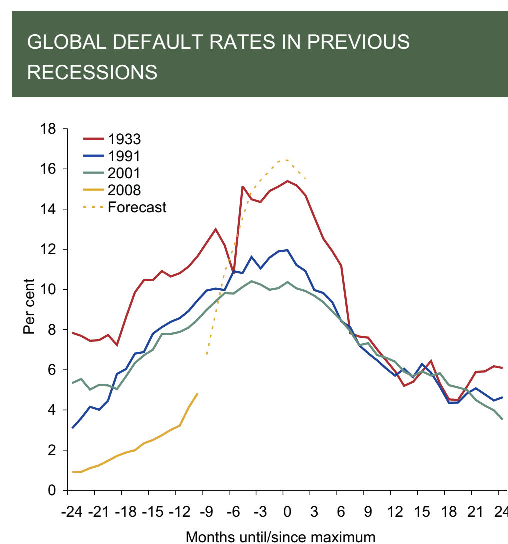
FORECASTS FOR GLOBAL DEFAULT RATES



Source: Moody's.
Note: Forecast for default rates on speculative grade bonds.

Chart 2.2.7

GLOBAL DEFAULT RATES IN PREVIOUS RECESSIONS



Source: Moody's.
Note: Default rates on speculative grade bonds.

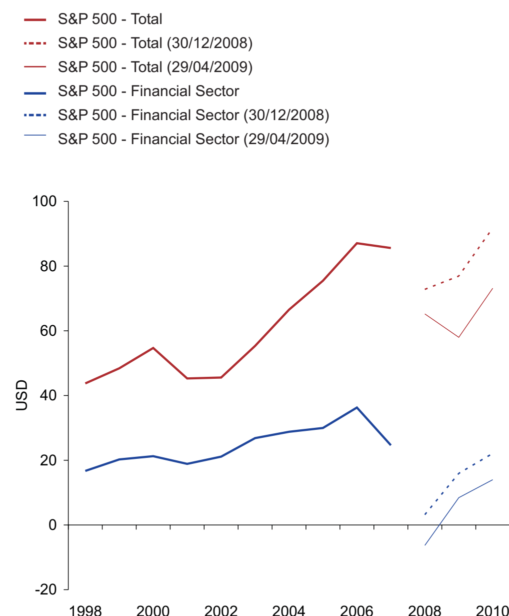
rise in defaults. Added to this is the worsening financial situation of many companies as demand falls, with defaults again pushing up, in spite of the cuts in interest rates. According to analysts' estimates, profitability in non-financial companies could worsen again during 2009 (Charts 2.2.8 and 2.2.9). On top of this is the rise in debt market financing costs, which is likely to have a substantial effect on the companies that use this channel for financing, above all those that have low ratings (Chart 2.2.10). Banks may also suffer from negative wealth effects in the private sector. In concrete terms, the financial crisis, abetted in some countries by a property crisis, should result in a fall in the value of assets pledged as guarantees for bank loans. As is common in times of recession, there is likely to be a rise in loss given default, since the banks will find it more difficult to recoup assets in situations of default.

The increase in defaults since the onset of the turmoil has been predominantly with lower credit quality debtors, but the worsening economic climate looks likely to widen the net to segments with better quality credit. This is in part because of the increased correlation between the economic situation of different sectors that is generally seen in periods of recession, although there are in fact some sectors that are more vulnerable than others. In the first place, companies and households with higher levels of debt will find it more difficult to keep up repayments if there is a negative shock. There is also a relevant risk to economic growth from the deflation that could well occur in a number of countries. If this happens, those in debt will see the amount they owe increase in real terms, a situation that could lead to a fall in the quality of credit.[1] Households facing unemployment are also likely to become more vulnerable to default, above all if the situation persists. On top of this, those banks that are more exposed to the housing market and to construction and real estate sectors are likely to be caught up in substantial losses, above all in countries where house price correction reaches large proportions. The construction sector has levels of structural debt that are higher than the average for other sectors This stems from their longer production cycles and can increase their vulnerability to shocks of such a nature. As a final point, those companies whose activity is more sensitive to cyclical fluctuations or where production is geared above all to exports will probably be more affected by the global economic downturn, and more defaults are likely.

(1) See "Box 2 *Recent consumer price developments and deflation risks in the euro area*", Banco de Portugal, *Economic Bulletin-Spring* 2009.

Chart 2.2.8

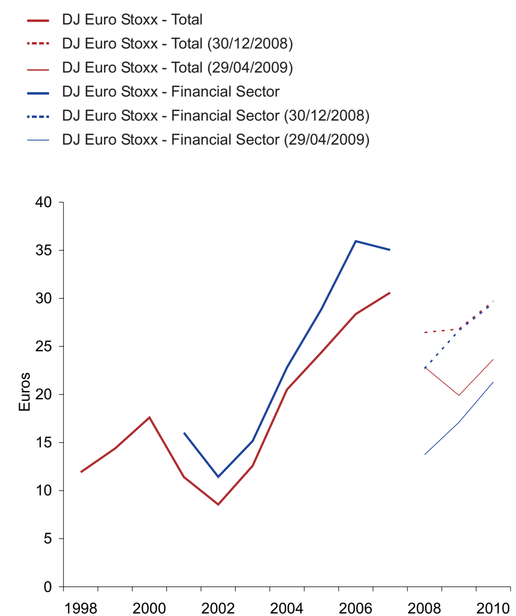
EARNINGS PER SHARE OF FINANCIAL AND NON-FINANCIAL CORPORATIONS - S&P 500



Source: Thomson Reuters (I/B/E/S).
Notes: Figures up to 2007 are analysts' estimates in January of t + 2 relating to t (*i.e.* the figures for 2007 relate to estimates for that year made in 2009). The estimated figures relate to analysts' forecasts for t at the date indicated in the key.

Chart 2.2.9

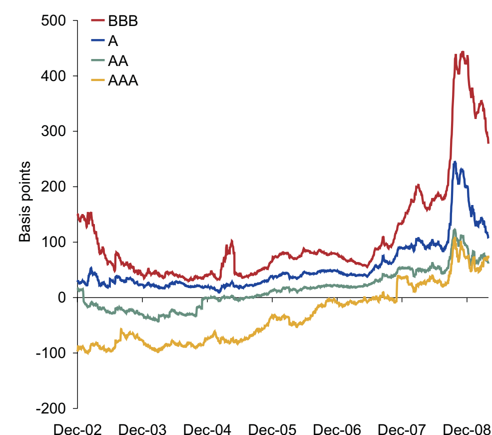
EARNINGS PER SHARE OF FINANCIAL AND NON-FINANCIAL CORPORATIONS - DJ EURO STOXX



Source: Thomson Reuters (I/B/E/S).
Notes: Figures up to 2007 are analysts' estimates in January of t + 2 relating to t (*i.e.* the figures for 2007 relate to estimates for that year made in 2009). The estimated figures relate to analysts' forecasts for t at the date indicated in the key.

Chart 2.2.10

SPREADS OF NON-FINANCIAL CORPORATIONS FOR EURO-DENOMINATED BOND ISSUES



Sources: iBoxx and Thomson Reuters.

There are, however, some issues which mitigate this risk. In aggregate terms, companies were in a solid financial situation overall before the crisis set in, with relatively high levels of liquidity and profitability. Moreover, the fall in interest rates, against a background of subdued inflationary pressures, redounds to the benefit of economic agents who are repaying debt at variable rates of interests. As a

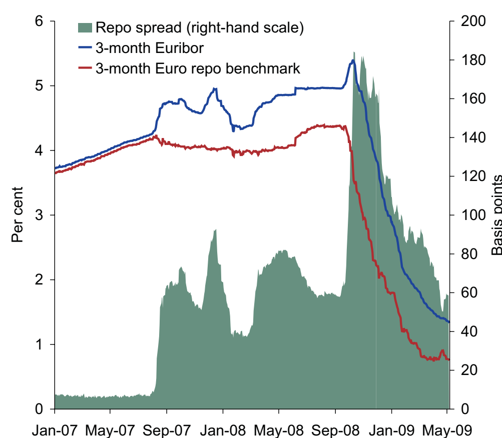
result, default is likely to affect in the main those households facing unemployment or other negative shocks on their income and also those companies with more vulnerable balance sheets and steep falls in the demand for their products.

Another of the major risks for financial stability and for the economy is the possibility of **major quantitative restrictions in access to credit** as a result of banks' financing problems or insufficient capital of their own, in what is generally known as a credit crunch. If banks find on-going difficulties in accessing finance in the wholesale markets, especially at medium or long maturities, their capacity to lend is hobbled. It is important to note here that short-term financing has been gradually easing, partly as a result of the intervention of central banks (Chart 2.2.11). Actions taken by some governments to guarantee banks' debt issues have also helped, although the cost of borrowing has stayed high. Some financial deleveraging is likely to be needed in the near future to ease pressure on solvency ratios, in circumstances where there is a dearth of capital buffers to cover some risks previously off-balance sheet but now again subject to intermediation, and with impairment on the rise. Conscious of this, banks have been curtailing credit by tightening lending criteria, reinforced by an expected rise in credit risk (Chart 2.2.12). These factors could well bring the supply of credit down, but the trend towards a slowdown in bank lending is also likely to reflect a cyclical easing of demand, as uncertainty factors in and the economic situation becomes increasingly overcast.

Given all of this, it is not a straightforward task to understand if the slowdown in credit granted by banks is fundamentally the result of demand or supply side factors. By and large, it is the effect of demand that holds sway when the flow of credit slows in the context of low interest rates, since such a scenario implies a leftwards shift in the demand curve. By contrast, a fall in the volume of credit granted when interest rates are higher or hold steady implies a leftwards shift in the supply curve, reflecting difficulties that banks are experiencing in accessing finance or even capital constraints. In addition, with the volume of credit on the wane, there could well be a fall in the amounts available for specific loans against a backdrop of a steep rise in credit risk and worsening economic prospects. There are clearer signs in the United States that there may well be a contraction in the supply of credit, given the major reduction

Chart 2.2.11

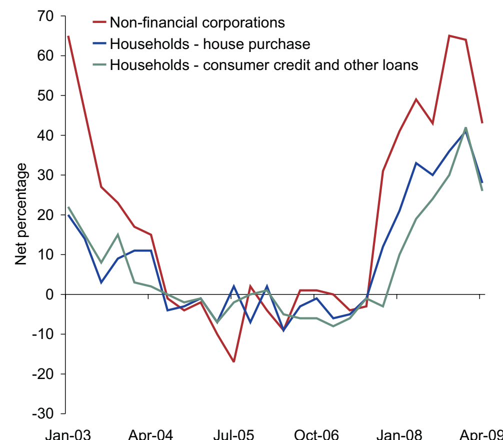
THREE-MONTH MONEY MARKET INTEREST RATES - EURO AREA



Source: Thomson Reuters.
Note: Repo spread calculated as the difference between the interest rate on non-collateralised money market operations (3-month Euribor) and the rate on collateralised operations in the same market (3-month euro repo benchmark).

Chart 2.2.12

BANKS' CREDIT STANDARDS IN THE EURO AREA



Source: ECB (Bank Lending Survey in euro area).
Note: The net percentage is the difference between the percentage of banks stating that the credit standards for loan approvals were tighter than the quarter before and the percentage of banks stating that the credit standards were eased. A net positive percentage, therefore, means that most banks applied tighter credit standards.

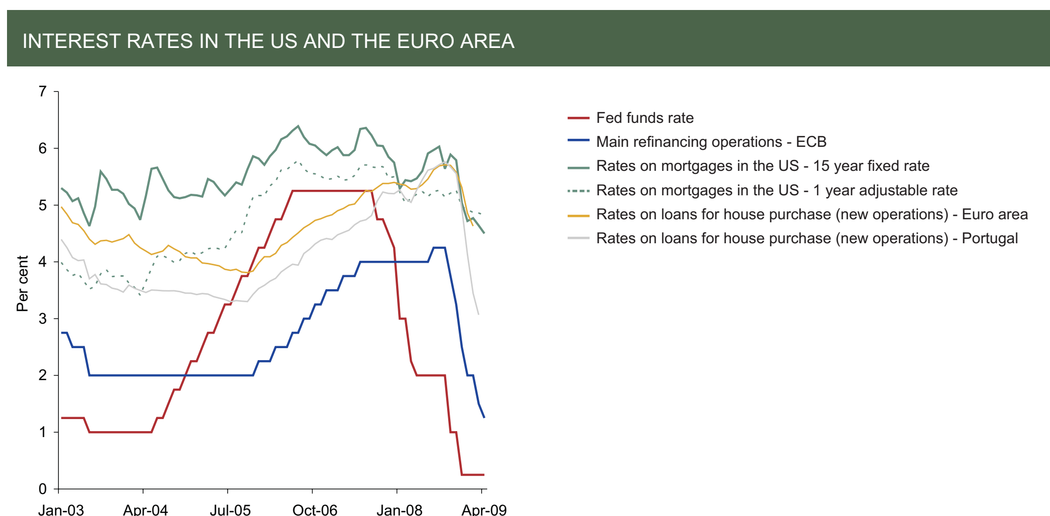
in the volume of credit provided, with interest rates in the banking system remaining at the same time relatively high *vis-à-vis* the monetary policy reference interest rates (Chart 2.2.13). In the euro area, on the other hand, credit did not slowdown sharply during 2008, although a reduction in volume has been seen since the end of the year (Chart 2.2.14). There is also evidence that in the euro area the transmission from monetary policy to banking interest rates has been more intense than in the United States. This makes it more difficult to assess whether the supply effects outweigh the effects stemming from a retrenching of demand. In Eastern Europe, the slowdown in credit has been much more marked. Given that a substantial part of the banking system here is in the hands of euro area banks, the latter may well be focusing more on domestic credit as risk aversion intensifies and credit risk rises. IMF estimates point to a very marked contraction in credit to these countries, given the imbalances that have accumulated over recent years.

Authorities have taken a raft of measures to stimulate bank lending. In addition, non-financial companies are still able to tap into wholesale markets for financing, even though the costs are higher than in previous years. Access to financing in the market is, however, fundamentally limited to major companies with better quality of credit, though these companies may have an important role in channelling funds to other companies through trade credit. Investment and private consumption in turn are also affected by the current uncertainty over how big the economic and financial crisis will be and how long it will last. The trend again is towards a reduction in the demand for credit. With this in mind, it is fundamental for the authorities to implement measures to ensure that credit is available for the economy, and alleviate the effects stemming from the banks' capital and financing restrictions.

The **process of correction in the property markets** is another risk that has a role in financial stability. The subprime problems in the United States played their part in triggering the financial turmoil in the summer of 2007. However, the property market woes in the United States market spread to other segments, including the non-residential, with steep falls in asset values. Over and beyond this, house price tumbled in countries that had seen strong upward moves in the first half of the decade. Among these were the United Kingdom, Ireland and Spain (Chart 2.2.15). Uncertainty remains over the size and duration of this correction process, with the situation aggravated by the worsening economic climate. The combination of higher unemployment, a larger number of company insolvencies, and lower

Chart 2.2.13

INTEREST RATES IN THE US AND THE EURO AREA

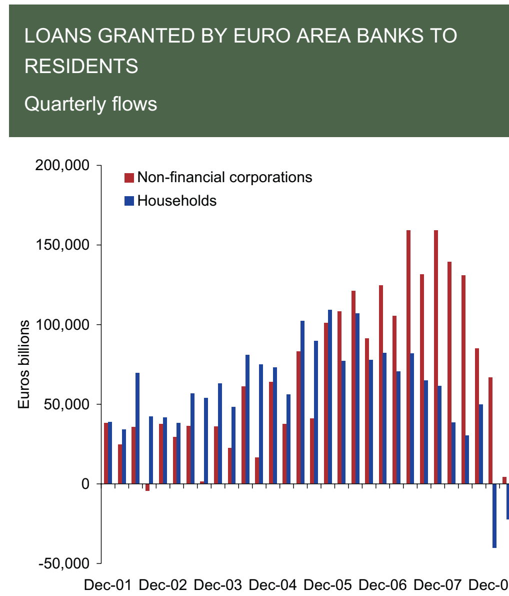


Sources: ECB, Freddie Mac (Primary Mortgage Market Survey), Thomson Reuters and Banco de Portugal.
Notes: Interest rates on US mortgage loans relate to contractual 15 year fixed rates and 1 year adjustable rates. Interest rates for house purchase in the euro area and in Portugal relate to interest rate of new operations for this type of financing for all maturities.

Chart 2.2.14

LOANS GRANTED BY EURO AREA BANKS TO RESIDENTS

Quarterly flows

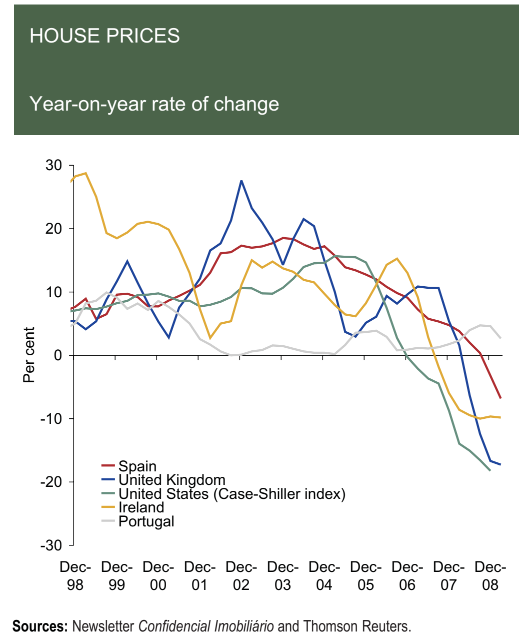


Source: ECB.

Chart 2.2.15

HOUSE PRICES

Year-on-year rate of change



Sources: Newsletter *Confidencial Imobiliário* and Thomson Reuters.

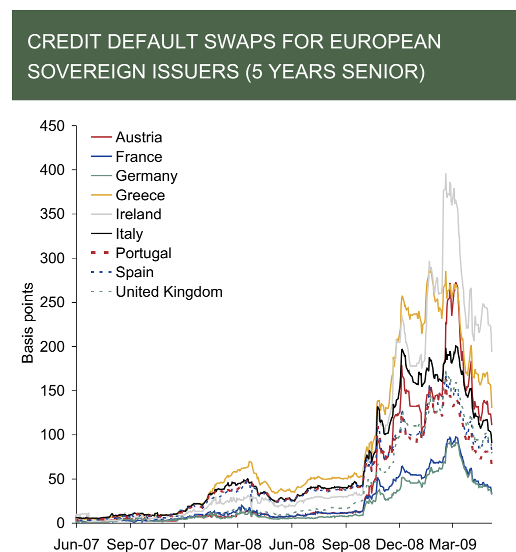
investment, is likely to push down house prices even further. And there is a further twist here: as the expectations remain of continuing falls in prices, so demand for these assets weakens even more.

A worsening scenario in the property markets pushes credit risk up a notch, above all for banks with exposures to mortgage loans, and more importantly where construction and property development are concerned. On top of this, a fall in the prices of property assets means a fall in the value of assets used as collateral for loans. This situation is particularly serious where the loan to value ratio is high and where legal regimes either make it difficult to recoup collateral or offer few incentives for due repayment of the debt.[2] Ipso facto, stabilising the property market, especially in the United States, is an essential pre-condition for stabilising the financial system.

As a final point of importance in terms of risk, there is the uncertainty hanging over the **impact and the effectiveness of the measures being used to shore up the financial system and the economy**. The extent and intensity of the problems affecting the financial system have forced international authorities to take an array of measures to support the financial system. Up to mid-year, these measures centred on solutions for problems in specific institutions, but the collapse of Lehman Brothers in September demanded systemic measures across the globe. In October, a number of measures were announced to protect depositors, guarantees were given to underwrite the issue of bank debt, recapitalization funds were set up and in some cases there was an agreed purchase of low liquidity assets (see “Box 2.1 *Measures taken by the Portuguese authorities relating to the financial system during the international financial crisis*”, of this Report). Subsequently, as the real economy weakened, measures in support of the economy were slotted into place. This situation reinforces the importance of ensuring the sustainability of public finances and is particularly relevant for countries with a weaker starting point in terms of budget balance and/or external debt, as well as for countries where the financial system has a disproportionate size in the economy (Chart 2.2.16). Here it is necessary to ensure that these measures are the right ones to reestablish financial stability and spur economic growth while minimizing potential distortions stemming from putting them into practice. In addition, it is necessary to

(2) See “Box 4.3 *Aspects of higher risk mortgage loans in the United States and Europe*“, of this Report.

Chart 2.2.16



Source: Thomson Reuters.

set out first the exit strategies to be used when these measures are no longer needed, specially those that relate to monetary policy, the injection of public funds and the provision of guarantees. In all of this, it needs to be remembered that the effects of interaction between the financial system and the economy are mutually reinforcing. It is therefore crucial for the measures to be sufficient and effective enough to break the thrust of a potential downwards spiral.

It is also necessary, for the medium and long run, to rethink financial system regulation, and there are in fact already a number of initiatives under way. The main challenges relate to the need to ensure the correct alignment of incentives for agents and to the regulation of areas that had not previously been subject to intervention by the authorities. In addition, the summer 2007 turmoil highlighted the need for close collaboration between supervisors who had large cross-border financial institutions under their aegis. This collaboration is particularly relevant when the authorities have to ensure the viability of institutions that fall into the so-called too-big-to-fail category. Institutions which are considered too big to fail (or too interconnected to fail) can assume risks in the light of incentives that are in the end self-defeating. Efforts also need to be made to mitigate some of the pro-cyclical features in the current accounting and regulatory framework. Incentives must be put in place for institutions to create buffers in periods of economic growth to be drawn on when recession looms. It is important to ensure, however, that the costs and benefits of economic and financial regulation are well thought through and avoid situations where over-regulation can hamper efficiency of the financial system, which is crucial for economic growth. Furthermore, over-regulation can also lead to attitudes based on “getting round” the regulations, making it more difficult for authorities to evaluate the actual state of the financial system.

2.3. Risks and vulnerabilities in Portugal

The Portuguese financial system is significantly exposed to the risks to financial stability at a global level. There are two factors to be taken into consideration here. Firstly, the past decade has seen Portuguese banks finance their expansion to a considerable extent through international wholesale financial markets, even though these debt issues were fundamentally in euros and in medium to long-term maturities. Moreover, customer deposits still make up banks’ dominant source of funds. Secondly, the

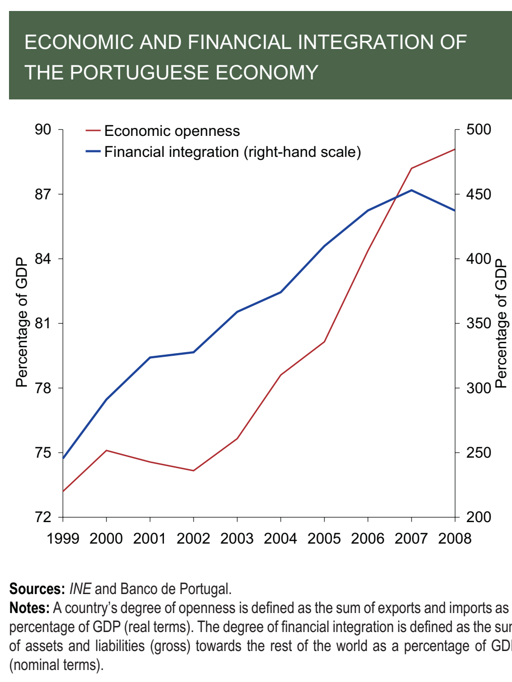
Portuguese financial system operates in a small open economy with major exposure to external shocks (Chart 2.3.1). Serious turbulence in the international financial system and a global economic downturn should impact negatively on the prospects for the country's economy and its financial system.

This impact is likely to continue to be felt through a fall in demand (both domestic and foreign), against a backdrop of great uncertainty and of a major downturn in international trade, factoring in to economic agents' decisions regarding investment and consumption. Some of the main destinations for exports of Portuguese goods and services have been severely impacted by the economic crisis, among them Spain, Germany and the United Kingdom.[3] Given the role that exports normally play in the recovery from a recession, the future growth trend of the Portuguese economy is likely to depend to a large extent on recovery in countries with which trade relations are most tightly woven. It will also depend on the capacity for exporters to survive and rebuild. Investment is also likely to play a crucial role in the recovery dynamics, for which a fall in the high level of uncertainty and a continuing ability to tap into financing are critical elements.

The international economic and financial crisis has affected Portuguese banks in a number of ways. There are still ripples of uncertainty in the wholesale markets, above all in the medium and long run, though these sources have not completely dried up[4]. The government announced a raft of measures to shore up financial stability in October and the guarantees given to the issuance of bank debt helped to keep access to these markets open, though the banks need to pay commissions to have access to these guarantees. It is worth noting that the spreads for government guaranteed bonds issued by banks are closely correlated with the cost of financing public debt. This is analysed in detail in "Section 4.5 *Liquidity risk*", of this Report. It follows that the worsening of sovereign risk that ensues from taking on the risks underlying the financial system, in tandem with the budgetary strains from the economic stimulus package, will also take its toll in terms of financing costs for banks and enterprises. Certain

Chart 2.3.1

ECONOMIC AND FINANCIAL INTEGRATION OF THE PORTUGUESE ECONOMY



Sources: *INE* and Banco de Portugal.
Notes: A country's degree of openness is defined as the sum of exports and imports as a percentage of GDP (real terms). The degree of financial integration is defined as the sum of assets and liabilities (gross) towards the rest of the world as a percentage of GDP (nominal terms).

(3) See Banco de Portugal, *Economic Bulletin-Spring* 2009.

(4) See "Section 4.5 *Liquidity risk*", of this Report.

factors have, however, helped to mitigate the wholesale market financing problems, namely the strong growth in customer deposits and temporary changes to the rules for access to liquidity through the Eurosystem.

The financial assets of Portuguese banks were hard hit during the year under review and into the early part of 2009, even though the banks themselves had no materially relevant exposure to the US subprime market (or to any assets tied closely into it). As the markets entered free fall, the profitability and the solvency of the banks came under pressure. Their own portfolios were affected, along with those of pension funds for bank employees (see “Section 4.4 *Market risk*", of this Report). Domestic and international authorities, however, took several measures to ensure a smoother impact on the banks’ profitability and solvency. The international operations of Portuguese banks are relatively minor when compared with other euro area countries, and are centred on geographical areas where there is low risk. There is however some exposure to Eastern Europe but it is limited and has low systemic impact. There has been a steep downturn in these countries, as discussed in the previous section, with impact on the prospects for credit risk (see “Chapter 4 *Banking System*“, of this Report).

With the Portuguese economy contracting as the global recession takes hold, there could well be a worsening of **credit risk**.[5] Families affected by unemployment will have more trouble making repayments on their debts, above all if they are highly indebted. The same will be true for exporters and companies in more cyclical sectors, such as construction and real estate activities.

Seen from this angle, the high level of indebtedness in the Portuguese economy is a focal point of vulnerability, since it restricts the capacity of economic agents to adjust. Both households and companies have recorded a strong growth in debt since the mid 1990s. This growth, described in “Chapter 3 *Financial Situation of the Non-Financial Private Sector*”, of this Report, was possible because funds were available from outside the country through the banking system. Euro area integration made it possible to access financing in the wholesale markets without foreign exchange risk, thus allowing to finance the demand for bank loans during this period, against a background of structural reduction in the level and volatility of interest rates.

In what concerns households, the debt contracted was fundamentally for housing purchase and most loans were at variable rates. Given this, the sizeable cuts in interest rates in the euro area have helped to ease the pressure on families’ financial situation. Furthermore, where mortgage loans are concerned, maturities are relatively long when compared to other countries. This has made it possible to smooth the debt service over time.[6] The available microeconomic evidence also suggests that the vulnerability is most acute among the young and low-income groups. The part they play in the credit market is relatively small and they usually have real and personal guarantees. This reduces the potential impact on the stability of the financial system.

The growth of debt among non-financial companies over the last decade has been related to a number of factors: the process of overhaul and internationalisation of the Portuguese entrepreneurial fabric; gross fixed capital formation; and the changes in capital structure in the face of lower external financing costs. This has come in tandem with an overall fall in interest rates (accompanied by aggressive profit distribution policies in the form of dividends). More recently, according to information from the Bank Lending Survey, debt restructuring and inventories and working capital financing needs have been the main factors sustaining the demand for credit from companies. This situation could well be a harbinger of problems in servicing debt and it could be more acute for sectors with a higher level of debt such as construction and real estate activities.

(5) See “Section 4.6 *Credit risk*”, of this Report.

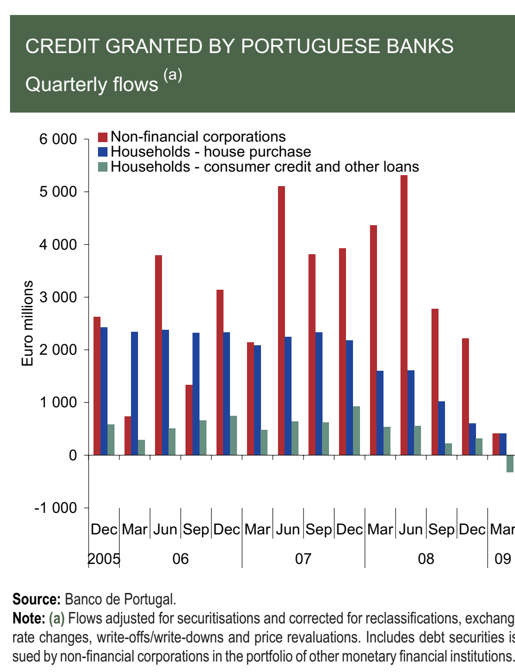
(6) See “Box 4.2 *The main characteristics of loans to households for house purchase in Portugal*", of this Report.

With the likelihood of default on the rise, there may be some difficulties in getting **access to finance from banks**.[7] It is, however, important to note here that balance sheet or capital issues are not likely to be the cause of any problems that may occur, and hence a credit crunch scenario is not likely. The possibility of banks' being hampered by liquidity problems has been pushed considerably into the background by the fact that they have moved to offset the major turbulence in the international financial markets by buttressing the funds they obtain from their customer base and from central banks (see "Section 4.5 *Liquidity risk*", of this Report). In addition, the solvency ratios of Portuguese banks have during the year stayed above regulatory minimums overall and the measures announced in November should allow them to strengthen their own funds even if the acute tensions in the financial markets persist (see "Section 4.3 *Capital adequacy*", of this Report). Against this backdrop, any fall in the supply of credit is more likely to indicate a more conservative approach by the banks in the assessment of the risks they would be taking on. This is more likely, given the pessimistic expectations of economic developments, than balance sheet or capital restrictions within the banking system. In addition, the downturn is also likely to mean less demand for bank financing from households and companies. The combination of these factors in a rising credit risk scenario is likely to result in a gradual slowdown in credit flows to households and companies. This is all the more likely given the relatively high growth of credit in the previous year, especially to non-financial companies (Chart 2.3.2)

Another element of risk relates to the possibility of a worsening in the **property market**, given the deteriorating economic fundamentals. It will not, however, stem from a correction of accumulated imbalances from previous years, as it may do in other countries. In Portugal, prices in the property market have hardly moved in real terms over recent years on the back of an adjustment to imbalances from the previous decade, which was also reflected in an uninterrupted fall in investment for housing during recent years (Chart 2.2.15). The situation is thus very different from the United States, the United Kingdom, Spain or Ireland, where assets picked up considerably in value during the last decade. In these countries, the correction is now well under way. Any downward pressure on aggregate housing prices

Chart 2.3.2

CREDIT GRANTED BY PORTUGUESE BANKS
Quarterly flows (a)



Source: Banco de Portugal.
Note: (a) Flows adjusted for securitisations and corrected for reclassifications, exchange rate changes, write-offs/write-downs and price revaluations. Includes debt securities issued by non-financial corporations in the portfolio of other monetary financial institutions.

(7) See "Box 4.5 *Likely developments in the default situation among non-financial corporations*", of this Report.

in Portugal is more likely to come if the economy enters on a steep downward path. Should property market risks materialise, they will impact on those banks that are more exposed to this market through their loan portfolios for households, as a result of a rise in unemployment. Furthermore, the impact should also come from the construction and real estate sector portfolios, where there is a high level of indebtedness and greater sensitivity to cyclical fluctuations.

There is also the issue of public sector debt and above all the persistence of some budgetary imbalances. These facts have raised questions about the sustainability of the public finances, given the need for **government measures** to shore up the financial system and budgetary measures to stimulate the economy. This has triggered a rise in the risk premium underlying Portuguese public debt, as in other euro area countries with similar situations, which may play a part in mitigating the impact of government measures on economic activity. The economic and financial package, in the context of international efforts, is likely, however, to be crucial in breaking the downward spiral caused by the interweaving of the financial system and the real economy.

In the midst of all of this, there is a clutch of risks that could impact on Portuguese banks. Firstly, the major downturn in the economy could cause credit risk to rise substantially, though low interest rates could weigh in on the other side. The banks currently have provisions above the regulatory minimum, but the rise in default can be greater than in previous recessions, particularly in segments that are more sensitive to cyclical fluctuations. Moreover, banks face a major challenge to their refinancing capacity with access to medium and long-term financing still silted up. Deposits, however, have gained substantial momentum, helping to mitigate the risk along with government guarantees on debt issuing and changes to liquidity supply in the Eurosystem operational framework. On the downside, more falls in financial asset values could add to portfolio losses in banks and in bank employees' pension funds, with profitability and solvency then under further pressure.

Portuguese banks have generally managed to cushion the impact of the financial crisis, keeping their financial intermediation on an even keel. They have adjusted their financing structure and seen a notable rise in customer deposits. This has allowed them to cut back their dependence on financing through the wholesale markets. They have also tapped into central bank funds as a way of offsetting persistent difficulties in the interbank money markets and medium to long-term debt markets. This has taken place against a backdrop characterized by increasing risk aversion and bigger information asymmetry problems. The banks have also strengthened their capital base and have disposed of assets in order to focus more on their core activity. Over and against this, there are the prospects of a major darkening of the economic climate and the banks are likely to need additional capital buffers to maintain adequate solvency ratios. With the persistence of problems in the financial markets, there could be difficulties in raising capital from private investors, and the recapitalization fund set up by the government in November 2008 could well play a major part in keeping financial stability on an even keel.

Box 2.1. Measures taken by the Portuguese authorities relating to the financial system during the international financial crisis[1]

A systemic financial crisis normally has substantial repercussions on economic growth and unemployment. In order to avert such crises, the authorities attempt to ensure stability in the financial system by analysing the risks to financial stability and by putting regulatory and prudential supervision mechanisms in place. If a systemic financial crisis looms, an array of crisis management tools is available to get the financial system back on an even keel. Monetary authorities can intervene through monetary policy operations, emergency liquidity assistance (as lender of last resort), or unconventional monetary policy instruments. In turn, supervisory authorities can contribute to solving a financial crisis through changes in prudential regulation, through direct intervention in distressed institutions with specific problems or, as a last resort, by imposing liquidation or complete overhaul. They can also play an important role in orchestrating private sector solutions where no public money needs to be at stake. Governments can also use specific tools such as state guarantees, recapitalising banks, the purchase of illiquid assets or, in extreme circumstances, nationalisation. Every financial crisis is specific and mired in its own inherent complexities. In the light of this, the use and co-ordination of all the tools available will ultimately depend on the specific scenario of each crisis.

The current international financial crisis has thrown down major challenges to the capacity of the world's competent authorities to respond with effective intervention and coordination. At first, these authorities focused on seeking a solution to the problems at the institutions with losses originating from the subprime segment of the US mortgage market. In the summer of 2007, these problems led to a crisis of confidence in the money markets, in the wake of rising uncertainty as to the extent and range of subprime related losses. In response to the turmoil, central banks moved, in many cases in concerted action, to ensure access to liquidity in the money markets against a backdrop of widespread problems on financing through the wholesale markets. As 2008 unfolded, solvency issues in many US financial institutions, such as Bear Sterns, Fannie Mae, Freddie Mac, AIG and Merrill Lynch, came to the surface. During this phase, the authorities focused on specific solutions to problems in these systemically important financial institutions. However, on 15 September the investment bank Lehman Brothers declared its insolvency, with no subsequent government bail-out. The collapse of this bank sent shock waves reverberating around the world, causing solvency problems in other banks, directly or indirectly. Among them were the Royal Bank of Scotland, ING, Dexia and Fortis in Europe. From that moment, the problems took on a different magnitude, moving from financial turbulence to a fully-fledged systemic global financial crisis. Nothing short of co-ordinated action from central banks, supervisory authorities, governments and supranational entities across the globe could bring things to rights.

Against this backdrop, the central banks reinforced some of the measures that they had been putting into place since the summer of 2007, complemented with a steady flow of additional measures to shore up the financial system in an attempt to ensure overall access to liquidity. As part of this, the central banks of the advanced economies, with some of the emerging countries following suit a while later, began to inject funds through credit operations (including in foreign currency) and make changes to the framework of monetary policy operations (for example, by changing maturities on credit operations, by enlarging the list of eligible counterparts and the collateral accepted as a guarantee, by changing minimum reserves requirements or, as in the case of the Eurosystem, through liquidity operations at fixed rate and with full allotment). Some of these measures came as a result of the concerted actions of a number of central banks. Some, among them the Federal Reserve and the Bank of England, also injected liquidity directly into the economy, through the purchase of public and private debt securities in the secondary markets. More recently, on 7 May 2009, the ECB announced that the Eurosystem would henceforth have the option of buying covered bonds in euros issued in the euro area.[2] In addition, with inflation pressures waning and bleak prospects looming for economic output, a number of central banks took interest rates down to record lows.

In mid-October 2008, various governments announced measures geared to a variety of objectives: to recover agents' confidence in the financial system, to contain systemic risk, to safeguard retail deposits, to cushion the im-

(1) *This box is in part, an up-date of the "Box 1 Main measures taken by the Portuguese authorities regarding the financial system in the context of the international financial crisis", Banco de Portugal, Economic Bulletin-Autumn 2008.*

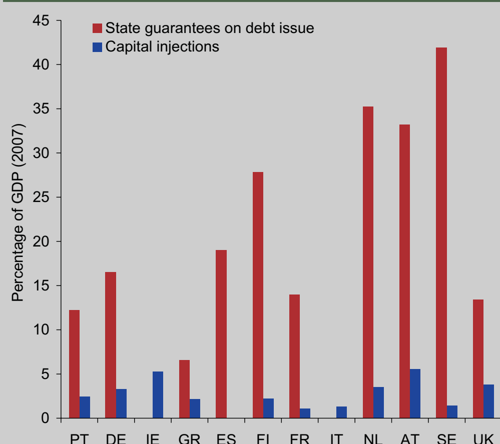
(2) *On the same date, the ECB announced that it would from then on carry out longer-term refinancing operations at 12 months maturities, and that the European Investment Bank would be accepted as counterpart in Eurosystem monetary policy operations.*

pact of the crisis on the real economy and to ensure that financing flowed into it. These measures were taken in a concerted fashion in the euro area, following a summit involving various heads of state and government leaders on 12 October. The measures were very similar to those taken in other European countries, such as the United Kingdom and Sweden.[3] The concerted action plan put forward on that day had a number of aims: (i) to ensure adequate liquidity for financial institutions; (ii) to stimulate access to financing in the securitised debt market; (iii) to make additional capital available to financial institutions to enable them to ensure financing for the economy; (iv) to ensure an efficient recapitalisation of distressed banks; (v) to allow some flexibility in the application of the international accounting standards, and lastly, (vi) to enhance the mechanisms available for co-operation between European states. Within this plan, governments in the euro area announced guarantees to banks' debt issues and, in some cases, they set up recapitalisation funds to guarantee an adequate solvency level in the financial system.[4] In addition, most countries increased the level of cover for national deposit guarantee funds (with a political guarantee in some countries covering all deposits). Over and beyond this, some countries announced they would take up some of the banks' high quality but illiquid securities and, more recently, efforts have been made to tackle the poor quality assets on the balance sheets of some banks. Given that such measures have implications for competition, the European Commission published specific guidelines governing how the measures should be put in place. The G7 also put forward a set of common principles for government support and there has been co-ordination within the Eurosystem to define the specific features of these supports.

As part of the concerted European plan, the Portuguese government announced on 12 October, that it would provide state guarantees to the issue of securitised debt by Portuguese banks, to an upper limit of 20 thousand million euros, set out in Law no. 60-A/2008 and specified in Executive Order no. 1219-A/2008 (Chart 1). This is a temporary measure and will remain in force until the end of 2009. The guarantees cover all credit institutions with registered head office in Portugal which are facing temporary liquidity constraints even though they satisfy the minimum solvency requirements. The guarantee is available only after scrutiny by the Banco de Portugal and the Portuguese Treasury and Government Debt Agency (the Instituto de Gestão de Tesouraria e do Crédito Público) and depends on the contribution of the institution to the financing of the economy and on the needs and conditions for the financing. Excluded from consideration are issues in foreign currency, issues of subordinated debt and interbank money market operations. Maturity on the debt issues guaranteed by the State must, in principle, be between

Chart 1

MEASURES ANNOUNCED BY SOME EUROPEAN COUNTRIES



Sources: Bloomberg, CEBS, ECB, European Commission, Eurostat, IMF, National Ministries of Finance and Thomson Reuters.
Notes: Information based on the sources cited, but not necessarily exhaustive. In the case of Ireland, all liabilities in the banking system were guaranteed.

(3) *The measures taken by European countries, the United States and other advanced economies are analysed in "Box 2 Authorities responses in the context of the financial crisis: liquidity management measures and intervention in financial systems", Banco de Portugal, Economic Bulletin-Autumn 2008 .*

(4) *Some countries introduced legislation to allow for injection of public funds in the banks.*

3 months and 3 years (the maximum limit can be extended to 5 years based on a reasoned proposal from Banco de Portugal). A 50 b.p. commission has to be paid to the State for debt of less than one year. If the maturity on the proposed issue is more than one year, banks have to pay in addition the premium on the bank's own credit default swap at 5 years or, if it does not exist, the premium of a representative sample of banks. If the guarantees are called in, that is, if the bank involved defaults, the State can convert the debt into capital and have a direct role in the bank's management. The features of the scheme are very similar overall to those adopted in other European countries.

On 2 November, also within the framework of the concerted European action plan, the government announced additional measures to underpin the stability of the financial system. The package included a recapitalisation plan for credit institutions headquartered in Portugal, up to a total of 4 thousand million euros. This is a temporary measure, in force until the end of 2009, defined in Law no. 63-A/2008. Its main purpose is to ensure that Portuguese banks have the necessary conditions to shore up their solvency ratio, against a background of persisting problems in wholesale debt markets and in the light of the terms set out in Banco de Portugal Circular no. 83/2008/DSB, where it is recommended that the Tier I capital ratio should be above 8 per cent as and from September 2009.[5] The basis for the capitalisation can be any financial instrument eligible as Tier 1 capital and it implies a series of requirements relating to the management of the institutions which benefit from this support measure. Under the provisions of the law, the public disinvestment should occur within three years (in exceptional circumstances and if market conditions so justify, this can be extended to five years). Certain procedures relating to practical application of the law were set down in Executive Order no. 493-A/2009. These included the specific nature of the request for access to public funds, which should include a clear statement of the contribution of the funds requested for the economy's financing and a repayment plan that guarantees substitution by instruments eligible as original own funds whose quality is on a par or superior. The Executive Order also stipulates the return on the public investment, along with the rights and duties to which the beneficiary is subject.

Since these measures were announced, a number of European banks, including the Portuguese, have requested public guarantees for debt issues, as access to financing in the wholesale markets remained constrained, especially for medium and long-term maturities. Chart 2 illustrates the state guaranteed issues covering banks from Austria, France, Germany, Ireland, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom. The percentage of available funds called on has varied between 10 and 35 per cent up to the end of April 2009. During this period, Portuguese banks issued around 4.5 thousand million euros within the scheme, less than a quarter of the total that was made available (see "Section 4.5 Liquidity risk", of this Report).

The risk premium on the bonds issued under this scheme hinges fundamentally on the country's sovereign risk. The widest spread has been observed for Ireland, coming on the heels of the major increase in sovereign risk over the past few months (Chart 3). There are also some differences in the way the measure has been implemented, which may influence the spread. One of these, for instance, is the creation of special institutions to manage the guarantees. The spreads for Portuguese banks are relatively high, with the Portuguese Republic's rating lower than the rating for other countries with issues of government guaranteed bank debt. According to the replies of Portuguese banks to the Bank Lending Survey, the government measures that are part of the concerted action plan have to some extent eased access to financing in the market.

In some countries, such as Germany, Ireland, Greece, France, the Netherlands and the United Kingdom, the banks have used also used the recapitalisation funds to bolster their solvency, and have drawn on a substantial portion of the amounts allotted to the funds. Since the onset of the crisis, there have also been operations involving nationalisations and the injection of capital into the system outside the scope of these recapitalisation plans. Up to the date of publication of this report, no Portuguese bank has made use of the fund, though there have been a number of increases in capital through private investors (see "Section 4.3 Capital adequacy", of this Report)[6].

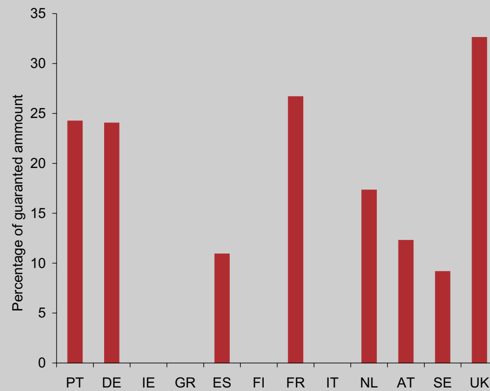
In the midst of the crisis, the Portuguese government also increased the maximum cover for the deposit guarantee fund. This moved from 25,000 to 100,000 euros per depositor and per institution, and will stay in force until Decem-

(5) *This measure is a recommendation of Banco de Portugal. Since it is not compulsory, it can therefore be applied flexibly, in the light of specific circumstances for each institution or financial group, reflecting for instance the risk profile or regulatory capital quality of each institution.*

(6) *The BPN nationalisation was promulgated in Law no. 62-A/2008. This nationalisation was not part of the recapitalisation plan. The details can be found in "Box 4.1 Banking supervision in Portugal in the cases of the Banco Português de Negócios (BPN) and the Banco Privado Português (BPP)", of this Report.*

Chart 2

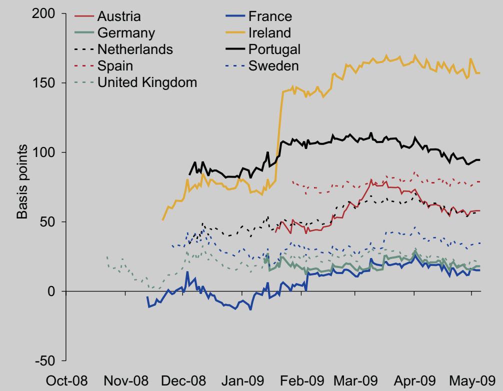
USE OF STATE GUARANTEES ON DEBT ISSUES BY EUROPEAN BANKS



Sources: Bloomberg, CEBS, ECB, European Commission, Eurostat, IMF, National Ministries of Finance and Thomson Reuters.
Notes: Information based on the sources cited, but not necessarily exhaustive. In the case of Ireland, all liabilities in the banking system were guaranteed.

Chart 3

ASSET SWAP SPREADS ON GOVERNMENT GUARANTEED BONDS ISSUED BY EUROPEAN BANKS IN EUROS



Sources: Bloomberg and Banco de Portugal calculations.

ber 2011 (Decree Law no. 211-A/2008). There was, in addition, a substantial reduction in the legally defined period for redemption of deposits. Measures were also taken to firm up the duties of financial institutions in terms of information and transparency, and the powers of the National Council of Financial Supervisors (the Conselho Nacional de Supervisores Financeiros) were strengthened. The Securities Market Commission (CMVM) issued an instruction temporarily banning short-selling of shares issued by financial institutions, among other measures.

Since the international financial crisis broke, the Banco de Portugal has also been amending aspects of the prudential supervisory framework. Notice no. 6/2008 altered the treatment of unrealised gains and losses on securities classified as available-for-sale assets, based on a guideline issued by the Committee of European Banking Supervisors (CEBS) in 2004. The measure had a positive impact on own funds, since unrealised gains and losses with no impairment subsequently had a neutral effect on own funds. Notice no. 7/2008 addressed the bank employees' pension funds' exposure to changes in financial asset values (a situation that also affected the banks' solvency). The Notice states that an additional three years are allowed for the recognition of the impact of transition to the International Accounting Standards related to pension funds still not recognised in retained earnings as at 30 June 2008. Another measure taken by the Banco de Portugal relates to the revision of the limit (up from 20 per cent to 35 per cent) for recognition of preferential shares with unspecified maturity and without incentives for redemption. This measure is in line with the amendment covering Directives no. 2006/48/CE and no. 2006/49/CE. In addition, Notice no. 9/2008 stipulates that all reserves and results relating to assets set aside for deferred taxes can now be accepted as a positive element of own funds. The 10 per cent limit that was previously stipulated here is thus no longer relevant. Towards the end of the year, Notice no. 11/2008 was published, allowing for recognition of actuarial losses on pension funds during 2008, less the expected yield from their assets, to be phased in until 2012, in the light of the serious weakening of the financial markets in the last quarter of the year.

In November, as mentioned above, the Banco de Portugal issued Circular no. 83/2008/DSB, recommending that banks bolster their original own funds (Tier I) to reach a ratio above 8 per cent as and from September 2009. This is only a recommendation, and is in line with similar measures taken by other supervisory authorities with a view to boosting confidence in the robustness of the banking system. Towards the end of the year, the Banco de Portugal sent out Circular no. 97/2008/DSB, in which it reiterated the need for banks to adhere as much as possible to the recommendations of the Financial Stability Forum and the CEBS on transparency of information and assets valuation, bearing the principle of proportionality in mind. In addition, the Banco de Portugal itself has added to its requirements and requested more frequent reports on the prudential information that the banks have to report. To

take one point, since the summer of 2007, it has requested from some banks a monthly report – in some cases fortnightly – detailing its liquidity situation. Subsequently, some institutions were asked to daily submit a cash flow map. More recently, other banks were asked to send a report every month detailing their solvency situation.

Some Portuguese banks have also benefited from amendments made by the International Accounting Standards Board (IASB), with effects as and from 1 July 2008, which were subsequently endorsed by the European Commission in Regulation no. 1004/2008. The IASB has made changes to the norms for recording financial instruments at market value, giving added flexibility to the criteria for reclassification of these instruments in different portfolios (see "Section 4.4 Market risk", of this Report).

Apart from these general measures, the Portuguese authorities also had to manage problems in two banks. The problems that surfaced in the Banco Português de Negócios led to nationalisation in early November so that depositors' funds were protected. For the Banco Privado Português, the first move was to set up a private solution through a loan from six Portuguese banks backed by state guarantees. An interim board was then put in place under Banco de Portugal aegis. The two situations are analysed in "Box 4.1 Banking supervision in Portugal in the cases of the Banco Português de Negócios (BPN) and the Banco Privado Português (BPP)", of this Report.

Internationally, additional measures are still needed to reassert stability in the world's financial system and cushion the economic impact of the crisis. Specifically in terms of the financial system, an accurate assessment must be made of bank losses across the world and solutions found for their management.[7] Central banks have been ensuring overall access to liquidity, but there is still some turbulence in the interbank money markets, where trust is quintessential. Moreover, even though government guarantees have eased access to medium and long-term financing, there are still impediments to non-guaranteed debt issues in the wholesale markets. As a final point, solvency ratios in European banks have held good in circumstances where bolstering own funds through private investors has become a problem, thanks in part to support from recapitalisation plans and changes in the prudential sphere carried out by supervisory authorities.

The costs and the effectiveness of the measures put in place to shore up the financial system must continue to be carefully monitored, given their impact on public finance sustainability, as well as the potential distortions caused by such measures. Moreover, exit strategies need to be clearly defined.

For the medium to long term, there are a number of challenges. Some aspects of the financial system model need to be rethought, and indeed subject to regulation, an issue that is now on the international agenda. Incentives for agents in the financial system need to be correctly aligned, especially those related to risk management and remuneration packages. In addition, there must be a revision of the perimeter of financial regulation, above all in what concerns off-balance sheet operations, hedge funds, and large cross-border financial groups. Some changes should occur in the institutional framework of supervision internationally, possibly through the creation of supranational bodies with a remit covering micro and/or macro prudential regulation, as proposed in the Larosière report. Efforts also need to be made to introduce counter-cyclical measures in specific aspects of financial regulation (above all in capital requirements, liquidity, market risk and provisions for credit risk). The aim must be for banks to set up buffers allowing them to more easily withstand adverse shocks that are cyclical in nature. Apart from all this, there are also proposals to review how the banks' own funds requirements are calculated. To sum up, it is necessary to take the proper measures for the financial system to carry out its core function, which is to ensure the proper working of financial intermediation with an adequate control of risk, given that economic development hinges on financial stability.

(7) *Estimates on the accumulated losses in the world's financial system have been repeatedly revised as the situation in financial markets deteriorated. In the IMF's Global Financial Stability Report for April 2009, the losses from assets originating in the United States are tentatively put at 2.7 million million dollars, compared with the estimate of 1.4 million million dollars in October 2008. Factoring in assets originating in Europe and Japan could bring the losses up to 4.1 million million dollars.*