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1. INTRODUCTION

In 2008, there will be a marked slowdown in the Portuguese economy, reversing the trend of gradual and moderate recovery witnessed over the past two years. The backdrop to this evolution is the interaction between an unprecedented crisis in the international financial markets and a rapid worldwide economic slowdown. Given the strong economic and financial integration of the Portuguese economy and the persistence of fragilities that bear down on the development of factor productivity, 2008 looks likely to again record one of the lowest rates of growth among the euro area and the European Union countries. With an adverse international framework reflected in the slowdown of external demand and a rise in the prices of raw materials and energy, an increase in the external debt of the Portuguese economy is likely to occur. The counterpart will be a further drop in the savings rate in both corporations and households and a stabilisation in investment as a percentage of GDP. In the context of the problems caused by the financial crisis, the process of structural consolidation of the public accounts is expected to slow down after two years of major adjustment.

The growing turbulence in the international financial markets from the second half of 2007 has been marked by an upward assessment of risk by investors, leading to a fall in confidence levels in a number of financial segments across the globe, significant falls in stock markets and an abrupt decrease in liquidity in the interbank markets of the main advanced economies. The markets for private debt have gone the same way, above all the markets for gross financing used by financial institutions. These developments have in turn knocked on to activity in the main advanced economies and, more recently, to emerging economies, adding to the dynamics of slowdown already present in a number of these economies. Among them are those which have witness sharp corrections in the property markets (see "Box 1 *Housing markets in some advanced economies*").

In this framework of rapid fall in the expectations relating to world economic activity, raw material prices ratcheted down steeply from mid-year. Oil was among the biggest falls, correcting from its steep rise since 2007. On the back of this came an inversion of the rise in inflation expectations observed in the first half of the year. This evolution, together with a slowdown in activity, led monetary authorities, including the ECB, to follow more accommodative policies. In addition, following the turmoil in the financial markets and its spill-over effects on the real economy, several measures were announced on a global scale in order to shore up confidence and re-establish the regular functioning of the financial markets (see "Box 2 *Authorities responses in the context of the financial crisis: liquidity management measures and intervention in financial systems*").

The transmission of these developments to a small, fully integrated economy like the Portuguese took various forms, all of them interconnected. On the one hand, there were unfavourable implications for external demand which, given the high level of uncertainty over the magnitude of the downturn both internally and externally and over the new equilibrium where financial markets will stabilise led to the postponement of consumption and investment. On the other hand, the turmoil in the money markets and gross financing markets implied an increase in bank credit interest rates and contributed to a tighter rein on financing conditions for the non-financial private sector, above all housing credit. In addition, greater demands were made on the solvency conditions of economic agents. It should however be noted that domestic credit remained strong during the year, buttressed by the banking system through a substantial increase in client deposits, in tandem with the maintenance of some access to fi-

nancing through the gross markets, in spite of the adverse conditions prevailing in the financial markets (see "*The Portuguese Banking System in 2008*" in this Bulletin).

The gradual transmission of these shocks implied a slowdown in the Portuguese economy. Both the slowdown in external demand and the uncertainty related to the financial crisis are likely to persist in the near future, and could translate into even tighter financing conditions through the financial accelerator along the year. This risk, in tandem with the difficulties reported by the banks with respect to the financing of their activities and the attraction of own funds, would magnify the effects on the real economy, which required, also in Portugal, the adoption of exceptional measures in response to the financial crisis (see "Box 1 *Main measures taken by the Portuguese authorities regarding the financial system in the context of the international financial crisis*").

In the context of a gloomy international environment acting together with the low trend growth that stems from the incentives generated by the institutional and structural framework of the Portuguese economy, the Banco de Portugal estimate for GDP growth in 2008 is 0.5 per cent, compared 1.9 per cent in 2007 (Table 1.1). This corresponds to a downward revision of 0.7 p.p. *vis-à-vis* the estimate posted in the Summer *Economic Bulletin* and reflects a lower growth estimate for the demand components that are more sensitive to the increasing deterioration in the external environment, in particular exports and investment. In turn, inflation, measured by the annual average variation of the Harmonised Consumer Price Index (HCPI), seems likely to stand at 2.8 per cent in 2008, compared with 2.4 per cent in the previous year. The current projection for inflation in 2008 corresponds to a downward revision of 0.2 per cent *vis-à-vis* the Summer *Economic Bulletin* (a 0.2 p.p. fall). This above all reflects the recent evolution of energy prices. The differential with the euro area looks set to be negative, associated in part with moves in indirect taxes.

The strong slowdown in the Portuguese economy reflected on the supply side the steep fall in the contribution of total factor productivity to growth, and the deceleration of the apparent productivity of la-

Table 1.1

MAIN ECONOMIC INDICATORS

Rate of change, per cent

			***Memo*: EB Summer 2008**
	2007	**2008**	**2008**
GDP	1.9	0.5	1.2
Private consumption	1.5	1.4	1.3
Public consumption	0.3	0.2	-0.2
GFCF	3.2	-0.8	1.0
Domestic demand	1.7	1.0	1.0
Exports	7.6	1.4	4.4
Imports	5.9	2.6	3.3
Contribution to the change in GDP (p.p.)			
Domestic demand	1.8	1.0	1.0
Net exports	0.0	-0.6	0.1
Current account + capital account (percentage of GDP)	-8.2	-8.9	-10.6
HICP	2.4	2.8	3.0

Sources: *INE* and Banco de Portugal.

bour, against the backdrop of moderate job creation and the maintenance of the unemployment rate at historically high levels. On the demand side, the economic deceleration was associated to the slowdown in domestic demand and exports. As could have been expected, investment and exports were particularly hard hit in a context of weakening prospects regarding domestic and external growth. In terms of investment, current estimates point to a reversal of the 2007 positive trend. Another fall in investment is likely to occur in 2008, with a generalised slowdown in its components. As external demand falters, current estimates suggest that exports of goods and services seem to be heading for a drop in market share over the year. The slowdown in exports reflects weaker dynamism in the export of goods - a trend that started in mid-2007 - and a sharp slowdown in services - with the trend here setting in from the start of the current year. In contrast, private consumption, above all in non-durables, presented a smoother evolution, in part sustained by consumer credit growth, and is likely to translate into another fall in the household savings rate.

According to current official estimates, the public administration deficit is likely to stand at 2.2 per cent of GDP in 2008, following 2.6 per cent a year earlier. This figure ensures that official targets set out in the report on the guidelines for budgetary policy are reached. This evolution was connected with various factors: the stabilisation of fiscal receipts as a percentage of GDP; the strong growth in non-fiscal receipts; the inversion of the downward trend in primary current expenditure as a percentage of GDP, observed in the past two years; and the existence of one-off measures, which contributed to a decline in capital expenditures. Banco de Portugal estimates point to a primary structural balance basically unchanged for 2008, reflecting an approximately neutral orientation of budgetary policy, following two years of significant consolidation. Macroeconomic developments are likely to contribute slightly positively to the budgetary balance. This result comes from the composition of overall economic growth, given that private consumption is expected to move in line with its trend growth and private sector wages are likely to grow above trend.

2. THE INTERNATIONAL FRAMEWORK

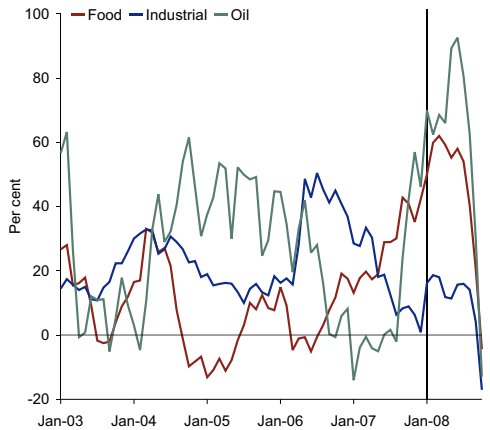
This year has been marked by the interaction of the international financial crisis and a global slowdown in economic activity. Activity had already been faltering in some advanced economies since the end of 2006, due in large part to the major increase in commodity prices and a downward correction in several housing markets. The slide has been magnified by the impact of the financial crisis on confidence among economic agents and expectations regarding their financial situation. Slackening in advanced economies and worsening conditions in financial markets are both contributing to a slowdown in economic activity among emerging and developing economies, which have until recently been recording above trend growth and strong inflationary pressures. In these circumstances, the prospects for world economic activity have worsened significantly, contributing to the persistence and worsening of the turmoil in the international financial markets.

Over the past few years, the world's economic activity has been subject to several interconnected disturbances. Among them are the evolution of oil and food commodity prices and the downward correction in the housing markets in some advanced economies. Foremost, however, has been the financial crisis that set in around mid-2007.

The prices of oil and food commodities accelerated strongly throughout 2007, with the first stretching to the early summer of 2008 and the second to the end of the first quarter (Chart 2.1). Where oil was concerned, the move continued to reflect dynamic demand in emerging and developing economies, with high prices triggering a moderation in demand in the advanced economies. The move in oil prices was also conditioned by low levels of inventories, and of spare capacity and weak growth in supply. As for food commodities, the acceleration in prices at the start of the year reflected the dynamic demand behaviour, and a number of supply-side shocks. Among these were the adverse weather conditions in earlier years impacting negatively on cereal harvests and trade restrictions imposed by some of the main exporting countries. High commodity prices affected consumption and consumer confidence, with production costs rising, above all in more energy-intensive sectors. From summer this year, commodity prices dropped sharply. In the advanced economies, this development is unlikely to have

Chart 2.1

INTERNATIONAL COMMODITY PRICES IN USD
Year-on-year rate of change



Source: HWWI-Hamburg Institute of International Economics.

significant effects on GDP growth in the short run, given the gradual transmission of these moves to economic activity, even though the impact on prices is more immediate. Looking at the year as a whole, therefore, the negative effects from high commodity prices on activity will likely be the dominant effect. However, for those countries which are net exporters of these raw materials, the recent sharp fall in prices has had an immediate negative impact on their economic and, in some cases, financial situation.

The second factor that has had negative repercussions on economic activity in some advanced economies was the downward correction in housing markets. This correction in the United States was at the root of the turbulence that struck the international financial markets in the summer of 2007 and it has persisted through this year, generating the fear of further losses in financial institutions. Housing markets in other advanced economies have also seen a downside correction, reflecting deterioration of households' financing conditions and in some cases resulting from an overvaluation of housing prices. Some countries are witnessing year on year falls in house prices, among them Ireland, the United Kingdom, the United States and, to a lesser extent, Spain (see "Box 1 *Housing markets in some advanced economies*").

The third crucial factor in the way the world economy moved was the crisis in the international financial markets, which intertwined with the other major influences. There were various phases of the crisis from the start in the summer of 2007 to the meltdown in September/October, fourteen months later. In the second half of 2007, the turmoil was characterised by a significant upward reassessment of risk, above all in the financial sector, and by a sudden and drawn-out fall in liquidity in the wholesale debt markets and the interbank money markets in the main advanced economies.[1] During the continuing financial crisis this year, upward reassessment of risk has been broader based, rippling out to an increasing number of segments in the financial markets, sectors of activity and countries.

The financial turmoil that started in mid-2007 was characterised by the transmission to the international financial markets of problems in the mortgage sub-prime segment in the United States, which at the start of 2007, had mainly affected the investors and financial institutions with most direct exposure to it. A number of factors played a part in this chain of events. Firstly, the US mortgage credit market had seen a significant fall in quality, caused to a great extent by fierce competition and the spread of risk through securitisation of the debt. For a long time, this situation had been mitigated by prolonged low interest rate levels and the big increase in house prices. When the trend reversed, the situation changed dramatically, with interest rates and loan delinquencies rising. Secondly, the major financial innovation and above all the increase in credit securitisation led to a transfer of the risk between institutions and financial instruments. This contributed to a more carefree analysis of the risk in the institutions where the credit was originated. The situation made it more difficult to assess the direct or indirect exposure to certain counterparts. To this can be added the high level of liquidity in the international financial system, partly related to the greater integration of emerging or developing economies in the global economy, many of them with relatively inflexible foreign exchange policies. All this would seem to have contributed to an increase in investors' demand for yield and to a lower threshold of differentiation between assets with differing levels of risk. In this context, it would appear that investors did not make a correct assessment of the risks involved in their positions. This was above all true in the private debt market. Here the low level of differentials between the yields on private and public debt seen in 2006 and the first part of 2007 suggest that *premia* for counterparty credit risk and liquidity risk were at historic lows.

(1) For a more detailed analysis of the turmoil in the financial markets, see "Box 1 *Recent turbulence in international financial markets*", Banco de Portugal, *Economic Bulletin* -Autumn 2007.

Throughout 2008, the worsening balance sheets of financial institutions and turmoil in the financial markets seem to have fed upon each other. Moves on the markets were to a large extent conditioned by a more negative assessment of the financial situation of financial institutions, above all those of the United States and Europe. This went hand in hand with a persistent high level of uncertainty as to the magnitude and distribution of losses which would still have to be covered. This situation was influenced by two factors: the gloomy prospects for global economic activity and the fact that the financial sector was coming out with ever bigger declared losses. This was not helped by the lack of information on market participants as to the true situation on the balance sheet of individual institutions. In tandem, the fall in asset values seems to have increased the losses in financial institutions, which were bound by accounting procedures requiring the assessment of asset values on the basis of mark-to-market. Faced with this situation, financial institutions might have tried to reduce their exposure to risk by selling assets with potential losses. By doing so, they exacerbated the slide in the financial markets. As a last point, the rise in the counterparty and liquidity risk *premia* made it tougher for financial institutions to manage to finance their operations through debt issues and to raise capital through share issues.

International financial markets were highly volatile during the year, reflecting concerns over the financial system and the dimming prospects for economic activity. The periods of greater market tensions occurred in the first half of March with the liquidity problems of the North American investment bank Bear Stearns and in a much deeper and broader way from mid-September, with increasing solvency problems at various North American and European financial institutions. The dimension of the crisis became clear with the problems facing major financial institutions such as Fannie Mae and Freddie Mac (the two main US government-sponsored enterprises), AIG (the biggest insurers in the world) and by the disappearance of the US investment bank model with the sale of Merrill Lynch, the transformation of both Goldman Sachs and Morgan Stanley into deposit-taking banks and, even more serious, with the bankruptcy of Lehman Brothers. The situation pushed up the concerns over systemic risk and the response from monetary authorities and governments across the world was to put in place an array of measures designed to boost investor confidence and help out those institutions really mired in problems (see "Box 2 *Authorities responses in the context of the financial crisis: liquidity management measures and intervention in financial systems*"). Within this framework, there were various mergers and acquisitions between financial institutions and capital increases made by private institutions and mainly by the state, translating into many cases to what were de facto nationalisations.

The 2007 summer turmoil spread across the board disturbing the stock market, private and public debt markets, foreign exchange and money markets.

Stock markets fell significantly during 2008. In the previous year, by contrast, share prices had remained relatively immune from the turmoil, except for the financial sector in the United States and, to a lesser extent, in Europe (Table 2.1). The downside pressure in the stock markets increased from the summer of 2008, as share prices for non-financial corporations in the advanced economies plunged. This came as the prospects for profits worsened with the slowdown in domestic and external demand and with financing conditions becoming tighter. At the end of October, the main stock market indices in the advanced economies stood 30-40 per cent below the values for the end of 2007. In Europe and the United States, they were down to levels not seen since 2003 (Chart 2.2). The move overall during this period is only slightly less than the change in indices for the banking sector. Since the start of the turmoil, however, the decline in this sector has been considerably steeper, with stock prices in the United States and the euro area down to values not seen for more than a decade (Chart 2.3).

In the advanced economies, the yield differentials between private and public debt had already increased significantly in the second half of 2007 and went up even more sharply during the current year, especially from September on. One of the factors behind this was the increasing likelihood of defaults,

Table 2.1

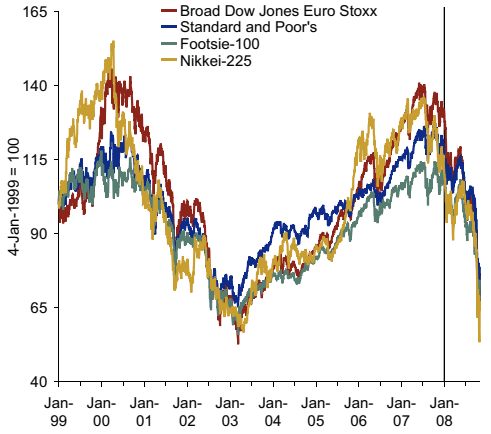
INTERNATIONAL FINANCIAL MARKETS
Daily data

	Averages			End-of-period			End-of-period *vis-à-vis* the period preceding the beginning of the financial crisis (percentage change or basis points) [b]	
	2006	2007	2008 [a]	2006	2007	2008 [a]	2007	2008 [a]
Stock price indices (percentage change)								
S&P 500	9	13	-13	13	4	-34	-5	-37
Banks	7	-3	-42	12	-33	-39	-27	-55
Dow Jones Euro Stoxx	22	17	-20	20	5	-43	-5	-45
Banks	28	10	-31	22	-9	-55	-12	-60
Nikkei 225	30	5	-24	6	-11	-44	-15	-52
FTSE 100	15	8	-13	11	4	-32	-3	-34
MSCI - emerging market economies [c]	30	31	-4	26	30	-47	6	-44
10-year interest rates - government debt (per cent)								
United States	4.8	4.6	3.8	4.7	4.0	4.0	-92	-100
Japan	1.7	1.7	1.5	1.7	1.5	1.5	-35	-38
United Kingdom	4.5	5.0	4.6	4.7	4.5	4.5	-81	-79
Euro area	3.9	4.3	4.4	4.1	4.4	4.6	-12	6
Spreads between private and government bond yields (basis points)								
United States								
AA	55	89	267	51	171	486	95	411
Non-financial corporations	51	83	192	54	139	332	70	263
Financial corporations	56	90	281	51	176	517	99	440
BBB	114	152	376	113	262	732	129	599
Non-financial corporations	114	144	352	113	238	673	108	543
Financial corporations	139	220	611	130	458	1352	281	1175
Banks	76	121	388	75	250	682	156	588
Euro area								
AA	23	46	132	26	88	222	49	182
Non-financial corporations	22	29	62	22	53	114	28	89
Financial corporations	23	50	144	27	96	241	54	199
BBB	74	85	228	73	145	487	73	415
Non-financial corporations	70	78	200	70	134	419	66	351
Financial corporations	100	138	501	98	240	1057	129	946
Banks	33	56	180	35	105	348	60	303
Emerging market debt spreads								
EMBI+	200	190	323	169	239	629	57	447
Nominal effective exchange rates (percentage change)								
US dollar	-2.0	-4.7	-5.2	-4.3	-7.5	9.9	-3.3	6.2
Japanese yen	-7.2	-5.5	7.8	-6.1	0.8	22.7	5.7	29.7
Pound sterling	0.5	2.1	-10.5	6.0	-6.0	-10.7	-6.9	-16.8
Euro	0.3	3.9	5.2	4.5	6.3	-6.5	4.0	-2.7
Memo:								
EUR/USD exchange rate [d]	0.9	9.1	9.6	11.6	11.8	-13.3	6.5	-7.7

Sources: Bank of International Settlements, Bloomberg, ECB, Federal Reserve Board and JPMorgan.
Notes: (a) Data until 31 October. (b) Changes *vis-à-vis* 23 July 2007. (c) Morgan Stanley Capital International index for emerging market economies: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan and Peru. (d) A positive change corresponds to an appreciation of the euro.

Chart 2.2

STOCK MARKETS

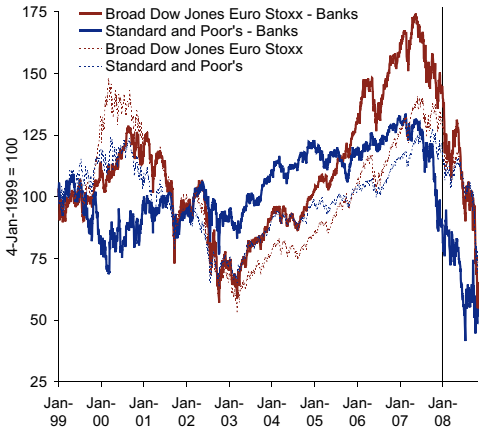


Source: Bloomberg.

Chart 2.3

STOCK MARKETS IN THE UNITED STATES AND THE EURO AREA

Banking sector indices



Sources: Bloomberg and Thomson Reuters.

visible in the increase of credit default swap spreads (Chart 2.4). The increase in private debt spreads continued to be considerably higher for the financial sector and in the United States more than in the euro area. In any case, at the end of October, corporate bond spreads were above the maximums seen in 2002, when the dotcom bubble burst and accounting scandals engulfed a number of North American corporations. (Chart 2.5). With yields on public debt close to the end of 2007 levels, the increase in risk *premia* in the private debt markets led to a more significant rise in yields on corporate bonds than in the second half of 2007. In the euro area, the interest rates on corporate debt reached levels a good deal higher than anything seen since the introduction of the single currency. At the end of October, these rates were around 240 b.p. higher than at the end of 2007 in the financial sector and

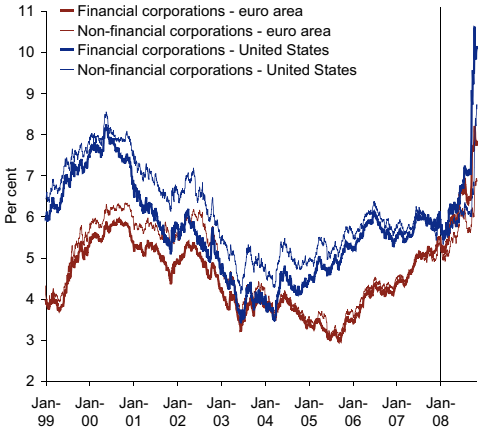
Chart 2.4

CREDIT DEFAULT SWAP SPREADS

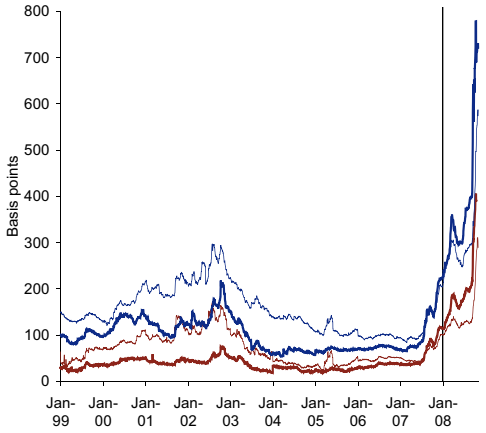
Source: Thomson Reuters.

Chart 2.5

CORPORATE BOND YIELDS



SPREADS BETWEEN CORPORATE AND GOVERNMENT BOND YIELDS



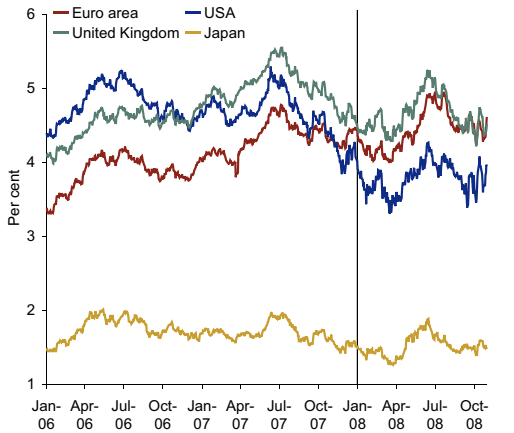
Sources: Thomson Reuters and Banco de Portugal.

around 150 b.p. higher in the non-financial sector (when seen against the levels for the period preceding the turmoil, the first is around 280 b.p. higher and the second around 180 b.p. higher).

With the flight to less risky and more liquid assets and the worsening prospects for economic growth, the yields on long-term public debt declined in the main advanced economies during the period from the start of the financial turbulence to mid-March 2008. The trend did not, however, continue during the whole of the year (Chart 2.6). This situation seems to have been associated during the spring with a higher risk tolerance and an increase in the concerns with inflationary pressures; and from September onwards with deterioration in the prospects for public finances following the support provided for financial systems and bearing in mind the fact that there were different levels of vulnerability. Indeed, from September, various indicators were pointing to a substantial rise in sovereign risk *premia* for certain

Chart 2.6

10-YEAR BOND YIELDS

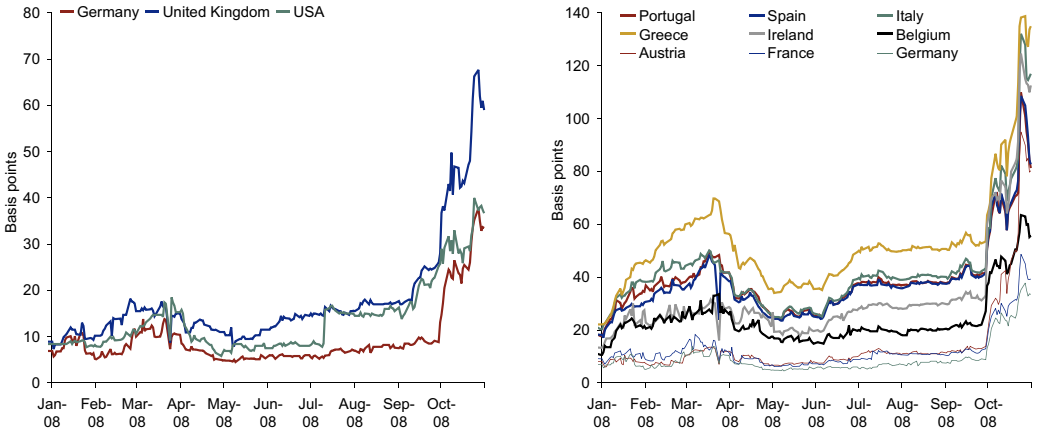


Sources: Bloomberg and ECB.

advanced economies. This impacted on different economies in diverse ways but it also affected those with higher ratings (Chart 2.7). In the euro area economies, this rise in risk *premia* seems to have led to an increase in the spreads of the sovereign yields between German and the other economies (Chart 2.8). From the start of the present year, but more markedly since the summer, greater risk aversion and the search for more liquid assets have led to greater public debt differentials between some countries than at any time since the single currency was introduced. At the end of October, the interest rates on 10-year public debt were higher than recorded at the end of 2007, up 84 b.p. for Greece, 56 b.p. for Italy, 38 b.p. for Ireland, 24 b.p. for Portugal and 20 b.p. for Spain, while rates for Germany declined by 40 b.p. (Chart 2.9).

Chart 2.7

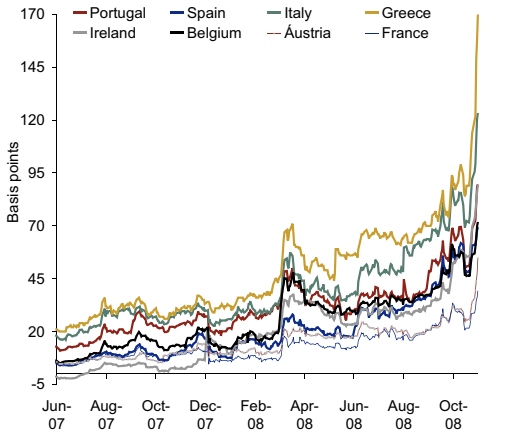
CREDIT DEFAULT SWAP SPREADS



Source: Thomson Reuters.

Chart 2.8

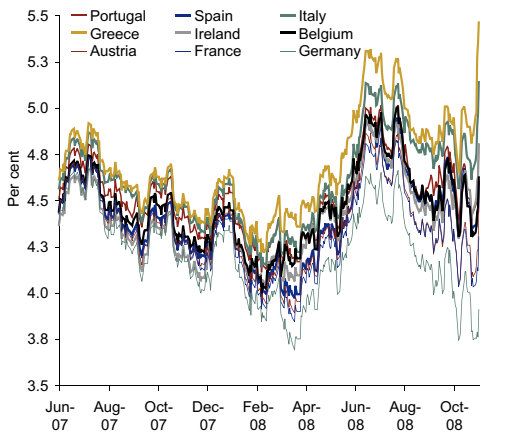
SPREADS *VIS-À-VIS* GERMANY OF 10-YEAR GOVERNMENT BOND YIELDS IN EURO AREA COUNTRIES



Sources: Bloomberg, Thomson Reuters and Banco de Portugal.

Chart 2.9

10-YEAR GOVERNMENT BOND YIELDS IN EURO AREA COUNTRIES



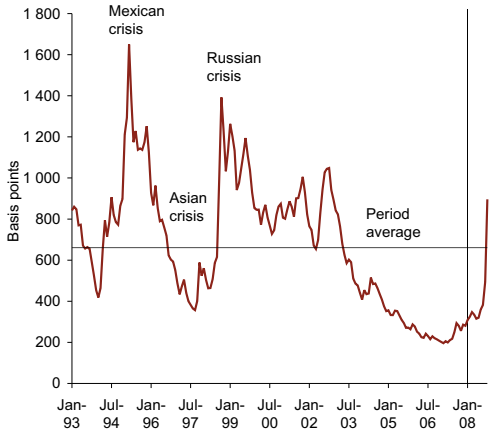
Sources: Bloomberg and Thomson Reuters.

The capital markets of emerging economies were relatively unscathed until the early part of the current year but from May, and especially in September/October, they witnessed significant falls. This was probably connected to a pessimistic view of their growth prospects as activity weakened in the advanced economies and, above all from September, to growing concerns about the direct impact of the financial crisis. More recently there have been fears about the capacity of some of these economies to finance their external debt or support their financial systems. Major capital outflows have occurred, knocking on in some cases to considerable currency depreciation. In these circumstances, various economies with high current account deficits had to ask the IMF for financial assistance in October. Among these were Hungary and a number of countries from the Commonwealth of Independent States. The stock markets in the emerging economies had seen slight rises at the end of 2007, but by the end of October of this year they had seen declines on a par with the advanced economies. In addition, government bond spreads *vis-à-vis* US Treasury bonds spreads were higher than at any point since 2002, though less than in previous crises (Chart 2.10).

The currencies of the main advanced economies were also affected by the financial crisis and by the general perception of its impact on economic activity. Until mid-April of this year, the nominal effective exchange rate of the euro continued to appreciate, following the trend of recent years. However, the euro depreciated afterwards, and markedly so from mid-July (Chart 2.11). This was mainly the result of behaviour of the US dollar, which fell against other major currencies until mid-July, and then reversed in the following months. What seems to have contributed to this trend reversal was the general feeling that growth in the other advanced countries besides the United States was going to be very badly affected. Most recently, another factor could have also contributed to the depreciation of the euro against the US dollar: the fact that the euro area is more exposed to emerging markets, either through international trade or through banking system exposure. Towards the end of October, compared with the levels at the end of 2007, the effective exchange rate of the euro had depreciated by 6.1 per cent while that of the US dollar had depreciated by 9.9. Year on year, however, from the January-October 2008 period, the euro was up 5.2 per cent and the US dollar down 5.2 per cent. During the same period, the pound sterling depreciated around 10 per cent in effective terms, with growth prospects worsening considerably over the year. The nominal effective exchange rate of the yen appreciated around 8 per cent, reflecting the paring down of carry trades as risk aversion took hold.

Chart 2.10

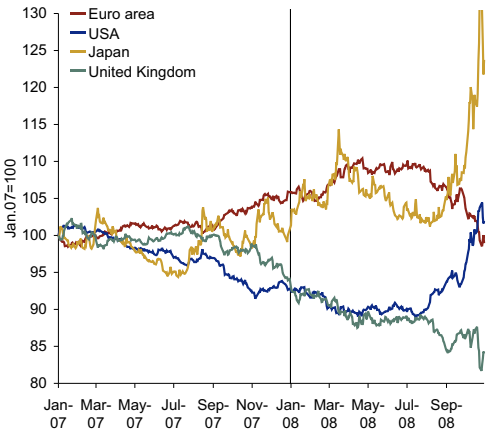
EMERGING MARKET DEBT SPREADS [a]



Source: JP Morgan.
Note: Monthly averages. (a) Yield spread between emerging market sovereign issuers (EMBI/EMBI+) and US Treasury Securities.

Chart 2.11

NOMINAL EFFECTIVE EXCHANGE RATES



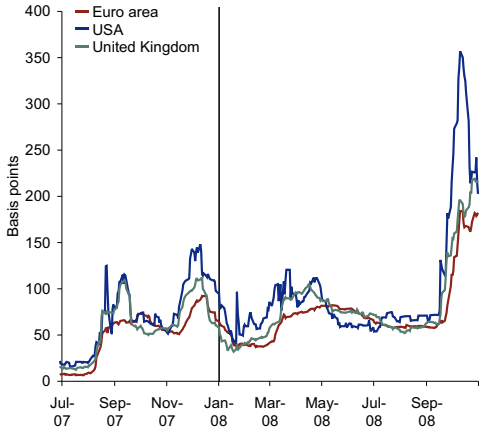
Sources: Bank of International Settlements, ECB and Federal Reserve Board.

One of the most pronounced features of the current financial crisis has been the seizing up of the interbank money market. With growing counterparty risk, the banks have been facing tighter liquidity conditions since the start of the turmoil. One aspect of this situation in the money markets of advanced economies was the fact that interest rates on uncollateralised operations came to include substantial counterparty credit risk and liquidity risk *premia*. This led to these rates being considerably higher than those for collateralised operations (Chart 2.12). This situation persisted through the year, in spite of the countless central bank measures designed to facilitate liquidity provision (see "Box 2 *Authorities responses in the context of the financial crisis: liquidity management measures and intervention in financial systems*"). Pressures increased in these markets, especially between mid-September and October, though there was some easing from the third week of October, when the European authorities announced a concerted package to bring confidence back into the banking system. Conditions in the interbank money market remain, however, rather taut, and market expectations are that the downward notching of risk *premia* is likely to be gradual and modest in the next few months. In the euro area at the end of October, the spread between interest rates on uncollateralised operations in euros and overnight interest rate swaps (OIS) stood at around 180 b.p., for three months maturity. This spread, which is an indicator of the credit and liquidity premia implicit in the Euribor rates, attained a previous maximum of around 90 b.p. at the end of December 2007 and stayed at around 5 b.p. before the onset of financial market turmoil (Chart 2.13). Euribor rates for three, six and twelve months stood at around 4.8 per cent at the end of October. This represents rises of around 50, 40 and 30 b.p. respectively when compared with the period before the turmoil at that time when the official interest rate in the euro area was 25 b.p. higher.

Financing conditions for the non-financial sector have been hit on three fronts - the turbulence in the stock and private debt markets, the tighter financing conditions faced by the banking sector and the prospects for more sluggish economic activity. For non-financial corporations, there was a considerable rise in bond yields, in tandem with the rise in risk *premia* in the stock markets.[2] In terms of loans, survey data revealed banks have been significantly tightening the credit standards applied to the ap-

Chart 2.12

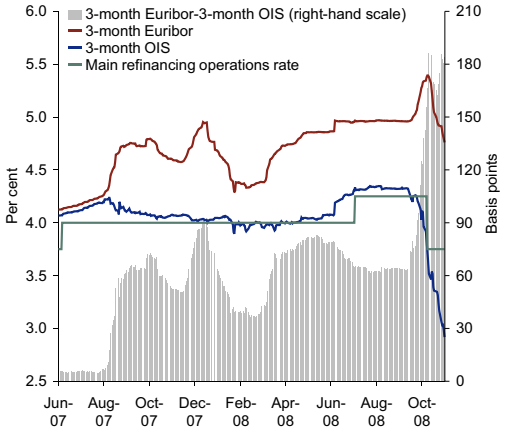
SPREAD BETWEEN UNCOLLATERALISED AND COLLATERALISED 3-MONTH INTEREST RATES IN THE MAIN MONEY MARKETS



Source: Thomson Reuters.

Chart 2.13

SPREAD BETWEEN THE 3-MONTH EURIBOR AND THE 3-MONTH OIS



Sources: ECB and Thomson Reuters.

(2) See Gameiro, I. (2008), "*Equity Risk Premia Across Major International Markets*", Banco de Portugal, *Economic Bulletin*-Autumn.

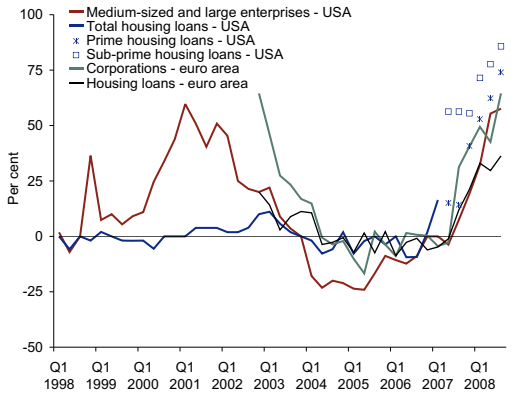
proval of loans since mid-2007 (Chart 2.14). In the euro area, interest rates on loans have been rising since the end of 2005, when the ECB initiated a tightening cycle. The differential between these rates and the market interest rates rose up to August for longer maturities but not for shorter maturities. As the unmitigating deterioration in financing costs for banks persists, along with pressures on them to adjust their balance sheets, it is possible that they will transfer more completely the rise in their financing costs to the non-financial private sector.

Demand for credit in the non-financial sector has weakened with tighter financing conditions, the prospects for slowdown in economic activity and, in some countries, the downwards correction in the housing market. Mortgage credit has been slowing in the main advanced economies over recent years (Chart 2.15). In the euro area, the year-on-year growth for loans to households has been slipping since the second half of 2006, reaching in September 2008 4.0 per cent for lending for house purchase[3] and 4.3 per cent for consumer credit (compared with the 12.1 and 8.7 per cent maximums seen in 2006). Loans to non-financial corporations in the main economies have continued to grow strongly, though there are now signs of a slowdown (Chart 2.16). In the euro area, the year-on-year rate of growth for loans to non-financial corporations reached a high of 15.0 per cent in March of this year, retracting to 12.1 per cent in September. There are also signs of a slowdown in the issue of shares and debt securities by non-financial corporations in the euro area (Chart 2.17). According to the results of the euro area bank lending survey, the difficulties in the issuance of debt securities has led to increasing demand for loans from non-financial corporations since the second half of 2007.

Against this background the global economy, which saw strong growth between 2004 and 2007, is now in a process of a marked slowdown as the various economic and financial shocks are propagated geographically and sectorially. Estimates for 2009 GDP growth have been revised substantially downwards. There is still a high level of uncertainty as to the extent of the on-going slowdown.

Chart 2.14

NET PERCENTAGE OF BANKS REPORTING TIGHTENING STANDARDS IN LOANS FOR HOUSE PURCHASE AND LOANS TO ENTERPRISES

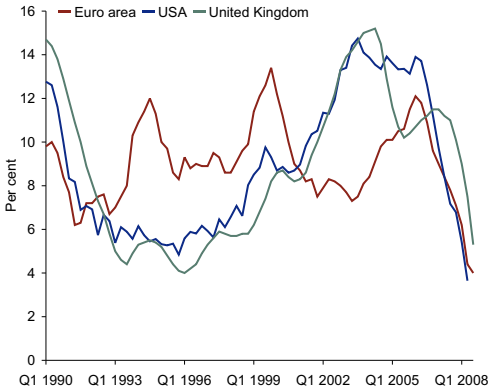


Sources: ECB and Federal Reserve Board.

(3) The growth rates for loans in the euro area are undervalued due to the effect of securitisation. This effect is likely to be greater where housing is concerned. According to ECB estimates, the distortion increased in the second quarter of 2008 and this implies that there is a very much less pronounced slowdown in loans than the figure obtained by using series that are not corrected for this effect. The ECB estimates that in mid-2008 the impact of this correction on annualised quarterly growth rates would be 2 p.p. for loans to the private sector and 6 p.p. in the specific case of loans for house purchase. This implies growth rates of around 7 per cent and 0 per cent respectively. See "Box *The impact of traditional true-sale securitisation on recent IMF loan developments*", ECB *Monthly Bulletin*, September 2008.

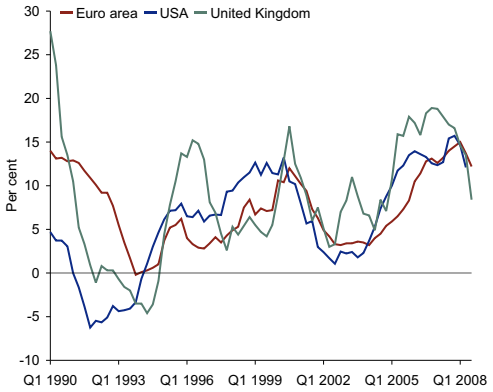
Chart 2.15

CREDIT TO HOUSEHOLDS FOR HOUSE PURCHASE [(a)]



Sources: Bank of England, ECB and Thomson Reuters.
Note: (a) Including loans granted by other institutions than MFIs in the case of the United Kingdom and the United States.

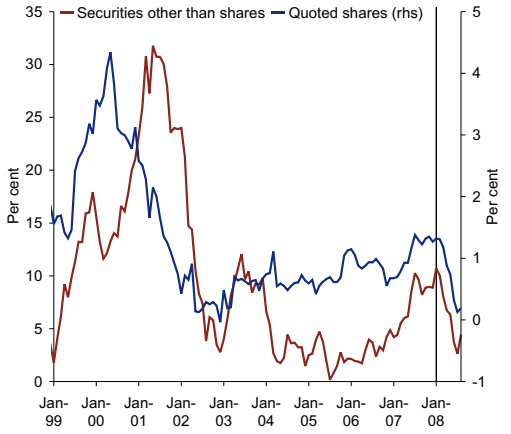
Chart 2.16



Sources: Bank of England, ECB and Thomson Reuters.
Note: (a) Including loans granted by institutions other than MFIs in the case of the United States.

Chart 2.17

ANNUAL GROWTH RATES OF OUTSTANDING AMOUNTS OF DEBT SECURITIES [(a)] AND QUOTED SHARES ISSUED BY EURO AREA NON-FINANCIAL CORPORATIONS



Source: ECB.
Note: (a) Including issues of securities other than shares excluding financial derivatives, in all currencies.

This slowdown in global economic activity started in the fourth quarter of 2007 and has showed no signs of abating in the first half of this year. Slowing GDP growth was particularly marked in the second quarter, when the year-on-year rate of change stood at 3.9 per cent (0.7 p.p. down on the fourth quarter of 2007). One of the factors underlying this move would seem to have been the negative effect on disposable income stemming from the significant increase in the price of commodities. In addition, demand must have been affected by the increase in uncertainty and the worsening prospects for growth associated *inter-alia* with the relentless turmoil in the financial markets. All these things together under-

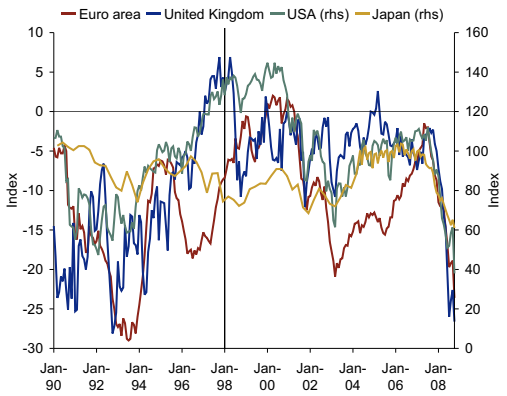
mined confidence and seem to have led to investment decisions by economic agents being put off. According to the IMF, the second half of 2008 and the first half of 2009 are likely to see advanced economies close to or moving into recession. Emerging markets, meanwhile, are likely to see a slowdown to below their trend growth. The indicators available for the second half of 2008 do indeed suggest that the pace of activity is slackening even more. In particular, household and business confidence levels in the main advanced economies are close to the minimums last seen in 2001-02. In some cases they are even lower (Chart 2.18). Access to credit is likely to be curtailed and financing for the private sector hampered as upside risk continues to be reassessed and the deleveraging process in financial institutions continues.

The IMF forecasts for the whole of 2008 are based on information available up to the start of October. These point to a slowdown in global GDP from 5.0 per cent in 2007 to 3.9 per cent in 2008 and 3.0 per cent in 2009 (in terms of year-on-year change for the fourth quarter, this comes in at 4.8, 2.8 and 3.2 for the three years in question.) (Table 2.2).[4] GDP growth in advanced economies is likely to fall from 2.6 per cent to 1.5 per cent in 2008 (and to 0.5 per cent in 2009) as momentum slackens in many countries. The IMF sees emerging and developing countries with rates of GDP growth down from 8.0 to 6.9 per cent in 2008 (and then 6.1 per cent in 2009). This slowdown is likely to be across the board, with the exception of the Middle East, where growth will probably be spurred by domestic demand. The lowest growth rates are likely to be seen in Latin America and Central and Eastern Europe. In these regions, the commercial ties with the United States and the European Union are stronger than in other emerging and developing regions and there are some countries with big current account deficits financed by capital inflows from banks or by portfolio investment. The pace of growth continues to be greatest in developing Asian countries, and, to a lesser extent, in the Commonwealth of Independent States.

In the United States, year-on-year GDP growth for the first three quarters of this year stood at 1.8 per cent, compared with 2.0 per cent in 2007. Underlying this growth was a spurt in the second quarter,

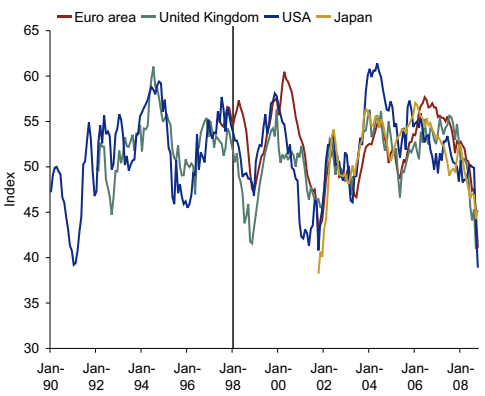
Chart 2.18

CONSUMER CONFIDENCE INDICATORS



Sources: European Commission and Thomson Reuters.

PMI FOR THE MANUFACTURING SECTOR



Source: Thomson Reuters.

(4) In early November, the IMF published an update of these forecasts, revising down the figures for growth in the main economies, particularly significant in 2009. In light of this update, world GDP is likely to grow by 3.7 per cent in 2008 and 2.2 per cent in 2009. For advanced economies, the IMF forecast is for GDP to grow by 1.4 per cent in 2008 and to decline 0.3 per cent in 2009. In the emerging and developing economies, the forecasts are for growth rates of 6.6 per cent and 5.1 per cent in 2008 and 2009 respectively.

Table 2.2

DEVELOPMENTS IN WORLD ECONOMY
Rates of change, per cent

	2006	2007	2008
GDP			
World economy	5.1	5.0	3.9
Advanced economies	3.0	2.6	1.5
US	2.8	2.0	1.6
Japan	2.4	2.1	0.7
Euro area	2.8	2.6	1.3
Germany	3.0	2.5	1.8
France	2.2	2.2	0.8
Italy	1.8	1.5	-0.1
Spain	3.9	3.7	1.4
Portugal	1.4	1.9	0.6
United Kingdom	2.8	3.0	1.0
Newly industrialised Asian economies [(a)]	5.6	5.6	4.0
Emerging market and developing economies	7.9	8.0	6.9
Central and Eastern Europe	6.7	5.7	4.5
Commonwealth of Independent States	8.2	8.6	7.2
Russia	7.4	8.1	7.0
Developing Asian countries	9.9	10.0	8.4
China	11.6	11.9	9.7
India	9.8	9.3	7.9
Middle East	5.7	5.9	6.4
Latin America	5.5	5.6	4.6
Africa	6.1	6.3	5.9
Angola	18.6	21.1	16.0
World trade volume of goods and services	9.3	7.2	4.9
International commodity prices			
Oil (brent) [(b)]			
USD	20.1	9.5	57.5
EUR	19.0	0.4	41.6
Non-energy commodities [(c)]			
USD	26.3	19.1	19.8
EUR	24.8	9.2	7.6
Consumer prices			
Advanced economies	2.4	2.2	3.6
Emerging market and developing economies	5.4	6.4	9.4

Sources: HWWI-Hamburg Institute of International Economics, IMF, Thomson Reuters and Banco de Portugal.
Notes: (a) Hong-Kong, Korea, Singapore and Taiwan. (b) Year-on-year rate of change, figures until 31 October 2008. (c) Year-on-year rate of change, figures until October 2008.

coming in the wake of a stimulus package approved in February.[5] With this exception, economic activity in the United Sates has been weakening significantly since the end of 2007, with the third quarter of 2008 coming in 0.1 per cent down on the previous three-month period. GDP growth from the start of the year has been on the back of increased net exports, with exports remaining strong and imports weakening against a backdrop of effective depreciation of the US dollar until the start of summer. The contribution of domestic demand to quarter-on-quarter GDP growth was null during the first two quarters and was down to -0.4 p.p. in the third quarter. In this quarter, private consumption contracted for the first time since the start of the 90s and GFCF observed another fall, fundamentally as the result of residential investment. Economic activity in the coming quarters is likely to feel the negative effects of the correction in the housing market, a weaker labour market and tighter financing conditions for the

(5) This package had a temporary nature, and consisted mainly of tax cuts for families and enterprises in an amount of approximately 1 per cent of GDP.

private sector.[6] The IMF is predicting a drop in GDP growth from 2.0 per cent in 2007 to 1.6 per cent in 2008 (and then 0.1 per cent in 2009). This comes on the back of weaker domestic demand, partially offset by an acceleration in net exports.

In the first half of this year, GDP in the euro area continued to slow down. The trend had set in during 2007 and reflected weaker domestic demand, above all in private consumption and GFCF. The contribution of net external demand to GDP growth in the first half of this year was null, since the deceleration in imports went hand in hand with a slowdown in exports. The pattern of GDP was very different in the first two quarters. Economic activity was spurred in the first quarter by unexpectedly favourable weather conditions in Germany, giving a boost to investment in building. By contrast, GDP in the second quarter fell quarter-on-quarter on the back of a considerable weakening of domestic demand. This seems to have been in part a correction from the growth in the previous quarter but it was mainly a result of the effect on disposable income of the rise in prices for energy and food goods, in tandem with the decrease in households' confidence coming with the unremitting turmoil in the financial markets and in some countries, the cooling off of the housing market. Prospects for the second half of the year are for continuing deterioration. In particular, the negative impact on domestic demand from the tightening of private sector financial conditions is likely to become more important. Exports are also likely to be negatively affected by the slowdown in the world economy. The IMF sees GDP in the euro area slowing from 2.6 to 1.3 per cent in 2008 (and then 0.2 per cent in 2009).

In addition, the IMF expects an economic slowdown throughout the economies in the euro area, with the landing particularly hard in Ireland and in Spain (though here to a lesser degree) (Chart 2.19). The non-euro area EU countries are also likely to see a slowdown in 2008 as a whole, with the exception of Romania, Hungary and Bulgaria. Most of the new member states are likely to see growth rates coming in considerably higher than the EU average. In the Baltic States, by contrast, there will probably be a marked slowdown, with GDP declining in Latvia and Estonia. In these countries there has been a big increase in indebtedness, current account deficits are high and financial institutions are very dependent on capital inflows from abroad. Among the other countries in the EU, one of the salient features is the forecast for GDP slowdown in the United Kingdom, from 3.0 to 1.0 per cent over the current year (and then -0.1 per cent in 2009). The United Kingdom economy has in fact been stuttering since the last quarter of 2007 (the quarter-on-quarter growth of GDP moved from 0.8 per cent in the three first quarters of 2007 to -0.5 per cent in the third quarter of this year). Underlying this is the behaviour of private consumption and GFCF.

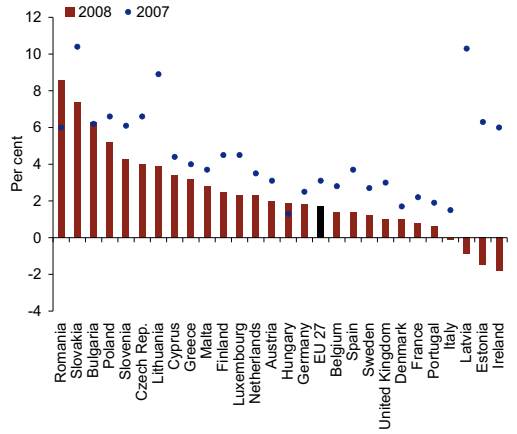
During the present year, therefore, Portugal's main trading partners are likely to see a marked slowdown. The contribution of domestic demand to GDP is likely to be less than 1 p.p. in the four biggest economies in the euro area, the United States and the United Kingdom, with Spain, the United Kingdom and France feeling the more pronounced deceleration (Chart 2.20). In all these economies private consumption is likely to weaken, and according to the IMF is expected to decrease from the previous year in Germany and to a lesser extent in Italy. There will probably also be a deceleration in GFCF across the board with the IMF forecasting for 2008 a fall in this component in the United States, the United Kingdom and in Spain, which probably reflects the negative evolution of investment in housing. The contribution of net external demand to growth is likely to increase in the United States and the United Kingdom, Spain and France while marking time in Germany and Italy (Chart 2.21). Imports of goods and services are likely to bring the year in with very weak figures, in line with developments in global demand.

(6) The impact of the considerable increase in interest rates by the Federal Reserve since September 2007 on the financing costs of the private sector was mitigated by the increase in risk *premia* incorporated in bank interest charges.

Chart 2.19

GROSS DOMESTIC PRODUCT IN EUROPEAN UNION COUNTRIES IN 2008

Real rate of change

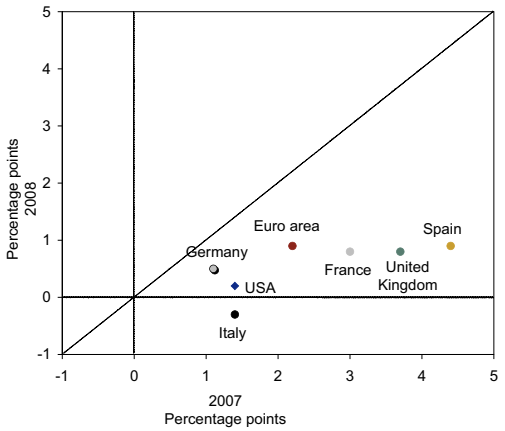


Source: IMF.

Chart 2.20

DOMESTIC DEMAND

Contribution to GDP growth



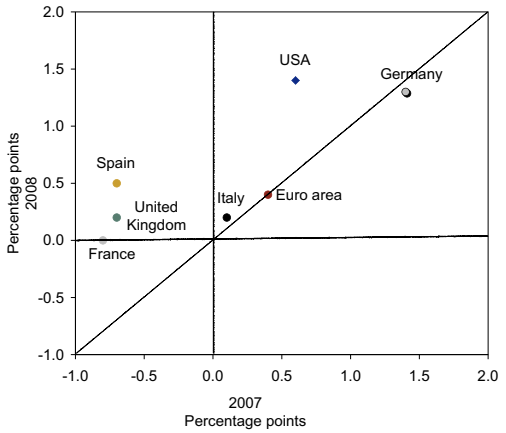
Source: IMF.

As imports in Portugal's main trading partners slide, there is likely to be a slowdown in external demand for Portuguese goods and services, with the 2007 growth of 5.9 per cent coming down to 2.6 per cent in 2008.[7] Exports of goods and services in the Portuguese economy will probably decelerate considerably over the year, ceasing to grow, as they had in the two previous years, at a faster pace than euro area exports. In this situation the negative growth differential between Portuguese exports and exports from Central and Eastern Europe and Developing Asia is likely to increase (Chart 2.22).

Chart 2.21

NET EXPORTS

Contribution to GDP growth

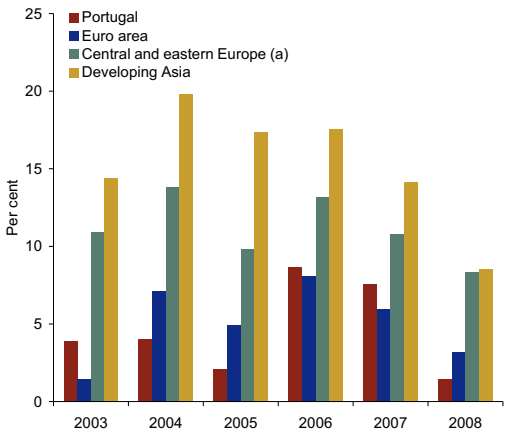


Source: IMF.

Chart 2.22

EXPORTS OF GOODS AND SERVICES

Real rate of change



Sources: IMF, *INE* and Banco de Portugal.
Note: (a) Including Albania, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Slovak Republic and Turkey.

(7) These figures, however, do not explicitly include Angolan exports, due to a lack of statistical information. According to the IMF, Angola's GDP is likely to slow in 2008, though it will likely still observe a high growth rate (16.0 per cent in 2008 as against 21.1 per cent in 2007).

According to the IMF, world global trade volume of goods and services will probably decelerate from 7.2 per cent to 4.9 per cent in 2008 (and then to 4.1 per cent in 2009). This will continue the downward trend that has set in since the end of 2006.[8] The deceleration in world trade in goods initially reflected the slowing of imports in advanced economies but since the end of 2007 there has been a widespread move in the same direction in a number of other regions. Imports from developing countries were still dynamic until August of this year, in contrast to imports from advanced economies. There is likely now, however, to be a negative impact on domestic demand in the emerging and developing economies, with lower growth in imports, as the financial situation has taken another turn for the worse.

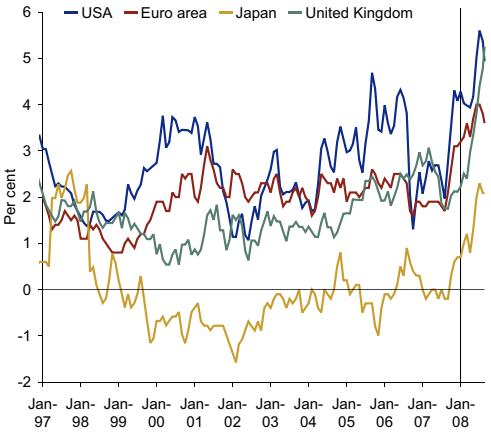
The rise in commodity prices this year has contributed to the upside pressure on inflation across the globe. According to the IMF, the inflation rate looks set to rise by 1.4 p.p. to 3.6 per cent in the advanced economies and by 3.0 p.p. to 9.4 per cent in the emerging and developing economies (Table 2.2). In the main advanced economies, inflation reached the highest levels since the early 1990s (Chart 2.23). If the price of energy and food is excluded, the rise in consumer prices has remained muted, although some increase has been felt since the spring. In the euro area, inflation rose from 1.7 per cent in August 2007 to 4.0 per cent in June 2008, reflecting increases in the contributions of energy-related goods and food in the order of 1.8 p.p. and 0.6 p.p. respectively The euro area inflation rate fell to 3.6 per cent in September of this year, mainly as a result of the move in energy prices. Therefore, excluding energy and food, the inflation rate in the euro area has remained relatively stable, tracking between 1.7 and 2.0 per cent over the year. In Portugal, the inflation rate has moved parallel to the euro area, though the increase has been more moderate (see Section 6 *Prices*).

From mid-July, commodity prices began to retrench steeply. In October, the average price of Brent was 17.3 per cent below the December 2007 price, and food commodity prices were down 11.8 per cent for the same period.[9] This evolution can probably be explained by the combination of less momentum in economic activity globally and the prospect of worse to come, engendered by the worsening situation

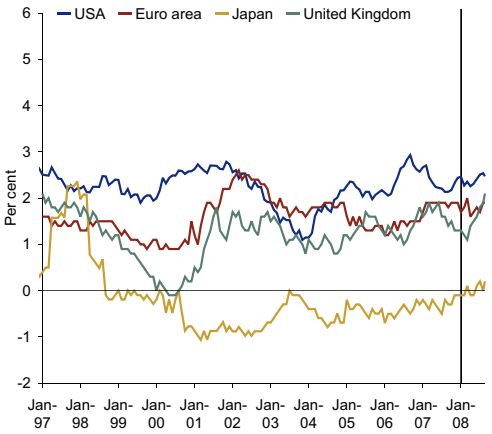
Chart 2.23

CONSUMER PRICES

Year-on-year rate of change



Year-on-year rate of change



(8) According to the updated forecasts published by the IMF in early November, the volume of world trade in goods and services will increase by 4.6 per cent in 2008 and 2.1 per cent in 2009.

(9) At the end of October, the price per barrel for Brent was around 64 dollars, compared with a maximum of 146 dollars in July of this year.

in the financial system. As a last point, the move in commodity prices, especially oil, could also have been influenced by the behaviour of the US dollar, which depreciated in effective terms until mid-July and appreciated thereafter.[10]

The rise in consumer prices will, hopefully, continue on a moderate path in the advanced economies, bearing in mind the fall in commodity prices and the slowdown in economic activity. Inflation is likely, however, to stay temporarily above levels compatible with price stability. In addition, the growth rate of the unit cost of labour increased in the euro area, unlike the United States and the United Kingdom, as wages have accelerated considerably since the fourth quarter of 2007 and labour productivity has moderated. In general terms, the risk of second order effects on prices arising in the main advanced economies is likely to be held in check by the negative impact on economic activity and employment stemming from the recent deepening of the crisis in the financial system and against a backdrop where long-term inflationary expectations are relatively well anchored at levels compatible with price stability (Chart 2.24). The sharper rise in inflation in emerging and developing economies seems to have been caused by a combination of three factors: the higher proportion of food in total consumption (according to the IMF, around 30-45 per cent, as against 10-15 per cent in the advanced economies); continuing robust activity growth; and the existence of less well anchored inflation expectations. In these economies, there would seem to be greater second order risks than in advanced economies, although these have fallen back recently with less favourable prospects for economic activity and the fall in commodity prices. The IMF is predicting for both groups a fall in the inflation rate in 2009 (to 2.0 per cent in advanced economies and to 7.8 per cent in emerging and developing economies).[11]

Since the outbreak of the financial market woes to the start of this past summer, monetary policy has been very conditioned by the perceived upside risks for price stability and at the same time the downsize risks on economic growth. Central banks came up with different responses, in large part as a result of the different ways that economic activity was moving in late 2007 and early 2008, though this picture also reflected the different mandates of the central banks involved.

Between January and April, the United States Federal Reserve continued with its cycle of aggressive interest rate cuts that had started in September 2007. During this period, the target for the federal funds rate was cut by 2.25 p.p. to stand at 2.0 per cent (Chart 2.25). These decisions were justified by reference to the weakening economic outlook against a backdrop of considerable stress in the financial markets, the tightening of credit conditions for the private sector, the deepening of the housing market contraction and the softening of labour markets. The Bank of England cut the official interest rate by 25 b.p. in February and again in April, bringing it to 5.0 per cent (a cut of 75 b.p. from December 2007). The Monetary Policy Committee considered that given the moderation in growth and the prospects of its further slowing, there predominated a risk that the inflation rate would be in the medium-term below its target level. The ECB, which had been racking up the interest rate since December 2005, kept the rates on hold until July 2008, when it increased the key interest rates by 25 b.p. to 4.25 per cent. This decision was taken to prevent broadly based second-round effects and to counteract the increasing upside risks to price stability over the medium term.

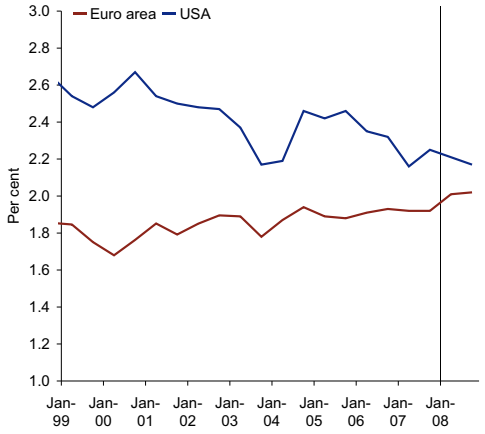
Then, in September, the intensification of the financial market turmoil led to downward revision on the prospects for global economy activity, at the same time that inflationary pressures eased as commodity prices softened. In these circumstances, and given the interdependence of economies and financial systems, on 8 October, in a concerted action the ECB, the Federal Reserve, the Bank of England and the central Bank of Canada, the Swiss National Bank and the Sveriges Riskbank announced a 50 p.b.

(10) For an explanation of the ways in which moves in the US dollar can affect the international prices of commodities, see "Box 1.4 *Dollar Depreciation and Commodity Prices*" in the for April 2008 *World Economic Outlook* of the IMF.

(11) The updated forecast published by the IMF in early November estimates that the inflation rate in advanced economies will drop from 3.6 per cent in 2008 to 1.4 per cent in 2009 and in the emerging and developing economies from 9.2 per cent to 7.1 per cent in the same period.

Chart 2.24

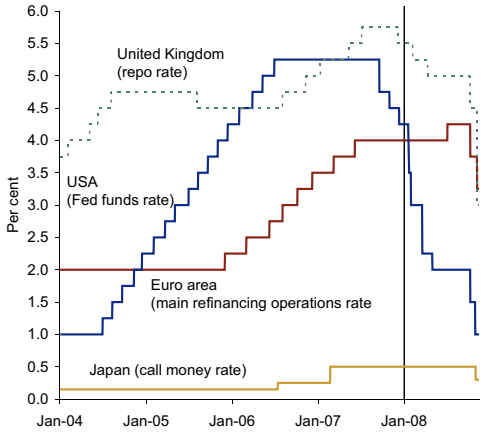
AVERAGE INFLATION EXPECTATIONS FOR A ONE-TO-TEN YEAR HORIZON IMPLIED IN SURVEYS



Source: Consensus Economics.

Chart 2.25

OFFICIAL INTEREST RATES



Sources: Bloomberg and Thomson Reuters.

reduction in policy interest rates. These measures were taken in a situation where inflationary pressures have started to moderate in a number of countries. This reflected a marked decline in energy and other commodity prices, reduction in inflation expectations and an increase in the downside risks to growth as a result of the intensification of the financial crisis. This in turn brought down the upside risks on price stability. On 29 October, the Federal Reserve cut the target for the federal funds rate again, by 50 b.p. to 1.0 per cent. On 6 November, the ECB Governing Council cut its key interest rate by 50 b.p. (down to 3.25 per cent) and on the same day, the Monetary Policy Committee of the Bank of England brought its rate down by 150 b.p. (to 3.0 per cent). On 31 October, the Bank of Japan cut its reference rate by 20 b.p. to 0.3 per cent, the first reduction in seven years.

For the world's economy, the medium term is shrouded in uncertainty. The doubts are greater than usual, given the combination of considerable real and financial shocks. Future developments on the financial front are unpredictable, and depend to a large extent on the size of the losses that have yet to be assumed by the financial system. The measures taken by the authorities seem to have averted the collapse of the North American and European financial system, but confidence in the capital markets has ebbed to a very low point and it could take some time before the *premia* attached to counterparty risk fall to any significant extent. In recent weeks there have been strong pressures in the markets of emerging economies and this could put in jeopardy a scenario where relatively strong growth is maintained in these economies. This could lead an even steeper fall in the growth prospects for the advanced economies. In addition, there is still great uncertainty as to how the measures taken by the authorities will impact on public finances.

Whatever happens, the real implications of this crisis will play a substantial part in the impact on economic growth. This will of necessity mean a long adjustment process. According to the analysis undertaken by the IMF, recessions which come in the wake of financial tension, and particularly those that originate in the banking sector, are typified by deep and long-lasting effects on economic activity.

3. MACROECONOMIC POLICIES

3.1. Monetary policy of the ECB and monetary and financial conditions of the Portuguese economy

Monetary policy of the ECB

Similarly to the second half of 2007, during the first half of 2008 the ECB kept the minimum bid rate on the main refinancing operations at 4.0 per cent (Table 3.1.1). In the first part of the year prospects remained as to the inflation rate standing significantly above 2.0 per cent in the subsequent months, only gradually moderating in the course of 2008. In this period the Governing Council maintained its assessment of upside risks to price stability over the medium term associated with possible broad-based second-round effects in wage and price-setting, against a background of capacity constraints and positive labour market developments. These risks were confirmed by continuing strong growth in money and credit aggregates. In parallel, the Governing Council kept its assessment of downside risks to activity growth being mostly determined by the possibility of a more negative than expected impact of financial market turmoil on activity.

In June the Governing Council considered that the upside risks to price stability over the medium term had increased. In fact, prospects pointed to the maintenance of the inflation rate at a high level over a more protracted period than previously anticipated, mostly due to the sharp rise in international energy and food prices, and given the absence of significant constraints on bank loan supply up to that moment. Under these circumstances, in July the ECB increased the key ECB interest rates by 25 b.p. The minimum bid rate on the main refinancing operations thus stood at 4.25 per cent, and interest rates ap-

Table 3.1.1

KEY ECB INTEREST RATES

Per cent

Date of the decision	Deposit facility	Main refinancing operations	Marginal lending facility
5 Oct. 2000	3.75	4.75	5.75
10 May 2001	3.50	4.50	5.50
30 Aug. 2001	3.25	4.25	5.25
17 Sep. 2001	2.75	3.75	4.75
8 Nov. 2001	2.25	3.25	4.25
5 Dec. 2002	1.75	2.75	3.75
6 Mar. 2003	1.50	2.50	3.50
5 Jun. 2003	1.00	2.00	3.00
1 Dec. 2005	1.25	2.25	3.25
2 Mar. 2006	1.50	2.50	3.50
8 Jun. 2006	1.75	2.75	3.75
3 Aug. 2006	2.00	3.00	4.00
5 Oct. 2006	2.25	3.25	4.25
7 Dec. 2006	2.50	3.50	4.50
8 Mar. 2007	2.75	3.75	4.75
6 Jun. 2007	3.00	4.00	5.00
3 Jul. 2008	3.25	4.25	5.25
8 Oct. 2008	3.25	3.75	4.25
6 Nov. 2008	2.75	3.25	3.75

Source: ECB.

plicable to the marginal lending facility and the deposit facility stood at 5.25 and 3.25 per cent respectively. This decision was accounted for by the need to prevent broadly based second-round effects and to counteract the increasing upside risks to price stability over the medium term. The Governing Council considered that following this decision the monetary policy stance would contribute to achieving the ECB's objective. This assessment was kept in the subsequent months, and hence interest rates remained unchanged until September. In this period, data released showed sharp rises in unit labour costs. In turn, the monetary aggregate M3 and credit showed some signs of moderation, although still growing at a high pace.

At its meeting on 2 October, amid intensified financial market turmoil, the Governing Council discussed this situation extensively and its possible impact on economic activity and inflation, recognising the extraordinary high level of uncertainty stemming from these developments. According to the ECB's Governing Council, the economic outlook was subject to increased downside risks, mainly stemming from a scenario of ongoing financial market tensions affecting the real economy more adversely than foreseen. It considered that, with the weakening of demand, upside risks to price stability had somewhat diminished, but did not disappear. Given the worsening of the financial crisis in the following days, on 8 October the ECB, in joint action with other central banks, reduced key interest rates by 50 b.p. (to 3.75 per cent in the case of the minimum bid rate on the main refinancing operations). On the same day the ECB announced a reduction in the standing facilities corridor from 200 b.p. to 100 b.p. around the interest rate on the main refinancing operations. The rates of the marginal lending facility and of the deposit facility stood therefore at 4.25 per cent and 3.25 per cent respectively. This measure will remain in place for as long as needed and at least until 20 January 2009. At its meeting on 6 November, the Governing Council decided to further reduce key ECB interest rates by 50 b.p., *i.e*. to 3.25 per cent the minimum bid rate on the main refinancing operations and to 3.75 and 2.75 per cent the interest rates on the marginal lending facility and the deposit facility respectively. This decision was accounted for by a further improvement in the outlook for price stability. The Governing Council considers that inflation rates are expected to continue to decline in the coming months, reaching a level in line with price stability during the course of 2009. The intensification and broadening of the financial market turmoil is likely to dampen global and euro area demand for a rather protracted period of time. In such an environment, taking into account the strong fall in commodity prices, cost and wage pressures in the euro area should also moderate. At the same time, the pace of monetary expansion has remained strong but has continued to show further signs of deceleration. All in all, the Governing Council's current analysis indicates a further alleviation of upside risks to price stability, even though they have not disappeared completely.

Monetary and financial conditions of the Portuguese economy

Following the situation observed since the summer of the previous year, 2008 continued to be marked by strong turmoil in international financial markets. Given the high level of economic and financial integration of the Portuguese economy, this translated into particularly adverse monetary and financial conditions. In fact, conditions in the interbank money market, in public and private debt markets and in stock markets have been undergoing significant and comprehensive changes. This development has conditioned the financing capacity of Portuguese banks in international wholesale markets, with a tendency to spill over to borrowing conditions for bank customers and to household and corporate spending decisions. Still, banks have been able to sustain high credit growth, partly by raising more funds with customers.

Amid high uncertainty in international financial markets, a broadly based drop in confidence and increased counterparty risk, banks have been restraining their supply of funds in the interbank money

market in order to avoid liquidity shortages. Hence, money market interest rates have stood at high levels in view of the developments observed and the outlook for developments in the ECB interest rates (Chart 3.1.1). In particular, as of the mid-2007 the spread between money market rates and official rates widened considerably. In this context, given that in Portugal short-term money market interest rates are predominant references for bank interest rates, these developments already have a certain noticeable impact on the more sensitive macroeconomic variables, although with a gradual pass-through, as usual. Likewise, the effective exchange rate index for the Portuguese economy has been following a slight appreciation trend, notwithstanding a certain degree of volatility. In the most recent months, this index declined, standing in September 2008 at a level similar to that of the end of the previous year (Table 3.1.2).

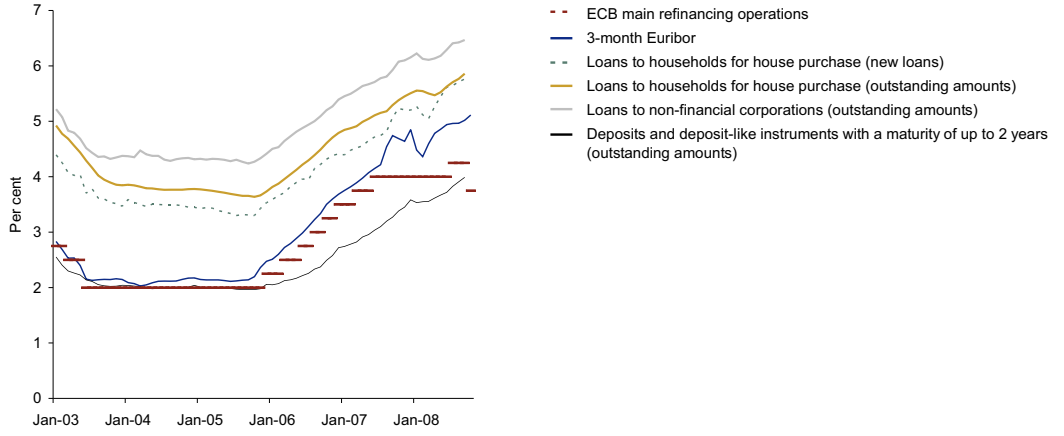
According to the monetary conditions index for the Portuguese economy, interest rate developments over the past few years seem to have had a restrictive impact on economic activity growth in 2007 and 2008, reflecting both the upward cycle of interest rates, which had started in late 2005 and the increase in risk *premia* in the more recent period.[12] Although to a lesser extent, the behaviour of the effective exchange rate index seems to have played a similar role. Also based on the monetary conditions index, interest rate developments and the appreciation of the effective exchange rate index seem to have contributed to a decline in inflation in the same period (Chart 3.1.2).

However, this indicator does not take into account a set of variables that are equally relevant to the assessment of the Portuguese economy's monetary and financial conditions, the analysis of which is deemed to be particularly important in view of the present instability in financial markets. Therefore, analysing developments in the banking system's financial position, stock markets, debt spreads and prices in the real estate market is of the essence.

The Portuguese banking system has been playing a key role in the financing of the Portuguese economy, namely through the intermediation of funds raised in international financial markets. This allowed for the maintenance of much higher credit growth than that of customer resources for a prolonged period.[13] However, more recently, against a background of turmoil in international financial markets, the

Chart 3.1.1

KEY ECB INTEREST RATES, MONEY MARKET INTEREST RATES AND BANK LENDING RATES



Sources: ECB and Banco de Portugal.
Note: Latest observation: September 2008 for rates on loans and deposits, October 2008 for other rates.

(12) For methodological information, see Esteves, Paulo Soares, "*Monetary conditions index for Portugal*", Banco de Portugal, *Economic Bulletin*-June 2003.
(13) For more details, see "*The Portuguese banking system in 2008*" in this issue of the Economic Bulletin.

Table 3.1.2 (to be continued)

MONETARY AND FINANCIAL CONDITIONS OF THE PORTUGUESE ECONOMY

	Annual developments			Quarterly developments							Monthly developments									
				2007				2008			2008									
	2005	2006	2007	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Nominal interest rates - period averages (per cent)																				
3-month Euribor	2.2	3.1	4.3	3.8	4.1	4.5	4.7	4.5	4.9	5.0	4.5	4.4	4.6	4.8	4.9	4.9	5.0	5.0	5.0	5.1
12-month Euribor	2.3	3.4	4.4	4.1	4.4	4.7	4.7	4.5	5.1	5.4	4.5	4.3	4.6	4.8	5.0	5.4	5.4	5.3	5.4	5.2
10-year fixed-rate Treasury bond yields	3.4	3.9	4.4	4.2	4.5	4.6	4.4	4.3	4.7	4.8	4.3	4.3	4.4	4.5	4.6	5.0	5.0	4.7	4.7	4.6
Bank interest rates																				
On outstanding amounts of loans																				
Non-financial corporations	4.3	4.9	5.8	5.5	5.7	5.8	6.1	6.2	6.2	6.4	6.2	6.1	6.1	6.1	6.2	6.3	6.4	6.4	6.5	
Households for house purchase	3.7	4.3	5.1	4.9	5.0	5.2	5.4	5.5	5.5	5.8	5.6	5.5	5.5	5.5	5.5	5.6	5.7	5.8	5.9	
Consumer credit and other lending	7.7	8.0	8.6	8.3	8.6	8.6	8.8	8.8	8.9	9.1	8.8	8.8	8.9	8.9	8.9	9.0	9.1	9.1	9.2	
On outstanding amounts of deposits with an agreed maturity																				
Non-financial private sector - up to 2 years (excluding demand deposits, at notice)	2.0	2.3	3.1	2.8	3.0	3.2	3.5	3.5	3.7	3.9	3.5	3.5	3.6	3.6	3.7	3.7	3.8	3.9	4.0	
On new loans																				
Households for house purchase	3.4	4.0	4.8	4.5	4.6	4.9	5.2	5.1	5.4	5.7	5.3	5.1	5.0	5.3	5.4	5.6	5.6	5.7	5.8	
Exchange rates - period averages																				
Nominal effective exchange rate index [a],[b]	100.8	100.9	101.8	101.3	101.7	101.8	102.4	102.9	103.5	103.2	102.8	102.7	103.3	103.6	103.5	103.5	103.6	103.1	102.8	102.0
Nominal effective exchange rate index - percentage change from the previous corresponding period [a],[b]	-0.2	0.2	0.8	0.2	0.4	0.1	0.6	0.5	0.6	-0.3	0.2	0.0	0.5	0.3	-0.1	0.0	0.1	-0.4	-0.3	-0.8
Stock market - percentage change from the previous corresponding period (end-of-period values)																				
PSI Geral index	17.2	33.3	18.3	5.2	17.8	-11.4	7.7	-18.8	-10.8	-11.4	-14.9	-1.2	-3.5	5.7	-1.5	-14.4	-5.8	2.5	-8.2	-20.9
Broad Dow Jones Euro Stock	23.0	20.3	4.9	3.4	6.3	-3.4	-1.2	-16.4	-7.3	-12.1	-13.1	-1.1	-2.7	5.5	-0.4	-11.8	-1.8	1.1	-11.5	-15.9
Housing market prices - end-of-period annual rate of change																				
Confidencial Imobiliário index [c]	2.3	2.1	1.3	1.4	1.0	1.1	1.3	1.6	2.3	3.2	1.3	1.4	1.6	1.8	2.1	2.3	2.5	2.8	3.2	
Assessment by banks (*INE*)	2.9	0.3	0.5	0.0	0.5	1.0	0.5	-0.2	-1.7	-3.0	n.d.	n.d.	-0.2	n.d.	n.d.	-1.7	n.d.	n.d.	-3.0	

Table 3.1.2 (continued)

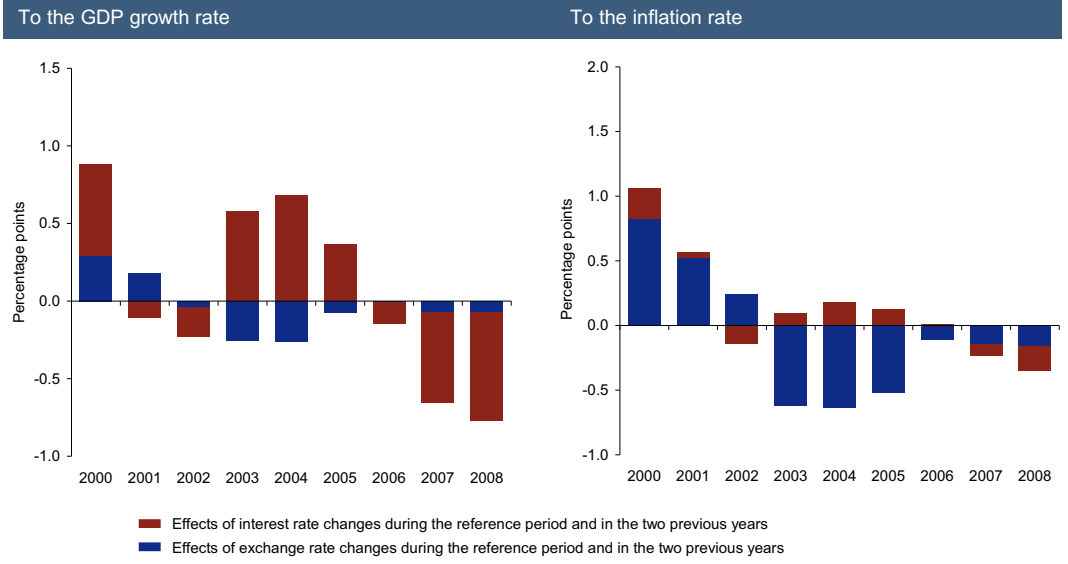
MONETARY AND FINANCIAL CONDITIONS OF THE PORTUGUESE ECONOMY

	Annual developments			Quarterly developments							Monthly developments								
				2007				2008			2008								
	2005	2006	2007	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Loans granted to the non-financial private sector - end-of-period annual rate of change																				
Loans granted by resident financial institutions [(d)]																				
Non-financial private sector	7.7	8.7	9.9	8.8	9.0	9.2	9.9	10.4	9.7	8.7	10.5	10.6	10.4	10.5	9.7	9.7	9.4	9.1	8.7	
Households - Total	9.8	9.9	9.0	9.6	9.4	9.2	9.0	8.5	7.7	6.3	8.9	8.9	8.5	8.4	7.9	7.7	7.3	6.7	6.3	
For house purchase	11.1	9.9	8.5	9.4	9.0	8.8	8.5	7.8	7.1	5.7	8.4	8.3	7.8	7.7	7.3	7.1	6.7	6.2	5.7	
Consumer credit and other lending	4.5	10.1	11.3	10.9	11.3	10.9	11.3	11.3	10.6	8.7	11.1	11.4	11.3	11.4	10.5	10.6	9.7	9.0	8.7	
Non-financial corporations	5.0	7.1	11.2	7.8	8.5	9.2	11.2	13.0	12.3	12.0	12.7	13.0	13.0	13.3	12.1	12.3	12.2	12.4	12.0	
Deposits in resident monetary financial institutions - end-of-period year-on-year rate of change																				
Non-financial private sector	6.0	4.2	5.7	4.3	6.5	7.5	5.7	10.1	9.6	11.4	9.2	9.5	10.1	10.8	10.6	9.6	11.0	11.8	11.4	
Memo:																				
HICP - End-of-period annual average rate of change																				
Portugal	2.1	3.0	2.4	2.9	2.6	2.4	2.4	2.6	2.7	2.9	2.4	2.5	2.6	2.5	2.6	2.7	2.7	2.8	2.9	
Euro area	2.2	2.2	2.1	2.1	1.9	1.9	2.1	2.5	2.9	3.4	2.3	2.4	2.5	2.6	2.8	2.9	3.1	3.3	3.4	

Sources: Euronext Lisboa, *Eurostat*, *Imométrica*, *INE*, *Thomson Reuters* e Banco de Portugal.
Notes: **(a)** A positive change corresponds to an appreciation of the effective exchange rate index. **(b)** Calculations against a group of 22 trading partners. For a detailed description of the methodology, see Gouveia A. C. and C. Coimbra, (2004) "*New effective exchange rate index for the Portuguese Economy*", Banco de Portugal, *Economic Bulletin*-December. **(c)** The *Confidencial Imobiliário* index tracks developments in the residential market in Portugal, in particular in the Lisbon and Oporto metropolitan areas. In October 2006 this index adopted a new methodology and broadened its background information. It uses data available at *www.lardocelar.com*, which in 2005 contained around 280,000 real estate registers. For further details on the methodology used, see the article by Isabel Fonseca and Ricardo Guimarães, in the October 2006 issue of the Newsletter *Imobiliária Portuguesa - Confidencial Imobiliário*, entitled: "*Índice Confidencial Imobiliário: procedimentos metodológicos*". **(d)** The annual growth rates are obtained from the relation between the outstanding amounts of bank loans, adjusted for securitisation operations, and the monthly transactions,which are calculated from the outstanding amounts corrected of reclassifications, write-offs/write-downs, exchange rate changes and price revaluations.

Chart 3.1.2

CONTRIBUTION OF MONETARY CONDITIONS



Note: For methodological information, see Esteves, P., (2003), "*Monetary conditions index for Portugal*", Banco de Portugal, *Economic Bulletin*-June . The multipliers underlying the construction of this index (corresponding to impacts of changes in the exchange rate and in the interest rate) were updated taking into account the main model currently used in economic projections for the Portuguese economy.

expansion of credit converged with that of deposits, and in late August 2008 growth in non-financial private sector deposits exceeded that of credit to this sector. In fact, increased difficulties in access to wholesale market financing as of the summer of 2007 seem to have led banks to offer more attractive conditions in the raising of funds with customers. In addition, the greater demand for financial investments less sensitive to market fluctuations by investors – who have been withdrawing their investments in mutual funds and in other financial assets – appears to have also contributed to higher deposit growth (the annual rate of change in deposits to the non-financial private sector stood at 11.4 per cent in September 2008, compared with 6.5 per cent in June 2007) (Table 3.1.2). In spite of the above mentioned adverse conditions in access to financing in the financial wholesale market, Portuguese banks were able to preserve a certain degree of access to debt securities markets, albeit at relatively high costs and shorter maturities, reflecting the difficulty in placing medium to long-term securities at global level. Loan securitisation has also been an important financing source for Portuguese banks. However, within the current framework, the demand for securities resulting from securitisations declined remarkably. Similarly to other European banks, a number of Portuguese banks purchased securities resulting from the above operations, from special-purpose vehicles. Still, these securitisations made a positive contribution to the liquidity management of institutions, given that these securities – like mortgage bonds – are eligible as collateral in Eurosystem credit operations. Finally, part of the operations usually conducted with wholesale financing markets are currently being carried out with the ECB. However, the business activity of Portuguese banking groups, measured by total assets, despite having shown somewhat slower growth than in recent years, was not significantly affected in quantitative terms by the financial turbulence in the first half of 2008.

Although Portuguese banks were not, to a significant extent, directly exposed to the US sub-prime market, the effects of the international financial market turmoil have had negative repercussions on the trend of their profits and losses. These were evident namely through the increase in financing costs, developments in the value of the financial instruments portfolio and the slowdown in income from commissions related to financial operations, in the context of a significant increase in default rates. The latter reflected the deterioration of the financial situation of some households and companies amid

decelerating economic activity, maintenance of the upward profile of interest rates, increased tightening in credit standards and risk materialisation as regards the extension and duration of instability in financial markets. In parallel, the solvency of the Portuguese banking system as a whole declined in the first half of 2008, with a certain degree of dispersion across banking institutions.

Despite turmoil in financial markets being observed since the summer of 2007, credit granted to the non-financial private sector, although decelerating, continued to show high growth rates in the course of 2008. However, this reflects distinct behaviours of the respective components. As far as loans to households are concerned, the slowdown shown since the mid-2006 became more marked in the first eight months of 2008. In turn, the annual rate of change in loans granted to non-financial corporations stood at high levels throughout 2008, with some volatility. In addition, the amount of commercial paper issued by this sector increased considerably.

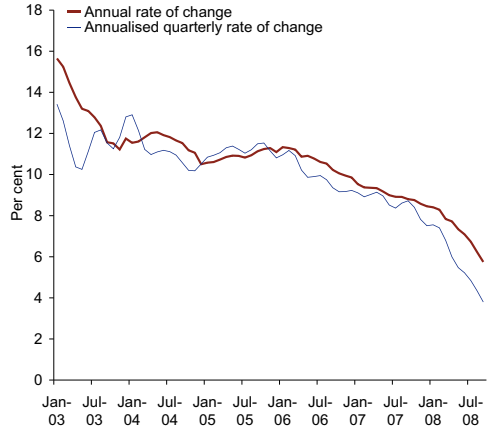
In contrast to 2007, when the two segments of loans to households evolved differently, both consumer credit and other lending and especially loans for house purchase slowed down in the first eight months of this year.[14] In fact, the annual rate of change in bank loans to households for house purchase continued to follow a downward trend, as seen since the mid-2006, standing at 5.7 per cent in September (Chart 3.1.3). In the same period, consumer credit and other lending to households recorded an annual rate of change of 8.7 per cent, showing a slight downward trend only in the most recent months (Chart 3.1.4). Information on the annualised quarterly change in loans to households, calculated from seasonally adjusted data, points to a sharper reduction that than seen in annual rates of change, especially as of the second quarter.

According to the responses of the five banking groups included in the Bank Lending Survey sample, in the first nine months of 2008 there seems to have been a decline in demand for loans for house pur-

Chart 3.1.3

LOANS GRANTED TO HOUSEHOLDS FOR HOUSE PURCHASE BY RESIDENT MONETARY INSTITUTIONS

Annual and annualised quarterly rates of change

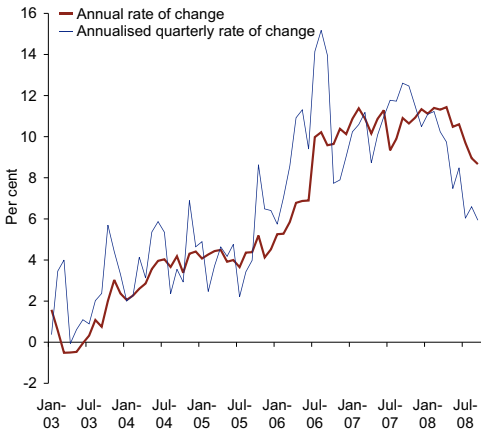


Source: Banco de Portugal.
Note: Annual and quarterly growth rates are obtained from the relation between the outstanding amounts of bank loans, adjusted for securitisation operations, and the monthly transactions, which are calculated from the outstanding amounts corrected of reclassifications, write-offs/write-downs, exchange rate changes and price revaluations. The quarterly rate of change is seasonally adjusted. Latest observation: September 2008.

Chart 3.1.4

CONSUMER CREDIT AND OTHER LENDING GRANTED TO HOUSEHOLDS BY RESIDENT MONETARY INSTITUTIONS

Annual and annualised quarterly rates of change



Source: Banco de Portugal.
Note: Annual and quarterly growth rates are obtained from the relation between the outstanding amounts of bank loans, adjusted for securitisation operations, and the monthly transactions, which are calculated from the outstanding amounts corrected of reclassifications, write-offs/write-downs, exchange rate changes and price revaluations. The quarterly rate of change is seasonally adjusted. Latest observation: September 2008.

(14) According to information from the Directorate-General of the Treasury, the number of loans for house purchase entered into in the first half of this year was 11 per cent lower than in the same period a year earlier.

chase, mainly associated with a deterioration of the outlook for the housing market and consumer confidence. In addition, for the same period, respondent banks reported a progressive tightening of credit standards, keeping the trend observed since the outset of the turmoil in international financial markets. According to this survey, banks have also tightened credit standards applied to consumer credit and other loans to households since the start of the financial market turbulence. In addition, as of the second quarter of 2008, there was a decline in demand for this type of loans, which should have been associated with the deterioration of consumer confidence.[15]

Throughout 2008 the annual rate of change in bank loans granted to non-financial corporations remained at high levels (12.0 per cent in September 2008, compared with 8.5 per cent in June 2007). However, the annualised quarterly rate of change calculated from seasonally adjusted values points to some slowdown in these loans, although they continue to grow strongly (Chart 3.1.5). In addition, the behaviour of loans granted to non-financial corporations contrasts with the adoption of tighter standards reported by banks participating in the Bank Lending Survey, reflecting the situation in wholesale funding markets and the cost of funds related to banks' capital position.[16] Also according to this survey's responses, financing needs related to debt restructuring and to inventories and working capital continued to be the main factors contributing to an increase in credit demand by non-financial corporations. In turn, investment financing had a further negative impact on demand in the second and third quarters of 2008, after showing some signs of recovery during the second half of 2007. In fact, unstable financial markets and the growing uncertainty on the magnitude of their effects on the real economy seem to be conditioning investment decisions of non-financial corporations. In fact, according to the results of the Investment Survey conducted in April, the percentage of enterprises indicating financial factors (namely interest rate level, self-financing capacity and difficulties in obtaining bank credit) as limitations to investment in 2008 has risen slightly relative to the previous year.[17]

In addition to the significant growth of loans to non-financial corporations, in what regards firms' financing structure, stress should be laid on the strong increase in the net issuance of commercial paper in the first half of 2008 compared with the same period a year earlier, partly as a reflection of difficulties in issuance at longer maturities, given the situation in financial wholesale markets (Chart 3.1.6). In the first half of 2008, reflecting a reduction in current saving and the relative stability of gross capital formation, non-financial corporations' borrowing requirements exceeded the value for the same semester of the previous year.[18] This translated into an increase in this sector's financial debt (14.9 per cent growth in the year ended in June 2008, compared with 9.9 per cent in the same period in 2007) (Chart 3.1.7). In this context, in the first half of the year this sector's financial leverage ratio widened, and recourse to equity financing continued to largely reflect developments in other equity, particularly supplementary instalments.

In the course of 2008 the interest rate margin of deposit operations with customers narrowed somewhat, likely as a reflection of the fact that banking institutions are putting into practice more competitive strategies to raise funds with customers, amid disturbances in wholesale financing markets (Chart 3.1.8). In turn, spreads associated with lending operations interrupted the downward trend observed since money market interest rates had started to rise, stabilising somewhat in the most recent period. There is a certain time lag in the pass-through of changes in interest rates on new business to average

(15) For more details, see "Box 4.1 *Private consumption developments in 2007 and the behaviour of durable goods*" and "Box 7.1 *Recent developments in the market of consumer credit and other lending to households*", Banco de Portugal, *Annual Report* 2007.

(16) The rate of change in loans granted by the five major Portuguese banking groups to resident non-financial corporations in June 2008, although also high, was lower than that of the banking system as a whole, also increasing less sharply than the total since early in the year. For more details, see "Section 4.4 *Credit risk*", in "*The Portuguese banking system in 2008*" in this issue of the *Economic Bulletin*.

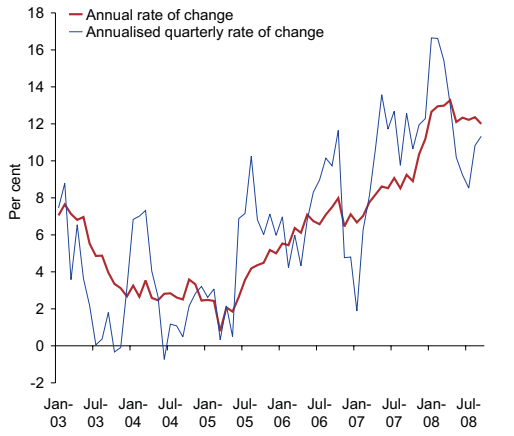
(17) The Investment Survey is conducted twice a year, and the October 2008 survey will be available only at the beginning of next year.

(18) For more details, see "Section 3 *Financial situation of the non-financial private sector*" in "*The Portuguese banking system in 2008*" in this issue of the Economic Bulletin.

Chart 3.1.5

LOANS TO NON-FINANCIAL CORPORATIONS BY RESIDENT MONETARY INSTITUTIONS

Annual and annualised quarterly rates of change

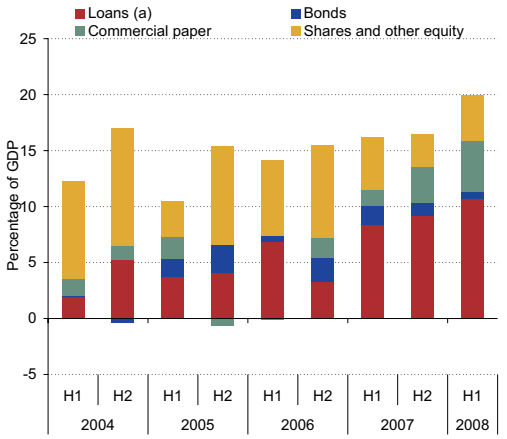


Source: Banco de Portugal.
Note: Annual and quarterly growth rates are obtained from the relation between the outstanding amounts of bank loans, adjusted for securitisation operations, and the monthly transactions, which are calculated from the outstanding amounts corrected of reclassifications, write-offs/write-downs, exchange rate changes and price revaluations. The quarterly rate of change is seasonally adjusted. Latest observation: September 2008.

Chart 3.1.6

FINANCING OF PORTUGUESE NON-FINANCIAL CORPORATIONS

Net issues

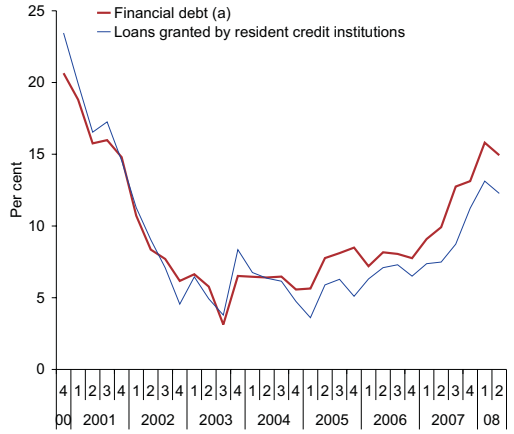


Source: Banco de Portugal.
Note: (a) Including loans granted by resident and non-resident credit institutions (excluding those granted to non-financial corporations having their head office in the Madeira offshore).

Chart 3.1.7

DEBT OF NON-FINANCIAL CORPORATIONS

Annual rates of change

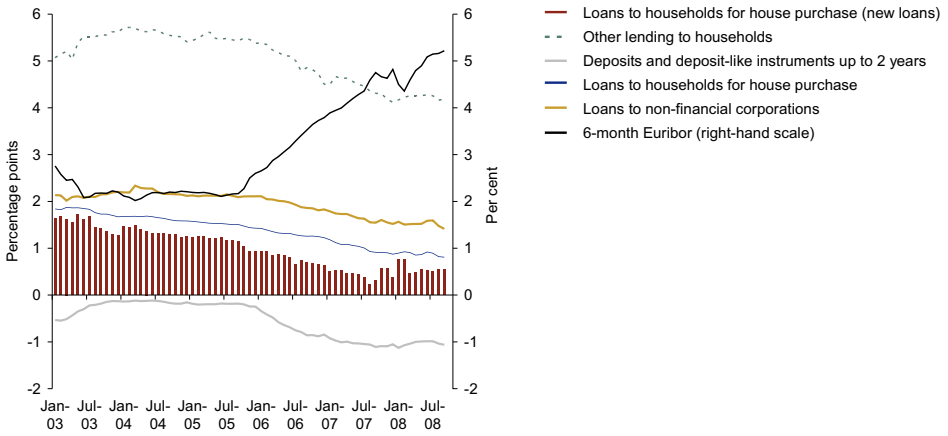


Source: Banco de Portugal.
Note: (a) Including loans granted by resident and non-resident credit institutions; loans/additional capital by non-resident intra-group corporations (excluding those granted to non-financial corporations having their head office in the Madeira offshore); debt securities issued by non-financial corporations held by other sectors.

interest rates on outstanding amounts, especially in the case of loans to households for house purchase, which are associated with longer maturities. In fact, the spread implied in interest rates on new contracts for this type of loan followed an overall upward trend since the summer of 2007. The behaviour of the margin in lending operations should have started to reflect the change in banks' credit poli-

Chart 3.1.8

INTEREST RATE MARGINS



Sources: ECB and Banco de Portugal.
Note: The interest margin in outstanding amounts of loans is calculated as the difference between the interest rate on outstanding amounts and the 6-month moving average of the 6-month Euribor. In the case of new loans, the interest margin is the difference between the interest rate on new loans and the 6-month Euribor. Latest observation: September 2008.

cies. In effect, according to the results of the Bank Lending Survey, banks have adopted tighter credit standards, particularly by applying higher spreads, as of the second half of 2007.

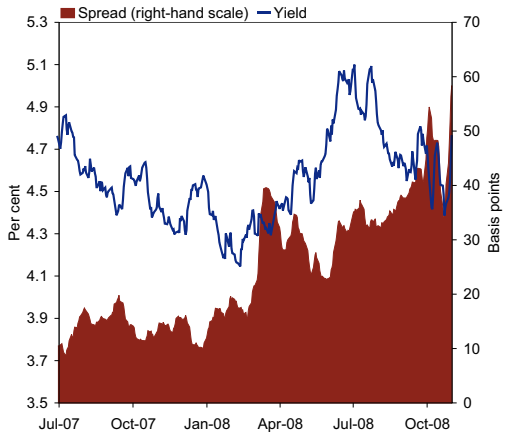
During the first half of 2008, 10-year Portuguese government bond yields rose significantly. This is likely associated, on the one hand, to a higher risk tolerance and, on the other, to the development of inflation expectations in the euro area, strongly influenced by the rise in oil prices. Subsequently, this trend was somewhat reversed, with a contribution from the deterioration of the financial market situation – as serious problems were observed in large financial institutions in the US and in some European countries – and the deterioration of the outlook for economic activity developments (Chart 3.1.9). This affected the price of commodities, including oil. Moreover, the increase in risk aversion and the demand for more liquid assets translated in 2008, and more significantly as of the end of September, into a widening of spreads between German government debt rates and those of the remaining euro area economies, to levels which were not observed since the run-up to the introduction of the euro. This flight to quality phenomenon was not exclusive to Portugal, but rather, broadly based to most euro area countries.[19] Measures to support the financial system recently announced by euro area Member States with the purpose of increasing investor confidence and fostering financial stability also seem to have conditioned developments in public debt interest rates in the different countries. In this regard, as of late September, *premia* related to sovereign debt credit default swaps increased in most European countries, including Portugal. On 31 October 2008, the government bond yield stood at 4.77 per cent, compared with 4.75 and 4.53 per cent in the end of June and December 2007 respectively.

Within the scope of the reassessment of risks by market agents since the mid-2007, risk *premia* have been increasing in most financial markets, from the very low levels seen in the course of the past few years. This was reflected in an increase in the cost of financing via debt securities with longer maturities of Portuguese non-financial corporations, to peaks in the period following the creation of the euro area (Chart 3.1.10).[20] In fact, interest rate spreads between Portuguese non-financial corporate bonds and public debt securities of comparable maturity widened clearly.

(19) See "Section 2 *The international framework*".
(20) However, this recourse accounts for only a small fraction of total non-financial corporate financing in Portugal.

Chart 3.1.9

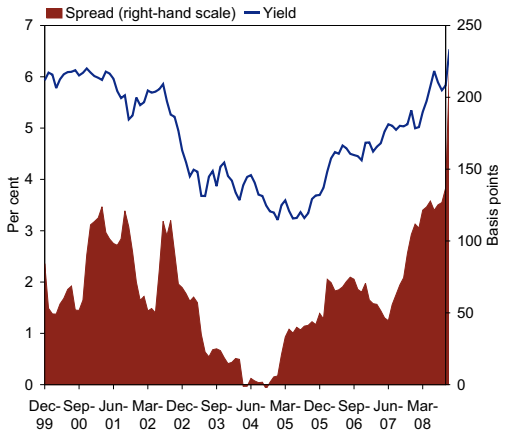
PORTUGUESE PUBLIC DEBT YIELD AND SPREAD *VIS-À-VIS* GERMAN PUBLIC DEBT (10-YEAR)



Sources: Thomson Reuters and Banco de Portugal.
Note: Yields obtained at close of business. The spread was calculated by interpolating the German yield curve, so as to ensure that the yield of the Portuguese 10-year benchmark bond is compared to a German yield of a similar maturity. The calculation of the spread was based on 5-day moving averages.

Chart 3.1.10

PORTUGUESE NON-FINANCIAL CORPORATE BOND YIELDS AND SPREAD *VIS-À-VIS* PUBLIC DEBT SECURITIES OF A COMPARABLE MATURITY



Sources: Barclays Capital and Banco de Portugal.

Stock market prices fell strongly in 2008, reflecting higher prospects of deceleration in economic activity and greater disturbances in the global financial system.[21] Up to late October 2008, the PSI Geral index devalued by 49.3 per cent compared with the end of 2007, having shown considerable volatility over the year, similarly to the main stock market indices in advanced economies (Table 3.1.2). These developments were broadly based across sectors, stress being laid on the fall in the Financials index (59.1 per cent).

According to a synthetic indicator, in early 2008 the real financing cost of Portuguese non-financial corporations in major financial instrument categories (shares and other equity, bank loans and securitised debt) continued to follow the upward trend observed since the previous summer (Chart 3.1.11).[22] This essentially derives from the increase in the estimate for equity financing costs, reflecting the considerable fall in stock market prices. In the most recent months, these costs stabilised somewhat, probably associated with economic agents' expectations of a growing impact of financial market instability on the real economy and as a consequence, on future corporate profits and losses. In effect, this change in expectations should have translated into a decline in the growth rate expected for dividends, likely offsetting the rise in dividend yield related to the fall in stock market prices. Costs associated with the remaining instrument categories generally followed developments in interest rates representing non-financial corporate debt.

Since the value of real estate is liable, on the one hand, to influence credit market developments (given that real estate assets are used as collateral in credit operations) and, on the other hand, to induce a

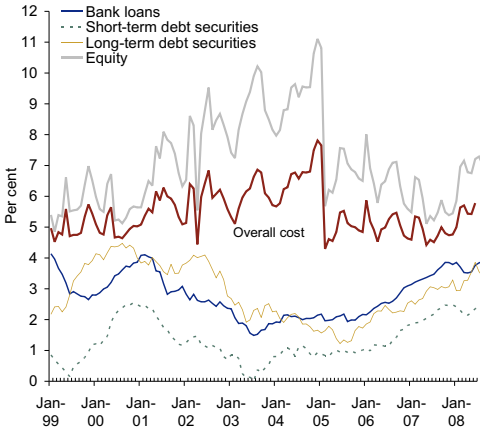
(21) See "Section 2 *The international framework*".

(22) The synthetic indicator for the financing costs of non-financial corporations is calculated as a weighted average of the costs of different types of financing. The component with the highest weight in this indicator is the cost of equity financing, which is calculated through the following formula $r \quad \frac{D}{P}(1 \quad gn) \quad 8(ga \quad gn) + gn$, *where r is the capital cost, D/P the dividend yield, gn corresponds to the growth rate of dividends in the long term and ga to the respective growth rate for the next four years. The cost associated with the remaining instrument categories is calculated on the basis of interest rates considered as representative. For methodological information, see Gameiro, I. and Ribeiro, N., "Financing costs of Portuguese companies", Banco de Portugal, Economic Bulletin*-Autumn 2007.

Chart 3.1.11

DEVELOPMENTS IN THE FINANCING COSTS OF NON-FINANCIAL CORPORATIONS IN PORTUGAL

In real terms



Sources: Consensus Economics, ECB, Lehman Brothers, Thomson Reuters and Banco de Portugal calculations.
Note: The break in the series in January 2003 followed the introduction of harmonised Eurosystem statistics for MFI interest rates.

wealth effect on the owners' spending decisions, it is also important to assess its progress. According to the *Confidencial Imobiliário* index, Portuguese residential real estate market prices recorded an annual rate of change of 3.2 per cent in September, following 1.3 per cent at end-2007. This index is calculated on the basis of asked prices and weighted by region and dwelling condition (new or used).[23] In turn, average bank appraisal values made available by *Instituto Portugês de Estatística* (the Portuguese statistical office) recorded an annual rate of change of -3.0 per cent in the third quarter of 2008, compared with 0.5 per cent in the last quarter of the previous year.[24] This change may be related to the tightening of credit standards by banks. In this regard, according to the five banking groups participating in the Bank Lending Survey, risks associated with the outlook for the housing market are likely to have increased. In turn, prospects for the housing market deteriorated, which should have led to led to a reduced demand for loans. In this context, it is worth stressing that the stable and moderate change in housing market prices in Portugal contrasts with the situation in the United States, the United Kingdom, Ireland and Spain. After having experienced very high valuations in the past few years, these countries have recently seen a pronounced deceleration in prices, in some cases leading to actual price reductions.[25]

(23) For methodological information, see Fonseca, I. and Guimarães, R., Índice Confidencial Imobiliário: procedimentos metodológicos", Newsletter *Imobiliária Portuguesa - Confidencial Imobiliário*, October 2006.

(24) This indicator is based on information regarding seven banking institutions that account for approximately 60 per cent of the amount of credit granted.

(25) See "Box 1 *Housing markets in some advanced economies*".

3.2. Fiscal policy

According to the estimate of the general government account for 2008, on a national accounts basis, included in the Report of the State Budget for 2009, the deficit of this institutional sector is expected to reach 2.2 per cent of GDP (Table 3.2.1). If this perspective materialises compliance with the official target assumed in the elaboration of the Report on the Guidelines of Fiscal Policy last May will be ensured. Compared with the figure recorded in 2007, this estimate for the deficit represents a decline of 0.4 p.p. of GDP. In a context characterised by the stabilisation of tax revenue as a percentage of GDP and a reversal in the declining trend of primary current expenditure as a percentage of GDP observed in the past two years, it should be noted that in addition to the strong growth of non-tax revenue, there were temporary measures that contributed to the reduction of capital expenditure.

The -2.2 per cent of GDP actual budget balance in 2008, which includes temporary measures, assures the fulfilment of the target set down for this year in the context of the Stability and Growth Pact. It should be noted, however, that in the same context, the structural balance excludes, beyond the cyclical effect, the impact of temporary measures. According to the definition of temporary measures used in the

Table 3.2.1

GENERAL GOVERNMENT ACCOUNTS ON A NATIONAL ACCOUNTS BASIS

	As a percentage of GDP [a]			Rates of change	
	2006	2007	2008	2007	2008
Total revenue	42.3	43.2	43.9	6.9	5.0
Current revenue	41.2	42.3	42.4	7.6	3.7
Taxes on income and wealth	8.8	9.8	9.8	15.9	3.3
Taxes on production and imports	15.4	15.0	15.0	2.5	3.3
Social contributions	12.5	12.7	12.7	7.0	3.0
Actual	11.4	11.7	11.8	7.7	4.1
Imputed	1.1	1.0	0.9	-0.5	-10.2
Sales	2.4	2.5	2.7	9.7	7.8
Other current revenue	2.1	2.2	2.3	11.3	7.6
Capital revenue	1.1	0.9	1.4	-17.4	65.0
Total expenditure	46.3	45.7	46.1	3.7	4.0
Current expenditure	42.9	42.2	43.2	3.4	5.6
Social payments	18.8	19.2	19.4	7.4	4.4
in cash	15.1	15.2	15.3	5.5	4.5
in kind	3.7	4.1	4.1	15.2	3.9
Compensation of employees	13.6	12.9	12.7	-0.5	1.2
Intermediate consumption	4.1	4.1	4.5	5.7	11.8
Interest	2.7	2.8	3.0	7.6	9.9
Subsidies	1.4	1.2	1.5	-14.8	33.7
Other current expenditure	2.2	2.0	2.2	-3.2	11.2
Capital expenditure	3.4	3.5	2.8	7.4	-16.2
Gross fixed capital formation	2.4	2.3	2.3	1.8	2.1
Other capital expenditure	1.0	1.2	0.5	20.3	-52.2
Overall balance	-3.9	-2.6	-2.2		
Memo:					
Tax revenue	36.7	37.5	37.5	7.2	3.2
Primary current expenditure	40.1	39.4	40.2	3.2	5.3
Primary balance	-1.2	0.2	0.8		
Overall balance excluding temporary measures	-3.9	-2.7	-2.8		
Public debt [b]	64.7	63.6	63.5	3.2	3.1

Sources: *INE* and *Ministério das Finanças*.
Notes: (a) Nominal GDP used in the ratios correspond, in 2006 and in 2007, to that reported in the excessive deficit procedure notification of September 2008 and, in 2008, to that assumed in the Report of the State Budget for 2009. (b) The figure for 2008 is consistent with Table I.1 of the Report of the State Budget for 2009 (page 3).

Eurosystem, the estimate for the actual budget balance in 2008 is favourably affected by a number of transactions whose overall amount reaches approximately 0.6 per cent of GDP (compared with 0.1 per cent of GDP in 2007). In fact, the renegotiation of already existing dam exploration contracts gave rise to proceeds equivalent to 0.45 per cent of GDP, the remainder being accounted for by new concessions, in particular in the road sector. It is worth highlighting that although the amount concerning the first of the above-mentioned transactions was partly used to pay the tariff deficit of the electricity sector, this rise in expenditure, resulting from a discretionary fiscal decision, does not fit into the Eurosystem definition of temporary measures.[26]

Following the estimates of Banco de Portugal, macroeconomic developments in 2008 are likely to make a slightly positive contribution to the evolution of the fiscal balance. This outcome will result from the composition of economic growth, as private consumption is expected to evolve in line with its trend growth and the private sector wage bill growth will be slightly above its trend. As a consequence, the deficit adjusted for the cycle and the effect of temporary measures is likely to deteriorate by approximately 0.2 p.p. of GDP. On its turn, given the expected increase in interest expenditure by 0.2 p.p. of GDP, the structural primary deficit will remain virtually unchanged, reflecting a broadly neutral fiscal policy stance in 2008, after two years of significant consolidation.

According to the estimate for 2008 included in Report of the State Budget for 2009, tax revenue will remain stable as a percentage of GDP compared with the previous year. With regard to taxes on income and wealth, the estimate for revenue from the corporate income tax assumes a lower growth for the year as a whole when compared with the performance observed until September, due to the possible suspension of the last pre-payment by some companies. As regards changes in legislation, expected developments in taxes on production and imports will reflect the impact of the reduction of the standard VAT rate from 21 to 20 per cent (in July 2008), the remainder of the effect of the reduction in motor vehicles taxation (in July 2007) and the rise in the tax on tobacco (in January 2008). However, the estimate of the Report of the State Budget for 2009 seems to assume that the net negative effect of these legislative changes, in conjunction with an unfavourable behaviour of revenue from the tax on oil products, will be accompanied by improved VAT collection and significant growth in the collection of stamp duties. It should also be stressed that social contributions of the Social Security subsystem are expected to increase further as a percentage of GDP.

Still following the same estimate, primary current expenditure as a percentage of GDP is projected to rise by around 0.8 p.p. in 2008. This evolution will chiefly result from developments in intermediate consumption and subsidies and to a lesser extent from social payments in cash and from other current expenditure. Concerning subsidies and as mentioned above, the increase as a percentage of GDP is fully accounted for by expenditure with the payment of the tariff deficit in the electricity sector. Turning to social payments in cash, it should be noted that the growth of pensions of the Social Security subsystem will continue to be significant (6.1 per cent) and there will be a further reduction in unemployment benefits (-9.6 per cent). The trend decline in compensation of employees as a ratio to GDP is projected to continue, in particular due to a fall in the number of public employees and a reduction in average wages resulting from the flows of recruitment and retirement in this sector.

Additionally, it should be noted that the Report of the State Budget for 2009 estimates a minor reduction of the public debt ratio in 2008, to 63.5 per cent at the end of the year. The measures recently announced envisaging the stabilisation of the financial system and the settlement of general government debts to non-financial corporations are not expected to have a significant impact on public debt in 2008.

(26) According to the European Commission Autumn Economic Forecasts, temporary measures in 2008 reach 0.4 per cent of GDP and basically result from concessions, which, however, are not identified. The Commission's approach is not necessarily identical to the one used by the Eurosystem, for analytical purposes.

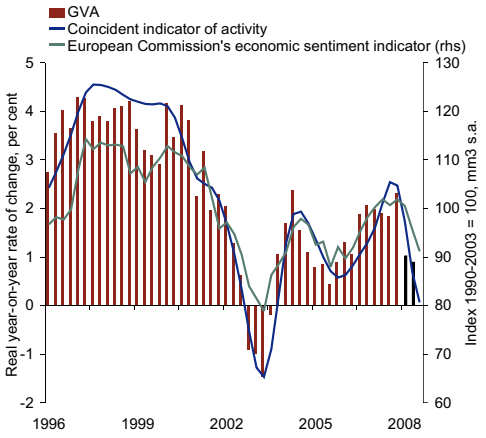
4. SUPPLY

According to current estimates, the gross valued added (GVA) of the Portuguese economy grew by 1.0 per cent in year-on-year terms in the first half of 2008, compared with 2.0 per cent in 2007 as a whole. This marked deceleration in activity is confirmed by the Bank's coincident indicator on activity and by the European Commission's economic sentiment indicator, which in the first of half of the year continued along the downward path that had started in the fourth quarter of 2007 (Chart 4.1). These indicators still point to a deceleration in activity in the third quarter. This intra-annual behaviour was also recorded by other qualitative indicators, such as the industrial, services and retail trade confidence indicators and indicators of production expectations for the months ahead and order books.

Output growth for 2008 as a whole is projected to stand at 0.5 per cent (see "Section 5 *Demand*"). The largest contribution to this growth came from capital input (0.5 p.p., in line with the past two years), while labour input contributed 0.3 p.p., in contrast to virtually nil contributions in 2006 and 2007. However, the contribution of total factor productivity is estimated to have declined significantly, from 1.3 p.p. in 2007 to -0.3 p.p. in 2008.[27] In turn, apparent labour productivity in the private sector is estimated to grow only 0.1 per cent in 2008, compared with 1.8 per cent in 2007 (Chart 4.2). Productivity developments may be due to (typically pro-cyclical) developments in the capacity utilisation rate, which in the first half of 2008 interrupted a marked growth phase started in the second half of 2006 (Chart 4.3). Moreover, productivity developments are strongly conditioned by the deceleration estimated by Banco de Portugal for total employment (including the private sector) in the second half of 2008, after strong growth according to the Employment Survey of *INE* for the first half of the year (Chart 4.3).[28] These em-

Chart 4.1

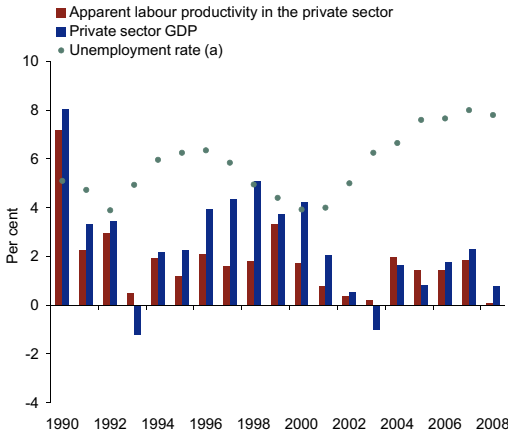
GVA, COINCIDENT INDICATOR OF ACTIVITY AND ECONOMIC SENTIMENT INDICATOR



Sources: European Commission, *INE* (Contas Trimestrais) and Banco de Portugal.

Chart 4.2

CHANGE IN APPARENT LABOUR PRODUCTIVITY AND GDP IN THE PRIVATE SECTOR



Sources: *INE* and Banco de Portugal.
Note: (a) The unemployment rate series was constructed according to the methodology described in Castro, G. L. and Esteves, P. S. (2004), "*Quarterly series for the Portuguese economy: 1977-2003*", Banco de Portugal, *Economic Bulletin*-June.

(27) The breakdown of output growth is described in detail, including caveats in its interpretation, in V. Almeida and R. Félix, 2006, "*Computing potential output and the output gap for the Portuguese economy*", Banco de Portugal, *Economic Bulletin*-Autumn.

(28) In this context, employment data used in the calculation of productivity (equivalent to full time employment) are final only up to 2006. For 2007 and 2008, estimates are based on the assumption that the average number of hours worked per worker remained unchanged.

ployment dynamics are broadly consistent with the historical relationship between developments in employment and private sector activity in the Portuguese economy (Chart 4.4).

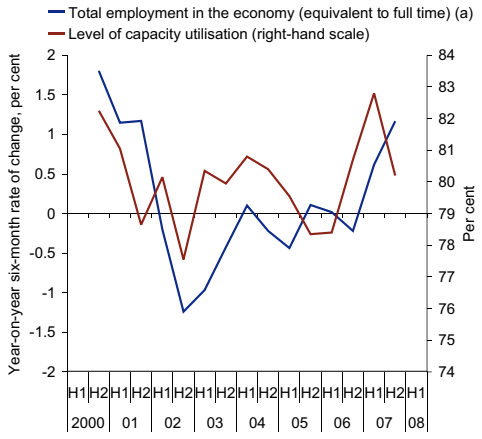
According to the Employment Survey of *INE*, the participation rate in the first half of 2008 stood at 74.2 per cent (Table 4.1), increasing slightly compared with the same period in 2007 (73.9 per cent). Therefore, the participation rate has continued to increase, mainly due to the higher female participation rate. In recent years, the growth of the participation rate has been higher than it would have been only due to strictly demographic factors. More specifically, the smaller share of age groups with lower participation rates and the larger share of the group with the highest participation rate (aged 30-54) would imply an increase in the aggregate participation rate.[29]

In the first half of 2008, total employment in the economy increased by 1.3 per cent compared to the same period in 2007 (Table 4.1). This increase resulted from growth in both dependent employment (1.6 per cent) and self-employment (2.2 per cent), which has recovered since the second half of 2007 from the previous declining trend that started in 2001. As noted above, this recovery in employment is higher than it would be expected, given the deceleration in economic activity during the first half of the year, even when the typical lag between employment and activity developments is taken into account.

With regard to the type of employment contract, the share of permanent contracts in total employment continued on a downward trend. In fact, the change in the number of permanent contract employees was close to zero, while the number of fixed-term contract employees increased by 10.3 per cent and the number of workers with contracts for services increased by 0.9 per cent. This acceleration in employment shifts by type of contract is consistent with the simultaneous increase in employment and deceleration in activity. Therefore, having been consistently observed since 1995, labour market segmentation increased further, mainly due to the effects of employment protection legislation on

Chart 4.3

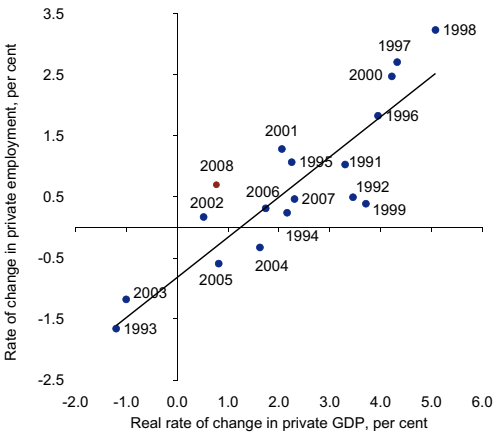
TOTAL EMPLOYMENT IN THE ECONOMY (EQUIVALENT TO FULL TIME) AND CAPACITY UTILISATION



Sources: European Commission and *INE*.
Note: (a) he employment level used corresponds to total employment in the economy adjusted for the number of hours worked. In particular, each number of hours worked equivalent to full time corresponds to one job. For 2007 and 2008, data are provisional, reflecting employment growth calculated in the Employment Survey.

Chart 4.4

PRIVATE GDP AND PRIVATE EMPLOYMENT GROWTH (EQUIVALENT TO FULL TIME) [(a)]



Sources: *INE* and Banco de Portugal.
Note: (a) Private sector employment is defined as total employment excluding Banco de Portugal estimates for public sector employment. Private GDP is calculated as total GDP less compensation of civil servants and general government fixed capital consumption. Private employment and GDP series do not include corporate hospitals. For 2007 and 2008, the series for private employment equivalent to full time is based on the assumption that the average number of hours worked per worker remained unchanged.

(29) This estimate is based on the assumption that, in 2008, participation rates for each age level remained unchanged from 2007. For a detailed analysis of the impact of demographic developments on participation rates, see "Box II.4.1 *Implications of developments in the age structure of the Portuguese population for the participation and unemployment rates*", Banco de Portugal, *Annual Report* 2001.

Table 4.1

POPULATION EMPLOYMENT AND UNEMPLOYMENT

Year-on-year rate of change, per cent (unless otherwise indicated)

	Annual figures			1st half of the year		
	2005	2006	2007	2006	2007	2008
Population	0.5	0.2	0.2	0.2	0.2	0.2
Labour force	1.0	0.8	0.6	0.9	0.5	0.5
Participation rate aged 15-64 (% of population)	73.4	73.9	74.1	73.7	73.9	74.2
Total employment	0.0	0.7	0.2	0.8	-0.2	1.3
Dependent employment	0.8	2.2	0.1	2.4	0.2	1.6
Permanent contract	1.3	0.9	-2.2	1.8	-2.5	0.0
Fixed-term contract [a]	1.7	9.3	8.0	4.8	9.9	10.3
Self-employment	-2.8	-2.7	1.3	-2.9	-0.4	2.2
Total unemployment	15.7	1.3	4.9	2.9	9.0	-8.1
Total unemployment rate (% of labour force)	7.6	7.7	8.0	7.5	8.2	7.5
Long-term unemployment (% of total unemployment) [b]	49.9	51.7	48.9	53.3	49.2	51.1

Sources: INE (Employment Survey) and Banco de Portugal.
Notes: (a) Includes fixed-term contracts and contracts with temporary employment agencies. (b) A long-term unemployed is an individual seeking work for 12 months or more.

worker rotation. This segmentation was a response of the labour market to the rigidity imposed by permanent contracts, and results in an inefficient allocation of workers, given that it changes decisions taken by both workers and companies on human capital accumulation. This effect has increased over the past decade (see Chart 3.14 of the 2007 *Annual Report*, Banco de Portugal), with a strong rise in fixed-term contracts as regards younger workers and shorter employment durations.

In sectoral terms, higher employment in the first half of 2008 mainly resulted from a 3.4 per cent increase in employment in the services sector, which implies a larger share of the tertiary sector in employment. Within this sector, employment in the general government, education and health sectors increased by 1.2 per cent. However, this figure is not fully consistent with data obtained from other sources, including the behaviour of expenditure on civil servants (see "Section 3.2 *Fiscal policy*"). Employment in manufacturing declined by 3.0 per cent and employment in agriculture fell slightly. In addition, employment in construction remained virtually stable (with a 0.1 per cent decline).

In the first half of 2008, the unemployment rate reached 7.5 per cent, *i.e.* a 0.7 p.p. decrease from the same period in 2007, thus standing at a level close to that of 2006 (Table 4.1). The number of unemployed declined year-on-year by 8.1 per cent. This decrease in the unemployment rate is clearly atypical and does not seem to be sustainable, given the signs of deceleration in economic activity and the fact that unemployment rate movements typically have some lag in relation to economic activity.

Labour market dynamics can also be analysed in terms of flows between the different labour market status – inactivity, employment and unemployment. Chart 4.5 shows the quarterly averages of those flows over the past four quarters. On average, 45 thousand individuals moved from employment into inactivity and a similar number of individuals moved in the opposite direction. 59.5 thousand individuals moved from unemployment into employment and 44.8 thousand in the opposite direction. Reinforcing the idea that labour market segmentation is accelerating, only 6.6 thousand individuals moved from unemployment into permanent contract employment, while 19.9 thousand permanent contract employees moved into unemployment. Finally, 54.5 thousand individuals moved from inactivity into unemployment and 54.1 thousand in the opposite direction. Total flows between the different labour

Chart 4.5

QUARTERLY AVERAGE FLOWS IN THE LABOUR MARKET

Volume in thousands and, in brackets, percentage of labour force [(a)]

Sources: *INE* and Banco de Portugal.
Note: (a) Considering the common sample component of quarter t and quarter t-1, and using the population weights of quarter t. Average figures for the last two quarters of 2007 and the first two quarters of 2008.

market status account for 6.9 per cent of the labour force, a figure close to the 6.8 per cent recorded in the same period of 2007.

In terms of the breakdown of unemployment into duration levels, the share of long-term unemployment (12 months or more) in total unemployment decreased from 49.2 per cent in the first half of 2007 to 51.1 per cent in the same period of 2008. In a context of recovery in employment, this increase resulted from a more marked decline in short-term unemployment, although long-term unemployment has also declined in absolute terms. Therefore, the share of long-term unemployment in total unemployment continued along the upward path observed over the past few years. As an illustration, in 2002 the share of long-term unemployment was 37.1 per cent of total unemployment.

The average duration of unemployment increased from 22 months in the first half of 2007 to 23.1 months in the same period of 2008, *i.e.* a 10-year high, which is consistent with the upward trend in the share of long-term unemployment. Therefore, in the context of a decline in the unemployment rate, the generosity of unemployment benefits, with high financial coverage and potentially long duration, has continued to contribute to high long-term unemployment. Moreover, unemployment benefit recipients have increasingly accounted for a larger share of the unemployed, following recent legislation on unemployment benefits, that has discouraged individuals from reporting themselves as inactive.

5. EXPENDITURE

Current Banco de Portugal estimates for 2008 indicate an interruption in the gradual and moderate recovery path followed by economic activity in the past two years. The Portuguese economy is projected to grow by 0.5 per cent in 2008, which represents a 1.4 p.p. deceleration in economic activity compared with 2007 (Table 5.1). Therefore, Portugal is expected to grow at a slower pace than the euro area as a whole for the seventh consecutive year (Chart 5.1).

In 2006 and 2007, and in parallel with the fiscal consolidation effort, investment recovered moderately and Portuguese exports gained considerable momentum, following substantial market share losses in 2004 and 2005. However, the trend growth of the Portuguese economy continued to be subdued. The pick-up in economic activity is likely to be interrupted in 2008, due to the interaction between deteriorating global economic activity, particularly in the major Portuguese trading partners, and the international financial market crisis.

The deceleration of the Portuguese economy in 2008 reflects a slowdown in both domestic demand and exports. As expected, investment and exports have reacted more markedly to an unfavourable macroeconomic environment while developments in private consumption have been smoother. Domestic demand, whose contribution underpinned economic activity growth in 2007, is projected to decelerate in 2008, largely reflecting less buoyant GFCF, given that private consumption is likely to grow only slightly less than in the previous year. In turn, the contribution of net external demand to GDP growth is expected to be negative, after a zero contribution in the previous year, reflecting unfavourable developments in exports.

The current estimate for GDP growth in 2008 constitutes a 0.7 p.p. downward revision from the projections published in the summer issue of the *Economic Bulletin*. This revision mainly reflects significantly lower export growth in the current year (3.0 p.p.), which is partly explained by the deterioration of the external demand for Portuguese goods and services. Although the contribution of domestic demand to GDP growth was not revised, the current estimates assume weaker GFCF and higher public consumption growth, with private consumption developments close to those published in the summer issue.

Table 5.1

GDP AND MAIN EXPENDITURE COMPONENTS

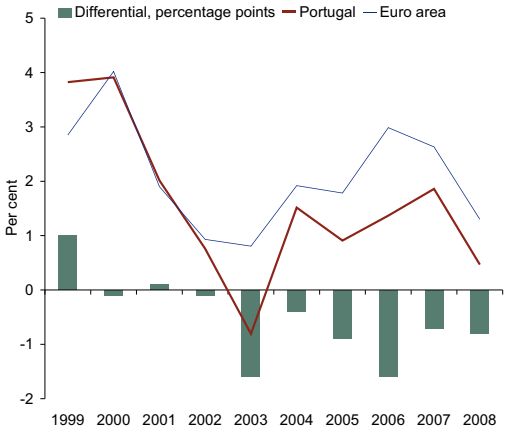
Real rate of change, per cent

	2002	2003	2004	2005	2006	2007 [a]	2008 [a]
GDP	0.8	-0.8	1.5	0.9	1.4	1.9	0.5
Private consumption	1.3	-0.2	2.5	1.9	1.9	1.5	1.4
Public consumption	2.6	0.2	2.6	3.2	-1.4	0.3	0.2
Investment	-4.7	-8.3	2.5	-1.5	-0.3	3.5	0.3
GFCF	-3.5	-7.4	0.2	-0.9	-0.7	3.2	-0.8
Change in inventories [b]	-0.4	-0.3	0.5	-0.1	0.1	0.1	0.2
Domestic demand	0.1	-2.0	2.5	1.5	0.8	1.7	1.0
Exports	1.4	3.9	4.0	2.1	8.7	7.6	1.4
Imports	-0.7	-0.9	6.7	3.5	5.2	5.9	2.6
Contribution of domestic demand to GDP [b]	0.1	-2.2	2.7	1.6	0.9	1.8	1.0
Contribution of net external demand to GDP [b]	0.7	1.4	-1.2	-0.7	0.5	0.0	-0.6

Sources: *INE* and Banco de Portugal.
Notes: (a) Banco de Portugal estimates. (b) Contribution to the rate of change in GDP in percentage points.

Chart 5.1

GROSS DOMESTIC PRODUCT
Real rate of change



Sources: Eurostat, IMF, *INE* and Banco de Portugal.

With regard to the intra-annual profile, estimates published in this Bulletin assume a GDP deceleration path in 2008. Underlying these developments is the lower contribution of domestic demand in the second half of 2008, mainly reflecting the behaviour of investment. In turn, exports are projected to grow significantly less than in the first half of 2008. However, year-end estimates are surrounded by a particularly high degree of uncertainty, associated with the impact on the Portuguese economy of the ongoing international financial market crisis, in particular given its interaction with overall macroeconomic developments.

In 2008 private consumption is expected to continue the slightly downward path seen over the past few years and decelerate somewhat, with a 1.4 per cent annual rate of change. It should be noted that this growth is higher than that of GDP and of the euro area as a whole (Chart 5.2).

Private consumption, in particular in terms of its non-durable component, has a smoother intertemporal profile compared with other expenditure aggregates. In 2008 this smoothing continued to be facilitated by the recourse to consumer credit and resulted in a lower savings rate. In fact, consumers' assessment of their current financial situation deteriorated significantly in 2008, suggesting a further decline in the savings rate, given its historical relationship with household disposable income (Chart 5.3). Therefore, the strength of private consumption does not appear to be sustainable, particularly in the context of the international financial market adjustments.

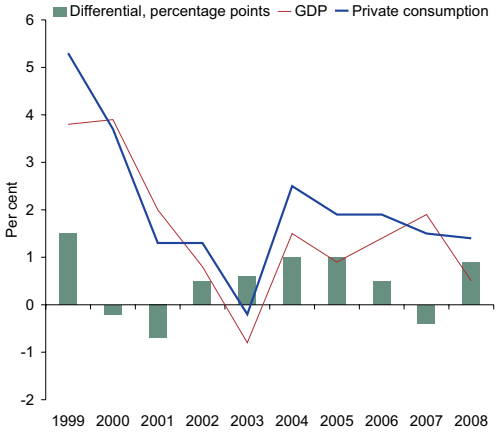
In 2008 more significant adjustments to private consumption were to be expected, due to a number of factors that contributed negatively to current and expected real household disposable income developments.

The year 2008 was marked by unexpected rises in inflation, particularly reflecting the international commodity market situation. In fact, higher-than-expected price growth at the beginning of the year has negatively affected real household disposable income. However, current Banco de Portugal estimates for inflation in 2008 have been slightly revised downwards since the summer issue of the *Economic Bulletin*, following the recent correction of commodity prices in international markets.

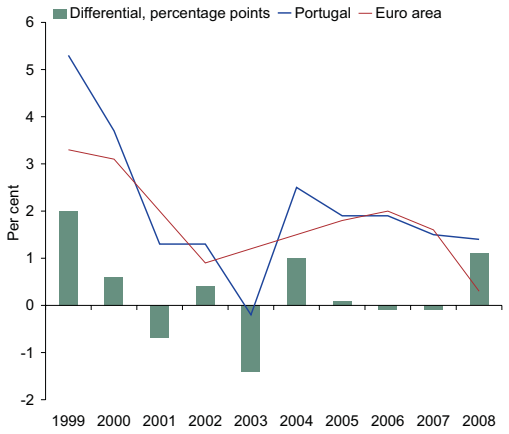
Although the labour market situation improved somewhat in 2007 and particularly in the first half of 2008, the unemployment rate remains at historically high levels. Moreover, job creation in the first half

Chart 5.2

PRIVATE CONSUMPTION
Real rate of change and differential with GDP



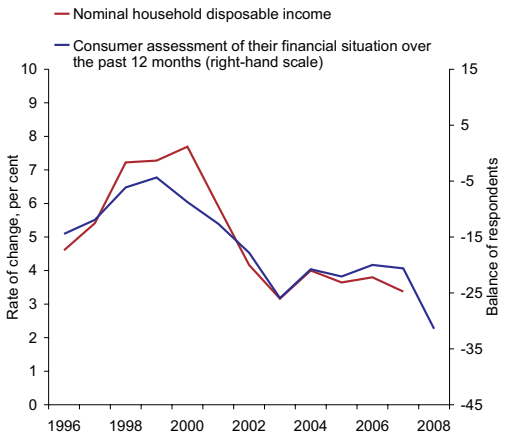
PRIVATE CONSUMPTION
Real rate of change and differential with the euro area



Sources: Eurostat, IMF, *INE* and Banco de Portugal.

Chart 5.3

NOMINAL HOUSEHOLD DISPOSABLE INCOME AND CONSUMER ASSESSMENT OF THEIR FINANCIAL SITUATION



Sources: European Commission, *INE* and Banco de Portugal.
Note: Confidence indicator calculated on the basis of the annual average of balance of respondents. For 2008, figures are calculated on the basis of data up to October.

of 2008 was mainly comprised of fixed-term contracts, which are associated with higher uncertainty about intertemporal income flows. This, together with deteriorating consumer expectations about unemployment developments in the near future, may constrain household consumption expenditure. Also, the easing of the tax burden in mid-2008, in particular regarding indirect taxes, is only expected to give a relatively limited boost to private consumption in the year as a whole, mainly affecting the intra-annual profile of this expenditure component.

The slight moderation in private consumption growth in the past few years occurred against a background of deteriorating household financing conditions. In fact, there was a gradual rise in interest rates, whose impact on the Portuguese economy will tend to be magnified, due to the relatively high

household indebtedness level and the fact that most bank lending rates are indexed to money market rates. In the context of the ongoing financial market crisis, the pass-through by banks to customers of the rise in financing costs is expected to intensify. Indeed, credit standards have been progressively tightened since the onset of the financial market turmoil in mid-2007. According to the *Bank Lending Survey*, published in November, most banks have tightened credit standards for loans to the non-financial private sector in the third quarter of 2008, and this trend is not expected to be reversed in the last quarter of the year. However, consumer credit has grown significantly in the course of 2008, according to information available up to August.

Underlying current estimates for private consumption is a downward path throughout 2008, in line with the deterioration in consumer confidence and the coincident indicator for the year-on-year evolution of private consumption[30] calculated by Banco de Portugal (Chart 5.4). However, the intra-annual profile of private consumption is expected to be irregular, mainly due to developments in expenditure on durable goods. In fact, while non-durable consumption growth is likely to stabilise somewhat over the year, consumption of durable goods is projected to accelerate markedly year-on-year in the third quarter, following a strong fall in the previous quarter. This reflects, on the one hand, a base effect associated with the changes in vehicle taxes that entered into force in July 2007, which have led to the early purchase of motor vehicles in the second quarter of 2007[31] and, on the other hand, the cut of the VAT rate in July 2008, which is likely to have resulted in the postponement to the third quarter of 2008 of some consumption decisions, particularly regarding durable goods.

In 2008, according to Banco de Portugal estimates, public consumption growth is projected to be marginally positive, as in 2007. Underlying this estimate is a decline in the number of civil servants, reflecting the effect of current general government hiring policy. By contrast, goods and services expenditure seems to have recorded an increase, as a result of developments in intermediate consumption and social benefits in kind, in particular in the components related to payments to corporate hospitals and to pharmaceutical subsidies and conventions.

After having recorded one of the highest growth rates of this decade in 2007, although considerably lower than in the comparable stage of the previous business cycle, GFCF is expected to fall in 2008. Current Banco de Portugal estimates indicate a -0.8 per cent change, after 3.2 per cent growth in the previous year. Indeed, the recovery path that had been followed in the past few years is likely to be interrupted in 2008, in line with developments in services and industrial confidence indicators (Chart 5.5).

The deceleration in GFCF reflects a broadly based slowdown in its components (Chart 5.6) and it is expected to present a downward path throughout 2008, with a significant decline in the second half of the year. GFCF in "Machinery and equipment" is likely to be the most buoyant investment component, but decelerating by 2 p.p. to 5.0 per cent, in line with weakening confidence indicators and against a background of deteriorating order books. GFCF in "Construction" is expected to decline by around 4 per cent after close-to-zero growth in 2007, in line with developments in cement sales to the domestic market (Chart 5.7) and amid a more marked deceleration in loans for house purchase. In turn, GFCF in "Transport equipment" is expected to decelerate strongly in 2008, particularly in the second half of the year. The deceleration in the year as a whole mainly reflects the behaviour of investment regarding the purchase of light commercial vehicles.[32] On the other hand, the intra-annual profile of GFCF is largely influenced by GFCF developments in "Other transport equipment", associated with the purchase of

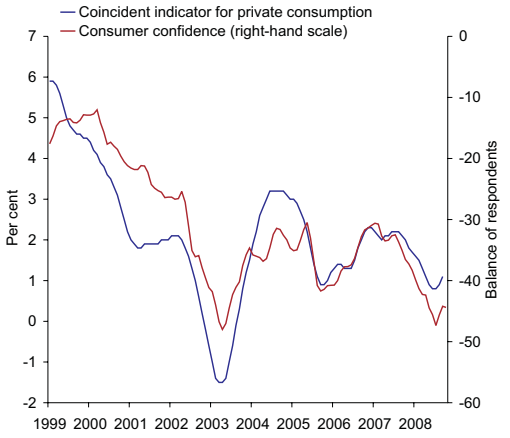
(30) By definition, this indicator does not have an irregular component, and therefore presents a smooth behaviour. For more details on this methodology, see Rua (2005), "*A new coincident indicator for the Portuguese private consumption*", Banco de Portugal, *Economic Bulletin*-Autumn.

(31) For more details, see "Box 4.1 *Private consumption developments in 2007 and behaviour of durable goods*", Banco de Portugal, 2007 *Annual Report*.

(32) Sales of light commercial vehicles declined by 20.7 per cent, in year-on-year terms, in the period from January up to October 2008, after 6.1 per cent growth in 2007.

Chart 5.4

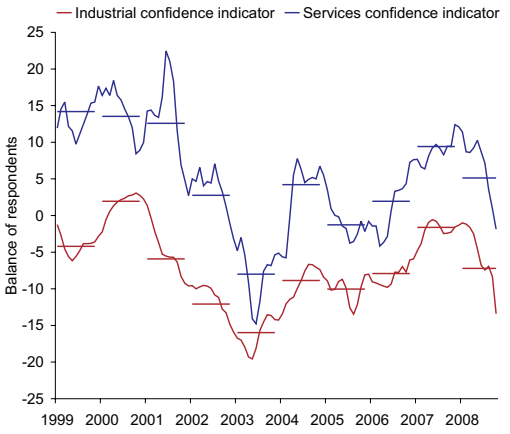
CONSUMER CONFIDENCE INDICATOR AND COINCIDENT INDICATOR FOR PRIVATE CONSUMPTION



Sources: European Commission and Banco de Portugal.
Note: Confidence indicator calculated on the basis of the quarterly moving average of balance of respondents.

Chart 5.5

INDUSTRIAL AND SERVICES CONFIDENCE INDICATORS

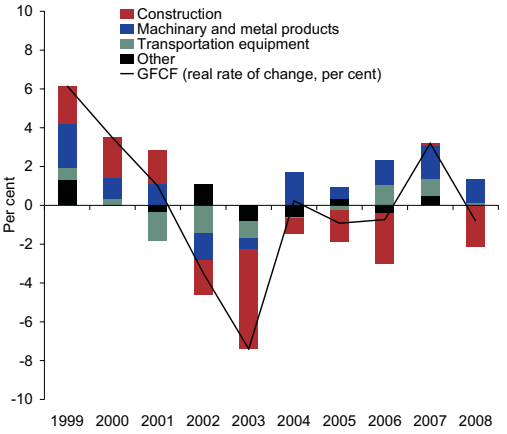


Source: European Commission.
Note: Confidence indicator calculated on the basis of the quarterly moving average of balance of respondents and the corresponding annual average (for 2008, figures are calculated on the basis of data up to October).

Chart 5.6

BREAKDOWN OF REAL CHANGE IN GFCF

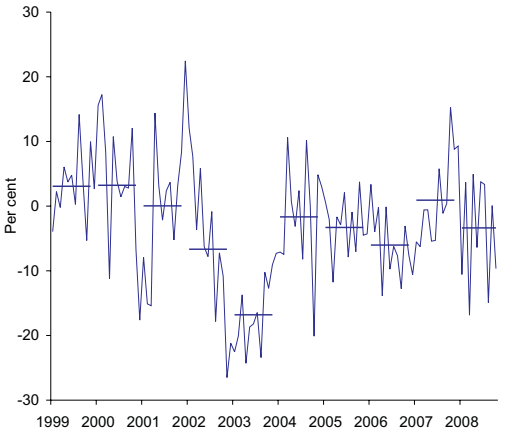
Contributions, percentage points



Sources: *INE* and Banco de Portugal.

Chart 5.7

CEMENT SALES TO THE DOMESTIC MARKET



Sources: *Cimpor* and *Secil*.
Note: Cement sales calculated on the basis of the year-on-year rate of change in Portuguese companies' cement sales to the domestic market and corresponding annual growth (for 2008, figures are calculated on the basis of data up to October).

aircraft. In fact, the purchase of aircraft, which was more significant in the second half of 2007 and in the first half of 2008, is projected to cease in the second half of 2008. Despite the expected impact on the intra-annual profile of GFCF, the purchase of aircraft is not likely to influence the magnitude of the slowdown for the year as a whole (Chart 5.8).[33]

(33) In addition to this effect, purchases of vehicles by rent-a-car companies are expected to decline, in year-on-year terms, in the second half of 2008, reflecting a base effect associated with the changes in vehicle taxes that entered into force in July 2007, which in this case resulted in purchase postponement to the third quarter of 2007.

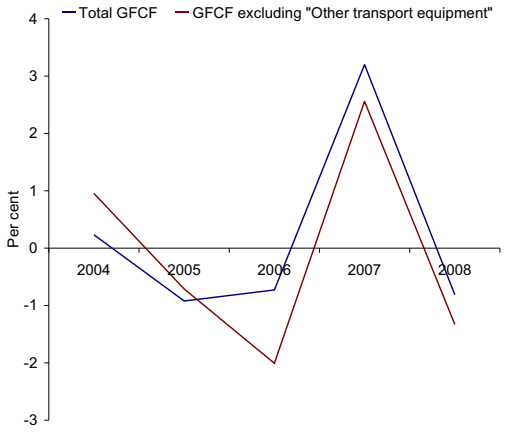
The uncertainty about international financial developments and their interaction with global economic activity seems to have limited the buoyancy of corporate investment in 2008. According to the Investment Survey of *INE*, released in July 2008, the share of companies in the various sectors reporting to have faced investment restrictions in 2008 stood at 42.5 per cent, *i.e.* a slight increase from the figure for 2007, published in the same period of the previous year (41.7 per cent). More than half of the above-mentioned companies continued to report the deterioration of sales prospects as the main limiting factor (Chart 5.9). However, the importance of self-financing capacity as the main limiting factor has gradually increased over the past few years. At the same time, the share of companies that indicate access to credit and the interest rate level as factors limiting investment has also increased, albeit slightly in 2008. This suggests increased difficulty of the corporate sector in financing new investments and is particularly significant against the background of the ongoing international financial crisis. According to the *Bank Lending Survey*, released in November, the five major banking institutions tightened credit standards for corporate loans in the third quarter of 2008 and expect a further tightening in the following quarter, largely reflecting increased funding difficulties in wholesale international markets. However, according to information available up to August, loans to non-financial corporations continued to grow strongly.

Against the background of the current external environment deterioration, particularly in most major Portuguese trading partners, goods and services exports are likely to decelerate significantly in 2008. The real rate of change in exports is expected to stand at 1.4 per cent (7.6 per cent in 2007), with a slightly negative market share change in 2008, following a gain in the previous year (Chart 5.10).[34,35] The export performance reflects less buoyant goods exports, which are likely to decelerate by 5 p.p. to 1.1 per cent, and services exports, whose real growth rate is projected to stand at 2.4 per cent (11.4 per cent in 2007).

Chart 5.8

DEVELOPMENTS IN GFCF

Real rate of change

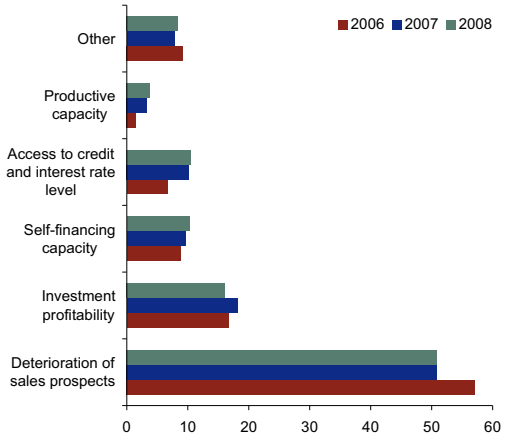


Sources: *INE* and Banco de Portugal.

Chart 5.9

MAIN FACTOR LIMITING INVESTMENT

Per cent of total number of companies with investment restrictions



Source: *INE* (Investment Survey).

(34) According to information on international trade of goods, released by *INE*, nominal exports grew, in year-on-year terms, by 4.6 per cent in the period from January up to August 2008, after 8.9 per cent growth in 2007. Excluding fuels, nominal exports grew by 2.0 per cent in the same period (10.1 per cent in 2007). Taking into account preliminary data on international trade published within the framework of *SDDS*, nominal exports grew by 4.0 per cent in September (4.6 per cent growth in the period from January up to September 2008).

(35) Export behaviour in the recent period has been strongly influenced by significant growth in some markets (e.g. Angola). The fact that these markets are not explicitly considered in the external demand indicator due to statistical limitations, makes it more difficult to analyse market shares.

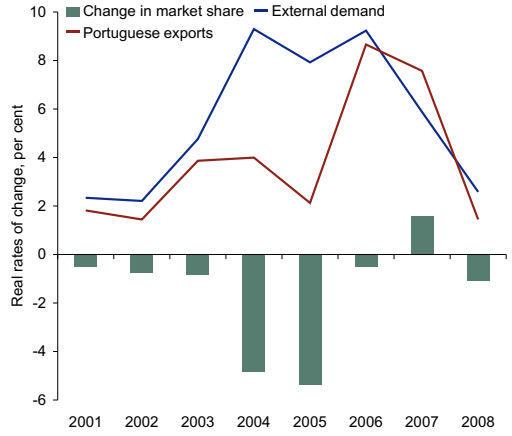
According to available information on the international trade of goods, released by *INE*, in 2008 nominal exports continued to follow along the deceleration path started in the second quarter of 2007 (Table 5.2). Compared with the previous year, the main sector behind the export deceleration in the first half of 2008 was the medium-high-tech sector, namely "Machinery and equipment" an in particular exports to Spain. Although to a lesser extent, exports of low-tech products, particularly clothing, also performed negatively in the first quarters of 2008. In contrast, nominal exports of fuels, particularly to Spain, accelerated, partly due to fuel price increases. The upward trend seen in recent years in the share of exports to non-EU markets, particularly Angola, is expected to continue in 2008, given that export growth to these destinations continues to be very significant, while in the intra-EU market goods exports have decelerated, particularly in the three major Portuguese trading partners (Spain, France and, to a lesser extent, Germany) (Table 5.3).

With regard to services exports, available information indicates a strong deceleration during 2008, after very significant nominal growth over the past two years (Chart 5.11). This reflects exports of both tourism and other services, and in particular transportation services (Table 5.4). Tourism behaviour reflects less buoyant demand by some major markets, namely the United Kingdom, Germany, Spain and the United States (Table 5.5). By contrast, tourism exports to Brazil accelerated markedly. Less favourable developments in tourism exports are in line with those of nights spent by non-resident tourists, with close-to-zero growth in the period from January up to August 2008, after a 6.2 per cent change in 2007.

In 2008 the real growth of imports is projected to be lower than in 2007. The deceleration in imports is in line with the expected slowdown in the overall demand weighted by import contents (Chart 5.12). Current estimates point to 2.6 per cent real growth of imports of goods and services in 2008 (5.9 per cent in 2007), reflecting a further increase in the penetration rate of imports.

Chart 5.10

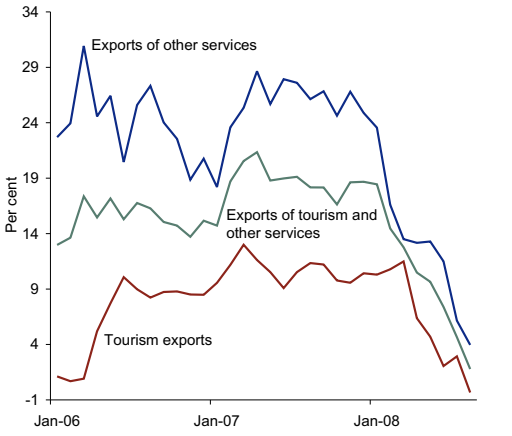
MARKET SHARE OF PORTUGUESE GOODS AND SERVICES EXPORTS



Sources: ECB, UK Office for National Statistics and Banco de Portugal calculations.
Note: External demand adjusted for the effects of the tax fraud in the United Kingdom.

Chart 5.11

NOMINAL EXPORTS OF SERVICES

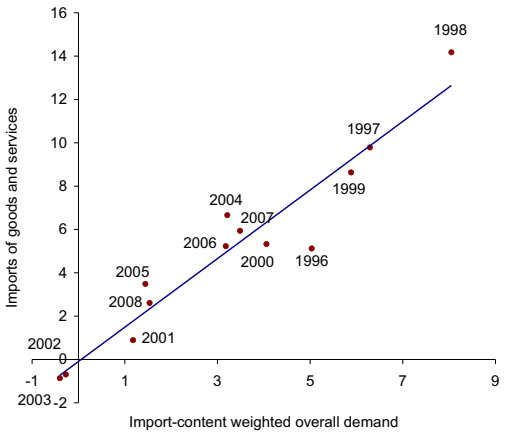


Source: Banco de Portugal (Balance of Payments).
Note: Nominal exports calculated on the basis of quarterly year-on-year changes.

Chart 5.12

IMPORTS OF GOODS AND SERVICES AND WEIGHTED OVERALL DEMAND

Real rate of change, per cent



Sources: *INE* and Banco de Portugal.

Table 5.2

PORTUGUESE EXPORTS OF GOODS BY GROUPS OF PRODUCTS, MAIN ECONOMIC CATEGORIES AND TECHNOLOGICAL INTENSITY

Year-on-year rate of change and contributions; nominal values

	Weights 2007	Year-on-year rate of change (per cent)								Contribution to the year-on-year rate of change (p.p.)							
		2007	2008 (up to Aug)	2007				2008		2007	2008 (up to Aug)	2007				2008	
				Q1	Q2	Q3	Q4	Q1	Q2			Q1	Q2	Q3	Q4	Q1	Q2
Total	100.0	8.9	4.6	13.6	9.8	6.4	6.0	4.8	3.7	8.9	4.6	13.6	9.8	6.4	6.0	4.8	3.7
Classification by groups of products																	
Agriculture	3.9	16.1	21.0	13.0	8.3	18.7	23.7	18.3	26.8	0.6	0.8	0.5	0.3	0.7	0.9	0.7	1.0
Food	4.6	19.0	10.3	18.5	19.7	18.9	18.9	12.3	11.4	0.8	0.4	0.7	0.8	0.8	0.9	0.5	0.5
Mineral fuels	4.5	-9.6	61.2	-20.3	-22.7	2.7	4.1	63.6	58.7	-0.5	2.6	-1.0	-1.4	0.1	0.2	2.3	2.6
Chemicals	5.0	7.6	3.6	-2.9	9.0	5.0	21.5	5.2	3.1	0.4	0.2	-0.2	0.4	0.3	0.9	0.2	0.2
Plastic, rubber products	5.7	17.0	6.9	16.5	11.9	16.0	24.0	8.6	6.0	0.9	0.4	0.9	0.6	0.9	1.2	0.5	0.3
Leather, leather products	0.3	1.3	-0.8	7.7	3.5	0.0	-5.7	-4.1	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wood, cork	4.3	10.1	-2.5	11.6	12.7	12.0	3.9	-0.9	-2.7	0.4	-0.1	0.5	0.6	0.5	0.2	0.0	-0.1
Cellulose pulp, paper	4.4	6.5	5.1	6.5	3.1	4.1	12.4	7.1	3.3	0.3	0.2	0.3	0.1	0.2	0.5	0.3	0.1
Textile products	4.5	3.3	-6.1	6.9	2.7	4.1	0.0	-3.1	-8.1	0.2	-0.3	0.3	0.1	0.2	0.0	-0.1	-0.4
Clothing	6.9	5.2	-5.7	4.4	3.6	1.9	11.0	-3.4	-6.9	0.4	-0.4	0.4	0.2	0.1	0.7	-0.3	-0.4
Footwear	3.5	3.8	1.7	2.4	5.8	3.6	4.1	-1.4	-0.4	0.1	0.1	0.1	0.2	0.2	0.1	-0.1	0.0
Minerals, ores	5.7	14.8	4.3	17.7	16.5	15.9	9.7	6.7	5.0	0.8	0.2	0.9	0.9	0.8	0.5	0.4	0.3
Basic metals	8.8	14.1	5.6	20.0	18.8	10.1	7.2	0.1	8.1	1.2	0.5	1.7	1.6	0.8	0.6	0.0	0.7
Machinery, equipment	19.8	8.7	-2.3	22.2	18.9	-0.8	-2.5	-2.3	-3.6	1.7	-0.5	4.2	3.5	-0.2	-0.5	-0.5	-0.7
Motor vehicles, other transport equipment	12.7	5.0	-0.2	25.7	6.2	1.3	-9.8	4.0	-6.4	0.7	0.0	3.1	0.9	0.2	-1.4	0.5	-0.9
Optical and precision instruments	0.9	8.0	11.2	6.8	12.0	3.0	9.6	11.8	12.9	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1
Other products	4.6	23.5	8.4	25.6	20.1	23.6	25.1	7.5	10.4	1.0	0.4	1.1	0.9	0.9	1.0	0.3	0.5
Classification by main economic categories																	
Intermediate goods	34.8	13.0	4.0	15.0	13.5	10.0	13.1	3.4	4.9	4.3	1.4	5.1	4.7	3.3	4.2	1.2	1.8
Capital goods	27.9	14.1	0.9	23.5	24.3	6.5	3.7	2.9	-2.6	3.8	0.2	6.2	6.2	1.8	1.0	0.8	-0.7
Consumer goods [a]	32.2	4.5	0.4	10.0	1.6	4.1	2.4	1.2	-0.4	1.5	0.1	3.3	0.5	1.4	0.8	0.4	-0.1
Fuels	4.1	-12.8	71.3	-22.6	-27.7	2.6	-1.6	71.1	70.3	-0.7	2.7	-1.1	-1.6	0.1	-0.1	2.3	2.7
Other	1.0	-2.4	18.6	-1.2	5.5	-11.1	-1.6	14.1	18.4	0.0	0.2	0.0	0.1	-0.1	0.0	0.1	0.2
Classification by technological intensity [b]																	
High-tech	9.8	6.9	8.6	4.3	14.0	-3.0	12.5	16.2	5.0	0.7	0.8	0.4	1.4	-0.3	1.2	1.6	0.5
Medium-high-tech	31.4	8.4	-2.6	24.3	12.6	3.8	-4.6	-2.8	-5.1	2.7	-0.8	7.3	4.0	1.2	-1.5	-0.9	-1.6
Medium-low-tech	24.8	9.3	15.4	9.7	6.7	10.5	10.4	13.5	15.9	2.3	3.8	2.4	1.7	2.6	2.5	3.2	4.0
Low-tech	34.0	9.7	2.4	9.9	8.5	8.7	11.7	3.0	2.8	3.3	0.8	3.5	2.8	2.9	3.9	1.0	0.9
Memo: Total excluding fuels	95.9	10.1	2.0	15.4	12.2	6.6	6.4	2.6	1.1	9.6	1.9	14.7	11.4	6.3	6.1	2.5	1.1

Sources: *INE* (International Trade Statistics) and Banco de Portugal.
Notes: (a) Including passenger vehicles. (b) Breakdown of exports by technological intensity according to the methodology proposed by the OECD and described in the Box of the 2006 *Annual Report* entitled "*The dynamics of the Portuguese export specialisation pattern in recent decades*". Calculations in this Box were based on CEPII-Chelem data which, contrary to information on international trade published by *INE* on a monthly basis, does not include estimates for non-replies and for companies below the so-called assimilation threshold. In order to assure consistency between that breakdown and *INE* data, this table uses the following correspondence with the two-digit Combined Nomenclature: High-tech (30; 84; 88; 90 and 91); Medium-high-tech (28; 29; 31-38; 85-87; 89 and 92-95); Medium-low-tech (25-27; 39-40; 68-83); Low-tech (1-24; 41-67; and 96-99).

Table 5.3

PORTUGUESE EXPORTS OF GOODS BY GEOGRAPHICAL AREAS

Year-on-year rate of change and contributions; nominal values

	Weights 2007	Year-on-year rate of change (per cent)								Contribution to the year-on-year rate of change (p.p.)							
		2007	2008 (up to Aug)	2007				2008		2007	2008 (up to Aug)	2007				2008	
				Q1	Q2	Q3	Q4	Q1	Q2			Q1	Q2	Q3	Q4	Q1	Q2
TOTAL	100.0	8.9	4.6	13.6	9.8	6.4	6.0	4.8	3.7	8.9	4.6	13.6	9.8	6.4	6.0	4.8	3.7
Intra-EU	76.7	7.8	1.5	12.1	8.3	6.3	4.7	2.8	0.4	6.1	1.2	9.6	6.5	4.7	3.6	2.2	0.3
of which:																	
Spain	28.3	12.5	3.2	14.8	9.8	13.1	12.6	3.1	3.5	3.4	0.9	4.2	2.8	3.4	3.4	0.9	1.0
Germany	13.0	8.2	1.6	28.9	9.7	2.8	-5.0	1.8	-1.4	1.1	0.2	3.5	1.3	0.4	-0.7	0.3	-0.2
France	12.6	11.1	-2.8	14.6	11.3	9.7	8.6	-2.2	-1.5	1.4	-0.4	2.0	1.4	1.1	1.0	-0.3	-0.2
United Kingdom	6.0	-7.4	-4.9	-7.4	-0.3	-8.7	-13.1	-3.5	-9.5	-0.5	-0.3	-0.5	0.0	-0.6	-0.9	-0.2	-0.6
Italy	4.1	9.6	-4.1	10.6	6.7	4.6	16.9	1.5	-3.6	0.4	-0.2	0.5	0.3	0.2	0.6	0.1	-0.2
Extra-EU	23.3	12.6	15.0	19.3	15.3	6.9	10.2	12.2	15.1	2.8	3.4	4.0	3.3	1.7	2.4	2.6	3.5
of which:																	
United States	4.8	-15.1	-22.3	8.2	-17.3	-29.0	-16.8	-24.2	-19.0	-0.9	-1.1	0.4	-1.1	-2.0	-1.0	-1.2	-0.9
Portuguese-speaking African countries	5.5	35.3	25.6	40.9	35.8	34.7	31.5	20.3	24.1	1.6	1.3	1.6	1.5	1.6	1.6	1.0	1.2

Sources: *INE* (International Trade Statistics) and Banco de Portugal.

Table 5.4

PORTUGUESE EXPORTS OF SERVICES

Year-on-year rate of change and contributions; nominal values

	Weights 2007	Year-on-year rate of change (per cent)					Contribution to the year-on-year rate of change (p.p.)				
		2007	2008 (up to Aug)	2007		2008	2007	2008 (up to Aug)	2007		2008
				H1	H2	H1			H1	H2	H1
Total	100.0	19.0	6.7	19.7	18.4	9.8	19.0	6.7	19.7	18.4	9.8
Tourism	43.9	10.8	3.2	10.7	10.9	5.9	5.1	1.4	4.6	5.4	2.4
Transportation	25.4	34.7	11.0	35.4	34.1	12.6	7.8	2.8	8.4	7.3	3.4
Other business	17.6	19.5	11.5	21.9	17.3	14.4	3.4	2.0	4.1	2.9	2.7
Communications	3.7	14.1	5.2	25.8	4.1	7.4	0.5	0.2	1.0	0.2	0.3
Construction	3.5	43.6	10.6	33.8	53.4	14.8	1.3	0.4	1.1	1.4	0.5
Financial	1.5	25.2	-7.2	31.2	20.2	-6.0	0.3	-0.1	0.4	0.3	-0.1
Computer and information	1.2	25.0	27.6	11.0	38.7	35.8	0.3	0.3	0.1	0.4	0.4
Personal, cultural and recreational	1.1	-5.7	10.2	-10.6	-1.0	18.0	-0.1	0.1	-0.2	0.0	0.2
Government operations	1.1	16.9	-7.9	-9.8	41.1	20.7	0.2	-0.1	-0.1	0.4	0.2
Insurance	0.6	5.8	3.7	1.9	10.5	7.5	0.0	0.0	0.0	0.1	0.1
Royalties and license fees	0.5	18.3	-48.2	23.0	12.6	-50.3	0.1	-0.2	0.1	0.0	-0.3

Source: Banco de Portugal (Balance of Payments).

Table 5.5

PORTUGUESE EXPORTS OF TOURISM SERVICES

Year-on-year rate of change and contributions; nominal values

	Weights 2007	Year-on-year rate of change (per cent)					Contribution to the year-on-year rate of change (p.p.)				
		2007	2008 (up to Aug)	2007		2008	2007	2008 (up to Aug)	2007		2008
				H1	H2	H1			H1	H2	H1
Total	100.0	10.8	3.2	10.7	10.9	5.9	10.8	3.2	10.7	10.9	5.9
United Kingdom	23.7	8.6	-1.7	9.9	7.7	0.8	2.1	-0.4	2.5	1.8	0.2
France	15.1	13.9	8.7	16.1	12.9	13.6	2.0	1.4	1.9	2.2	1.7
Spain	14.7	11.6	3.1	13.9	10.2	8.9	1.7	0.4	1.9	1.6	1.2
Germany	12.0	6.6	-7.3	5.5	7.5	-6.3	0.8	-0.8	0.8	0.9	-0.8
US	4.0	7.0	-21.6	7.3	6.7	-19.0	0.3	-0.9	0.3	0.3	-0.8
Netherlands	3.6	6.4	11.5	4.5	7.8	13.2	0.2	0.4	0.2	0.3	0.5
Belgium	2.6	17.5	4.7	11.8	21.1	10.1	0.4	0.1	0.3	0.5	0.2
Italy	2.5	12.0	-2.8	21.4	6.8	-1.2	0.3	-0.1	0.5	0.2	0.0
Brazil	2.4	18.3	45.0	11.7	23.8	51.5	0.4	1.0	0.3	0.5	1.3
Switzerland	2.0	11.9	7.5	19.1	6.9	5.5	0.2	0.1	0.4	0.1	0.1
Rest of the world	17.5	13.3	10.3	9.4	16.3	12.8	2.3	1.8	1.7	2.7	2.3

Source: Banco de Portugal (Balance of Payments).

6. Prices

The inflation rate in Portugal, measured by the annual average rate of change of the Harmonised Index of Consumer Prices (HICP), is projected to be 2.8 per cent in 2008, increasing 0.4 percentage points (p.p.) *vis-à-vis* the previous year (Chart 6.1). Comparing the current projection for Portugal with the average value of the projection interval of the annual average inflation rate for the euro area, published in the September 2008 issue of the European Central Bank (ECB) *Monthly Bulletin*, the inflation differential *vis-à-vis* the euro area is expected to stand at -0.7 p.p. This is not only a reduction of 1 p.p. when compared with 2007, but is also a historical low. In the current projection, the inflation rate for 2008 has been revised slightly downward, by 0.2 p.p., when compared with the figure published in the summer issue of the *Economic Bulletin*, namely reflecting energy price developments in recent months.

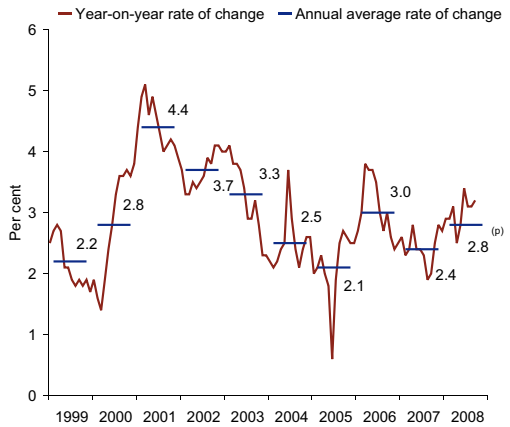
After decelerating between 2001 and 2003, in the past few years, inflation in Portugal has remained relatively stable in annual average terms, within an interval with a range not exceeding 1 p.p. These developments were influenced by both domestic and external conditions. Regarding domestic conditions, coupled with the weak dynamics of economic activity (see "Section 5 *Expenditure*" in this Bulletin), wage and unit labour cost (ULC) growth displayed relatively modest fluctuations (Chart 6.2). In particular, wage developments in 2008 are expected to be similar to those observed in the previous year and also close to the developments in the euro area. In turn, ULC should increase in 2008, namely in the private sector, thus also contributing to the increase in annual average inflation this year. According to Banco de Portugal estimates, ULC acceleration is projected to reflect a strong deceleration in productivity (see "Section 4 *Supply*" in this Bulletin). ULC growth in the euro area is also expected to be higher than in 2007, associated with a deceleration in productivity and an acceleration in compensation per employee.

In addition to domestic conditions, developments in the euro and in import prices of goods excluding energy had a moderating effect on inflation in Portugal. The latter has also benefited from the participation in the euro

Chart 6.1

HARMONISED INDEX OF CONSUMER PRICES

Year-on-year and average rates of change

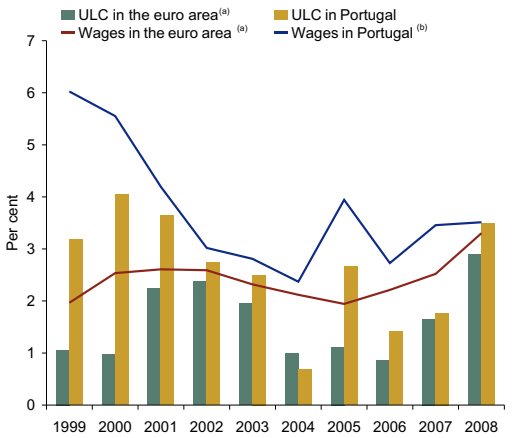


Sources: Eurostat and Banco de Portugal.
Note: (p) - Projection.

Chart 6.2

WAGES AND ULC

Annual rate of change of compensation per employee and unit labour costs in total economy



Sources: Eurostat, *INE* and Banco de Portugal.
Notes: (a) In 2008, average of the first two quarters. (b) Compensation per employee excluding social contributions paid by the general government.

area, which has contributed to stabilise inflation expectations around levels close to the euro area average (Table 6.1 and Chart 6.3).

The intra-annual evolution of the year-on-year rate of change of the HICP throughout 2008, as well as the projected increase of the annual average inflation, should essentially reflect developments in energy and processed food prices (Table 6.2).[36] Throughout the first half of 2008, both components made a positive and increasing contribution to the year-on-year rate of change of total HICP, similarly to the observed since August 2007 (Chart 6.4). From July to September, these components also had a decisive influence on the deceleration of consumer prices, against a background of lower international food and energy commodity prices.

The significant acceleration in energy prices (a cumulative change from January to September of 9.8 per cent in 2008, after 1.9 per cent in 2007) was associated with oil price developments (Chart 6.5 and Table 6.1). Against this background, it should be noted that the prices of this component decelerated from July to September, in line with the slowdown in oil prices, which suggests a reversal of the sharp increases observed since the third quarter of 2007.

Nevertheless, in spite of the recent deceleration in energy prices, it cannot be excluded the possibility of a subsequent upward pressure on inflation, as a result of the significant increases in these prices observed by the end of 2007 and in the first half of 2008. Disturbances in the price of a specific good or service may spread to prices of other goods or services through (direct or indirect) transmission mechanisms, which vary according to the different markets and their respective structure. For example, changes in transport service prices appear to be preceded by changes in the price of fuel and lubricants and the transmission lag seems to have decreased in the most recent period (Chart 6.6). Likewise, prices of other energy goods are usually associated with the price of oil products.[37] However, this was not seen in electricity and gas prices in Portugal. The price of electricity in 2008 increased less than in the previous year. In addition, natural gas sale tariffs for final

Table 6.1

PORTUGAL – MAIN INTERNATIONAL PRICE INDICATORS

Rate of change, per cent

	2004	2005	2006	2007	2008		
					Q1	Q2	Q3
Goods import prices [a]							
Total	2.2	3.1	4.1	1.3	5.6	7.1	
Total excluding fuels	0.8	-0.6	1.4	1.4	0.7	1.4	
Consumer goods	-1.6	-2.7	0.9	0.1	1.2	0.7	
Food consumer goods	1.2	-0.7	2.3	4.0	7.4	5.7	
Non-food consumer goods	-2.8	-3.6	0.2	-1.7	-1.4	-1.8	
International commodity prices							
Oil prices (Brent Blend), EUR	21.4	45.0	19.0	0.4	44.0	53.2	44.9
Non-energy commodity prices, EUR	10.8	9.4	24.8	9.2	11.9	7.1	8.6
Nominal effective exchange rate index for Portugal [b]	0.6	-0.2	0.2	0.8	1.6	1.8	1.4

Sources: Eurostat, HWWI, *INE*, Thomson Reuters and Banco de Portugal.
Notes: (a) Banco de Portugal calculations based on information provided by *INE*. The classification by broad economic categories shown in this table differs from that used by *INE*, given that light passenger vehicles are included in consumer goods rather than in capital goods. (b) A positive change corresponds to an appreciation of the index. For a detailed description of the methodology, see Gouveia, A. C. and Coimbra, C., (2004), "*New effective exchange rate index for the Portuguese economy*", Banco de Portugal, *Economic Bulletin*-December.

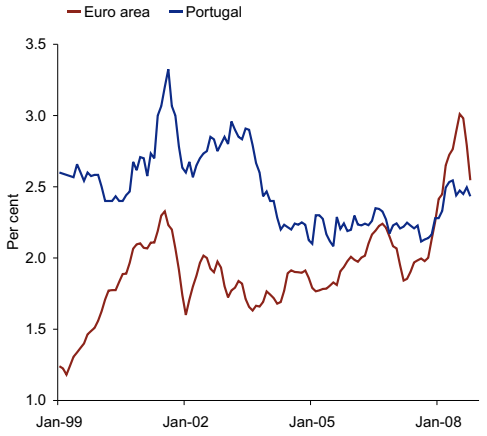
(36) There were also some disturbances in relative prices of other goods, which gave rise to some temporary volatility in the year-on-year monthly change in prices. In particular, mention should be made to the deceleration observed in April 2008, which was to a large extent related to the base effect of the sharp price increase in hospital services in the same month a year earlier.

(37) See "Box 8 *Non-oil energy price developments*", ECB *Monthly Bulletin*, September 2008.

Chart 6.3

INFLATION EXPECTATIONS: PORTUGAL AND EURO AREA

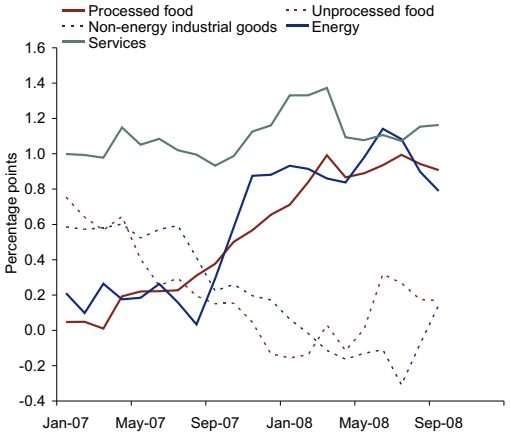
Expectations for a 12-month horizon



Sources: Consensus Forecasts and Banco de Portugal calculations.

Chart 6.4

DEVELOPMENTS IN THE CONTRIBUTIONS TO THE YEAR-ON-YEAR RATE OF CHANGE OF TOTAL HICP



Source: Eurostat.

Table 6.2

HICP – MAIN CATEGORIES AND AGGREGATES

Average and year-on-year rates of change, per cent

	Weights 2007	Annual average rates of change				Monthly year-on-year rates of change			
		2005	2006	2007	2008	2006	2007		
		Dec	Dec	Dec	Sep	Dec	Mar	Jun	Sep
Total	100.0	2.1	3.0	2.4	2.9	2.7	3.1	3.4	3.2
Total excluding energy	90.8	1.4	2.5	2.3	2.2	2.0	2.5	2.5	2.6
Total excluding unprocessed food and energy	79.4	1.7	2.4	2.2	2.5	2.5	2.9	2.5	2.8
Goods	62.3	1.9	3.2	2.2	2.9	2.5	2.9	3.7	3.3
Food	21.9	0.1	3.6	2.8	4.1	2.4	4.8	5.9	5.0
Unprocessed	11.3	-0.5	3.2	3.0	0.5	-1.2	0.3	2.9	1.5
Processed	10.6	0.8	4.1	2.6	7.9	6.2	9.7	9.1	8.7
Industrial	40.4	2.8	3.0	1.9	2.2	2.6	1.8	2.5	2.3
Non-energy	31.1	1.0	1.5	1.4	0.0	0.6	-0.4	-0.4	0.5
Energy	9.2	10.0	8.1	3.5	9.4	9.5	9.1	11.7	8.2
Services	37.7	2.5	2.7	2.8	3.1	3.1	3.6	2.9	3.0
Memo:									
CPI	-	2.3	3.1	2.5	2.9	2.7	3.1	3.4	3.1
Euro area HICP	-	2.2	2.2	2.1	3.4	3.1	3.6	4.0	3.6

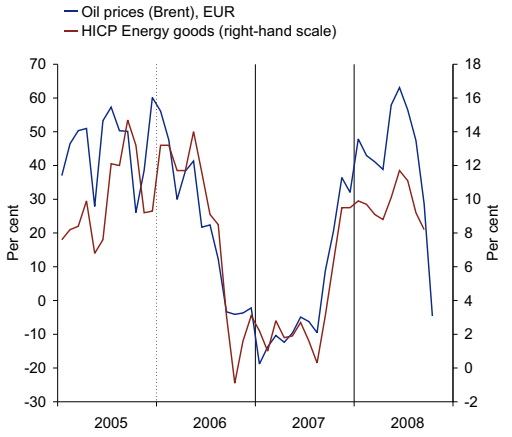
Sources: Eurostat and *INE*.

customers are set by the Energy Services Regulatory Authority (ERSE) since July 2008. This had a rather significant impact on developments in gas consumer prices (year-on-year rate of change of 4.3 per cent in the third quarter, after 10.4 per cent in the previous quarter).

Chart 6.5

ENERGY PRICES

Year-on-year rate of change

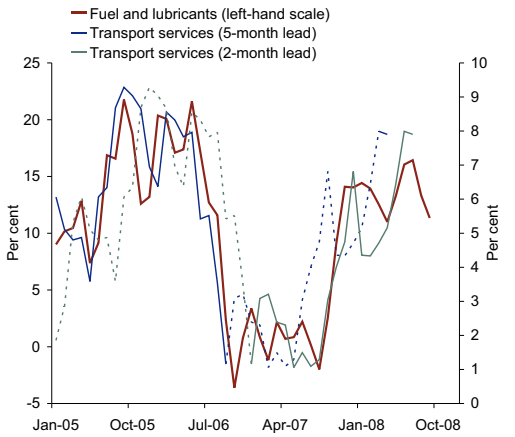


Sources: Eurostat and Thomson Reuters.

Chart 6.6

DEVELOPMENTS IN THE PRICES OF FUEL AND LUBRICANTS AND TRANSPORT SERVICES

Year-on-year rate of change



Source: Eurostat.

Developments in processed food prices were similar to those of energy prices, reflecting since August 2007 an increase in food commodity prices in international markets and in import prices of food consumer goods (Chart 6.7 and Table 6.1) (see "Section 2 *International framework*" in this Bulletin).[38] Changes in processed food prices will also tend to pass through to the relative prices of other products. In particular, processed food developments appear to have influenced changes in restaurant and café prices (Chart 6.8). It should also be noted that their acceleration contributed with 0.2 p.p. to the 0.7 p.p. increase in the cumulative rate of change of total HICP up to September 2008 *vis-à-vis* the same period in the previous year.

The total inflation differential (with inflation measured by the change in the HICP) *vis-à-vis* the euro area has been decreasing somewhat continuously since July 2007, recording negative figures since September 2007 (Chart 6.9). These developments in the total differential are being basically determined by the unprocessed food and the non-energy industrial goods components. In particular, the negative differential *vis-à-vis* the euro area in the case of non-energy industrial goods reflected a decrease in the prices of this aggregate in Portugal. In line with the deceleration in import prices of non-energy goods against a background of euro appreciation in cumulated terms, this decrease was significantly influenced by developments in motor vehicle prices (probably related to the entry into force on July 1st 2007 of changes in vehicle taxation). Moreover, the standard VAT rate decreased by 1 p.p. in July 2008 in Portugal. Nevertheless, there is some uncertainty regarding the actual extent of the pass-through of this decrease to final consumer prices.[39]

In turn, a positive inflation differential was registered between Portugal and the euro area in the services component, influenced by an acceleration in restaurant and café prices. Similarly, the aggregate "Processed food excluding tobacco" has also shown positive differentials *vis-à-vis* the euro area in the year-on-year rate of change since August 2007.[40]

The negative inflation differential *vis-à-vis* the euro area, consistent with inflation expectations in Portugal not higher than those in the euro area since December 2007 (Chart 6.3), seems to be broadly unaffected by the

(38) For a more detailed discussion on developments in processed food prices throughout 2007 and early 2008, see "Box 5.1 *Developments in processed food prices throughout 2007*", Banco de Portugal, *Annual Report* 2007.

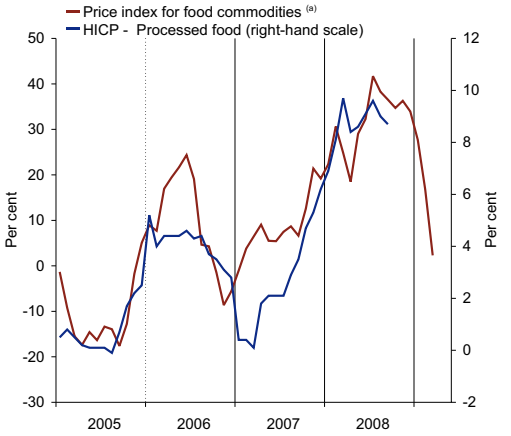
(39) For more details, see Banco de Portugal, *Economic Bulletin*–Summer 2008.

(40) In the case of tobacco, the inflation differential *vis-à-vis* the euro area is also positive. However, more recently, its contribution to the total inflation differential has remained relatively stable around 0.1 p.p.

Chart 6.7

FOOD PRICES

Year-on-year rates of change

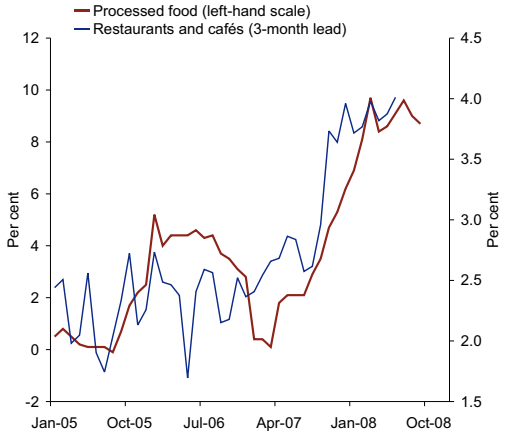


Sources: Eurostat and HWWI.
Note: (a) Series lagged five periods.

Chart 6.8

DEVELOPMENTS IN THE PRICES OF PROCESSED FOOD AND RESTAURANTS AND CAFÉS

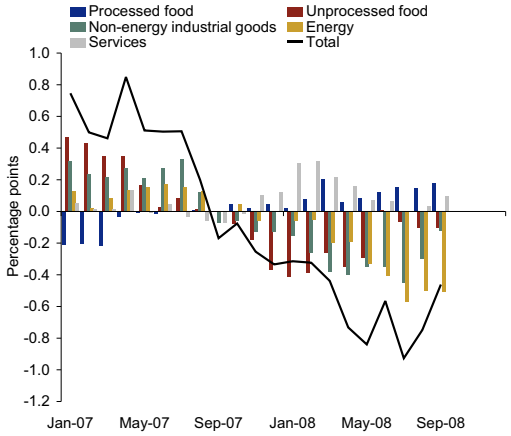
Year-on-year rate of change



Source: Eurostat.

Chart 6.9

BREAKDOWN OF THE DIFFERENTIAL BETWEEN THE YEAR-ON-YEAR RATE OF CHANGE OF TOTAL HICP FOR PORTUGAL AND FOR THE EURO AREA



Source: Eurostat.

administered price component, since the negative inflation differential of goods with administered prices (namely electricity, gas and pharmaceutical products) is offset by the positive differential of services with administered prices (in particular transport services and actual rents paid).

7. BALANCE OF PAYMENTS

7.1. Borrowing requirements in 2008

Net external borrowing requirements of the Portuguese economy, as measured by the combined current and capital account deficit, are expected to stand at 8.9 per cent of gross domestic product (GDP) in 2008, *i.e.* a 0.7 percentage point (p.p.) increase from the previous year (Table 7.1.1). Therefore, following the interruption of a deteriorating trend in 2007, the external imbalance of the Portuguese economy is projected to increase in 2008. The widening external deficit reflects the lower domestic savings rate, the relatively unchanged investment rate of the economy compared to 2007 and the higher capital account surplus (Chart 7.1.1). Current estimates for external borrowing requirements are below those published in the summer issue of the *Economic Bulletin* (10.6 per cent of GDP), reflecting a more marked improvement in the capital account surplus and, in terms of current account components, a lower income account deficit than previously projected.[41]

The increase in external borrowing requirements reflects the widening of the current account deficit, which more than offsets the higher capital account surplus. In turn, current account developments seem to reflect larger deficits for both the goods and services and the income accounts. The larger goods and services deficit seems to have mainly resulted from deteriorating terms of trade and volume effect, which are estimated to be negative in 2008, as opposed to 2007. The negative volume effect, reflecting a higher growth in imports than in exports, seems to have been affected by the deceleration of external demand and a slight loss in market share. The widening income account deficit seems to be associated with the continued deterioration of the international investment position and the rise in financing costs, amid financial market turmoil (see "Section 3.1 *Monetary policy of the ECB and monetary and financial conditions of the Portuguese economy*", in this Bulletin).

Table 7.1.1

CURRENT AND CAPITAL ACCOUNTS
Balance as a percentage of GDP

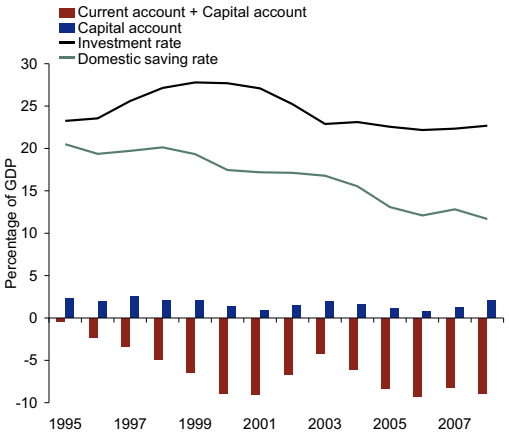
				1st half of the year (a)		
	2006	2007	2008 (b)	2006	2007	2008
Current and capital accounts	-9.3	-8.2	-8.9	-10.8	-8.1	-10.0
Current account	-10.1	-9.5	-	-11.3	-9.2	-11.9
Goods and services accounts	-7.6	-6.6	-8.0	-8.9	-6.4	-8.4
Goods	-10.7	-10.7	-	-11.0	-9.7	-11.9
Services	3.1	4.1	-	2.1	3.3	3.5
of which:						
Travel and tourism	2.6	2.8	-	1.9	2.0	2.1
Income	-4.1	-4.5	-	-4.1	-4.5	-4.9
Current transfers	1.6	1.6	-	1.7	1.7	1.5
of which:						
Emigrants/immigrants remittances	1.2	1.2	-	1.0	1.2	1.0
Capital account	0.8	1.3	-	0.6	1.1	1.9

Sources: *INE* and Banco de Portugal.
Notes: (a) For the calculation of ratios of the various Balance of Payments components to GDP over the first half of each year, six-month Banco de Portugal estimates of nominal GDP were used. (b) Banco de Portugal estimates.

(41) Estimates for the income deficit below the previous projection are largely associated with updated background information used to estimate direct investment income within the framework of the balance of payments statistics.

Chart 7.1.1

BORROWING REQUIREMENTS OF THE ECONOMY



Sources: *INE* and Banco de Portugal.

7.2. The balance of payments in the first half of 2008

In the first half of 2008 the combined current and capital account deficit increased from 8.1 per cent of GDP in 2007 to 10.0 per cent of GDP in 2008 (Table 7.1.1). Against a background of higher capital account surplus and relative stabilisation of the current transfers surplus, Portuguese external deficit developments were dominated by the deterioration of the goods and services account and, to a lesser extent, the income account (Chart 7.2.1). The widening of the goods and services deficit, which is associated with the increase in the goods deficit – the services surplus remained virtually unchanged *vis-à-vis* the same period in the previous year – reflected a negative effect on terms of trade, in prices and in volume terms (Chart 7.2.2).

In the first half of the year, the higher capital account surplus mainly reflected the public transfers component, which seems to be strongly influenced by the time overlap of projects funded under the Third Community Support Framework with projects covered by the National Strategic Reference Framework. Over the same period, the income deficit widened by 0.4 p.p. of GDP compared to 2007, continuing the trend deterioration started in 2004.

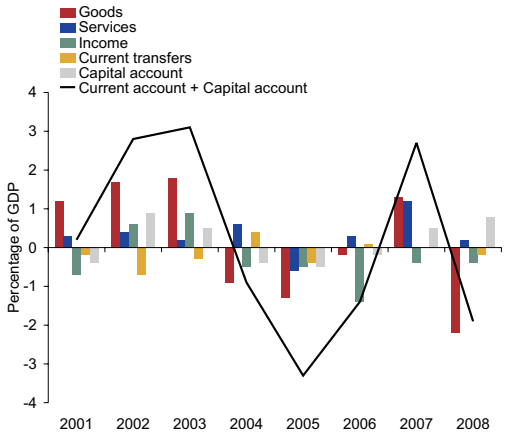
In turn, the relative stabilisation of the services surplus mainly reflected the deceleration of services exports, particularly tourism and transportation, as well as the acceleration in imports, in particular of technical professional services. Also in the first six months of 2008, the goods deficit stood at 11.9 per cent of GDP, i.e. an increase of 2.2 p.p. of GDP compared to the same period in 2007, following an improvement of 1.3 p.p. of GDP in the first half of 2007 compared to the previous year.

In contrast to 2007, in the first half of 2008 import prices grew at a higher rate than export prices. Particularly in the case of goods, and according to Banco de Portugal estimates on the basis of data provided by *INE*, import prices grew by 6.3 per cent, while export prices increased by 2.3 per cent, translating into a loss of terms of trade of 3.7 per cent. Moreover, the strong acceleration in goods import prices (6.2 p.p. compared to the first half of 2007), which was strongly influenced by fuel prices, resulted in a more negative price effect than in first half of the previous year. Also in terms of volume, imports grew more than exports, giving rise to a negative volume effect, which contrasted with a positive volume effect in the first half of 2007. This negative effect mainly reflected the goods component, in particular goods excluding energy (Chart 7.2.3). In the case of the

services account, the volume effect associated with balance changes in the first half of 2008 is close to zero, in contrast to the strong positive effect in the same period of the previous year.

Chart 7.2.1

BREAKDOWN OF CHANGES IN THE CURRENT AND CAPITAL ACCOUNT – 1ST HALF OF THE YEAR

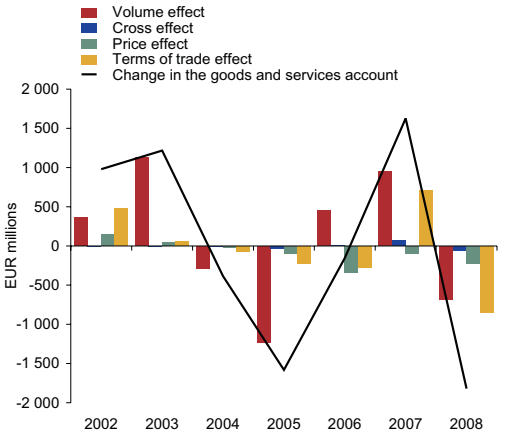


Sources: *INE* and Banco de Portugal.
Note: For the calculation of ratios of the various Balance of Payments components to GDP over the first half of each year, six-month Banco de Portugal estimates of nominal GDP were used.

Chart 7.2.2

BREAKDOWN OF CHANGES IN THE GOODS AND SERVICES ACCOUNT – 1ST HALF OF THE YEAR

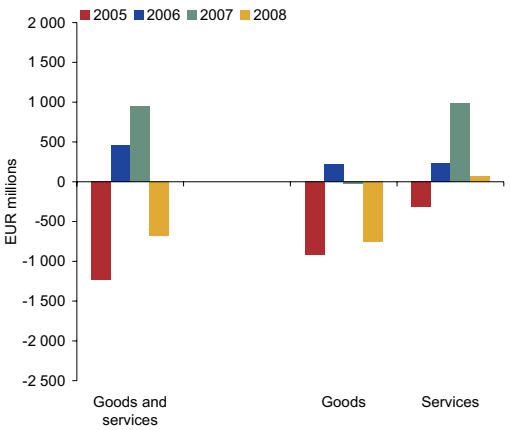
Breakdown into volume, price and terms of trade effects



Sources: *INE* and Banco de Portugal.
Note: A positive (negative) change means an increase (decrease) in the goods and services account. For a detailed description of the methodology used to calculate the various effects, see the footnote to Chart 4.24 in the 2007 *Annual Report* of Banco de Portugal.

Chart 7.2.3

BREAKDOWN OF THE VOLUME EFFECT OF THE CHANGES IN THE GOODS AND SERVICES ACCOUNT – 1ST HALF OF THE YEAR



Sources: *INE* and Banco de Portugal.
Note: A positive (negative) change means an increase (decrease) in the goods and services account. For a detailed description of the methodology used, see the footnote to Chart 4.24 in the 2007 *Annual Report* of Banco de Portugal.

7.3. The financial account in the first half of 2008

The increasing financial integration of the Portuguese economy, which was intensified with participation in the euro area, has enlarged the range of possibilities for the expenditure and saving decisions of resident economic agents. In fact, financial integration not only contributed to reduce their liquidity constraints, due to greater access to external financing free of exchange rate risk, but also to widen the possibilities for allocation of financial wealth. On the one hand, this environment led to a significant and protracted divergence between domestic savings and investment, with the current and capital account deficit remaining high. On the other hand, it resulted in very substantial gross flows of financial assets and liabilities with the rest of the world. The resident banking system, which carries out a key financial intermediation function, has been the main vehicle to channel external savings to the economy and, as such, to fuel an accumulation of external financial liabilities. In turn, institutional investors, particularly mutual funds, took advantage of this environment to diversify their financial assets portfolios, gradually increasing the relative importance of foreign securities and thus contributing significantly to the accumulation of external assets.

The financial market turmoil observed since the summer of 2007 has limited banks' net borrowing from wholesale debt markets, which largely determined the strong reduction of external liability flows. At the same time, in a context of increased risk aversion, residents have readjusted their portfolio of financial assets towards bank deposits to the detriment of financial investments more sensitive to market fluctuations, such as mutual fund units. Therefore, mutual funds sold substantial volumes of portfolio securities to non-residents in order to cope with the growing redemptions of mutual fund units, thereby contributing to significantly reduce gross flows of external financial assets held by the non-monetary financial institution sector as a whole (which also includes insurance corporations and pension funds) (Chart 7.3.1).

Such developments, which were already evident in the second half of 2007, intensified in the first half of 2008. In fact, during this period, inflows to the financial account were equivalent to 10.7 per cent of GDP, compared with 9.9 per cent of GDP in the same period of the previous year (Table 7.3.1).[42] Therefore, although net inflows were close to those seen in the first half of 2007, *i.e.* prior to the onset of financial turmoil, gross financial flows (changes in assets and liabilities) declined significantly in the first half of 2008, by around 15 p.p. of GDP.

In net terms, the external financing of the Portuguese economy continued to be mostly intermediated by the resident banking system, even though the corresponding net financing flow declined significantly (by 8.4 p.p. of GDP). Therefore, despite unfavourable conditions in access to financing in international wholesale debt markets, other monetary financial institutions (OMFIs) preserved some access to primary debt securities markets, albeit with shorter maturities and higher costs. In fact, portfolio investment liability flows of OMFIs amounted to 11.1 per cent of GDP in the first half of 2008, *i.e.* 2.9 p.p. of GDP less than in the same period of the previous year. In turn, other investment liability flows of this sector fell very markedly (8.0 p.p. of GDP). At the same time, in a context of disturbance in the functioning of the interbank money market and, in general, of the wholesale debt market, banks

(42) As in previous years, financial account records are affected by temporary end-year operations between banks and monetary authorities, which are only reflected in the distribution of the external position of the economy between these two sectors, without affecting the overall financial account balance. Those operations affect statistics on other investment flows of these two sectors making it more difficult to identify the importance of banks for the financing of the economy. At the end of 2007, in the context of euro money market tensions, this effect was particularly relevant. Against this background, deposits of resident credit institutions with Banco de Portugal increased markedly (by around 6.4 per cent of GDP), partly due to extraordinary liquidity-absorbing operations conducted by the Eurosystem. Given the temporary nature of the above-mentioned operations, the analysis presented in this section is based on figures adjusted for these operations.

seem to have concentrated their liquidity at the domestic level, leading to a reduction of other investment assets, in contrast to the same period of the previous year.

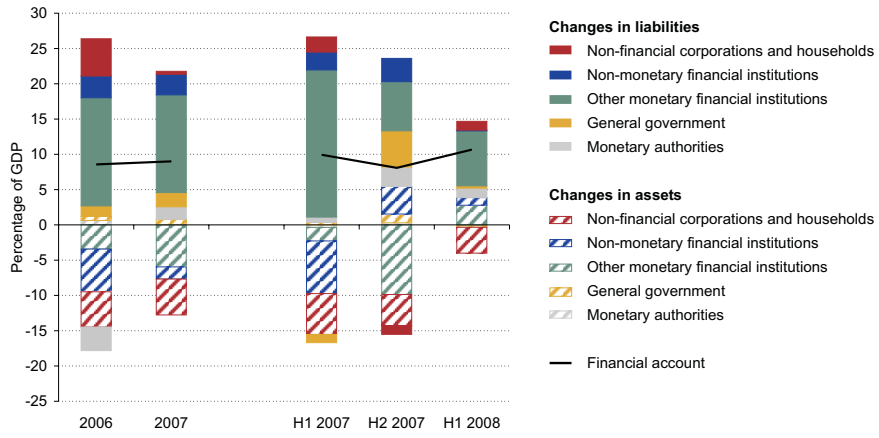
The above-mentioned financial assets portfolio reallocation by residents, which involved substantial redemptions of mutual fund units and, consequently, sales to non-residents of portfolio securities held by funds, were reflected in significant changes in the role of non-monetary financial institutions in the financing of the financial account. In fact, as opposed to the first half of 2007, when net outflows associated with portfolio investment of this sector amounted to 7.5 per cent of GDP, in the first half of 2008, a portfolio disinvestment of 1.0 per cent of GDP was observed.

Net direct inflows to the general government were close to zero in the first half of 2008. In fact, net purchases of government debt securities by non-residents were mainly offset by the repayment of short-term loans granted by non-resident financial institutions. Therefore, general government borrowing requirements seem to have been met by residents, which may reflect increased demand for safer assets due to heightened financial market tension.

Chart 7.3.1

FINANCIAL ACCOUNT

Balance and gross flows by institutional sector



Sources: *INE* and Banco de Portugal.
Note: Figures for "Other investment" of monetary authorities and of other monetary financial institutions are adjusted for temporary end-year operations between these two sectors, which were reversed in the first days of the following year.

Table 7.3.1

FINANCIAL ACCOUNT
As a percentage of GDP

	Jan-Jun 2007			Jan-Jun 2008		
	Change in liabilities	Change in assets	Net change	Change in liabilities	Change in assets	Net change
Current and capital accounts			**-8.1**			**-10.0**
Financial account	**27.5 (25.1)**	**-17.6 (-15.2)**	**9.9**	**17.2 (10.8)**	**-6.6 (-0.1)**	**10.7**
Direct investment	3.1	-2.8	0.3	2.1	-1.1	1.1
excluding Madeira and St. Maria (Azores) off-shores	*3.0*	*-3.0*	*0.0*	*2.1*	*-0.5*	*1.6*
Portfolio investment	17.1	-9.2	7.9	14.5	-3.9	10.6
Financial derivatives	-3.6	4.0	0.4	-5.8	6.0	0.2
Other investment	11.0 (8.6)	-9.9 (-7.4)	1.2	6.4 (0.0)	-7.3 (-0.9)	-1.0
Reserve assets		0.2	0.2		-0.2	-0.2
By institutional sector of resident investor:						
Monetary authorities [(a)]	**3.2 (0.8)**	**-0.4**	**2.8 (0.4)**	**7.8 (1.3)**	**-0.1**	**7.7 (1.2)**
Portfolio investment	0.0	2.7	2.7	0.0	1.4	1.4
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0
Other investment	3.2 (0.8)	-3.3	-0.1 (-2.5)	7.8 (1.4)	-1.3	6.5 (0.1)
Reserve assets		0.2	0.2		-0.2	-0.2
General government	**-1.2**	**0.3**	**-0.8**	**0.3**	**-0.2**	**0.1**
Direct investment	0.0	0.0	0.0	0.0	0.0	0.0
excluding Madeira and St. Maria (Azores) off-shores	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Portfolio investment	1.0	-0.2	0.7	3.5	-0.8	2.7
Financial derivatives	-0.6	0.6	0.0	-0.7	0.5	-0.2
Other investment	-1.6	-0.1	-1.6	-2.4	0.0	-2.4
Other monetary financial institutions [(a)]	**20.8**	**-4.3 (-1.9)**	**16.5 (18.9)**	**7.8**	**-3.7 (2.8)**	**4.1 (10.6)**
Direct investment	0.4	-0.3	0.1	0.1	-0.2	-0.1
excluding Madeira and St. Maria (Azores) off-shores	*0.4*	*-0.3*	*0.1*	*0.1*	*-0.2*	*-0.1*
Portfolio investment	14.1	-2.9	11.2	11.1	-4.7	6.4
Financial derivatives	-2.2	2.4	0.3	-4.0	4.2	0.2
Other investment	8.5	-3.6 (-1.1)	4.9 (7.4)	0.5	-3.0 (3.5)	-2.5 (4.0)
Non-monetary financial institutions	**2.5**	**-7.5**	**-4.9**	**0.1**	**1.1**	**1.2**
Direct investment	0.9	-0.3	0.6	0.7	-0.1	0.7
excluding Madeira and St. Maria (Azores) off-shores	*0.9*	*-0.3*	*0.6*	*0.7*	*-0.1*	*0.7*
Portfolio investment	2.2	-7.5	-5.3	0.2	1.0	1.3
Financial derivatives	-0.7	0.7	0.0	-0.7	0.7	0.0
Other investment	0.1	-0.4	-0.2	-0.2	-0.6	-0.8
Non-financial corporations and households	**2.1**	**-5.8**	**-3.7**	**1.2**	**-3.6**	**-2.4**
Direct investment	1.7	-2.2	-0.5	1.3	-0.8	0.5
excluding Madeira and St. Maria (Azores) off-shores	*1.7*	*-2.4*	*-0.7*	*1.2*	*-0.3*	*1.0*
Portfolio investment	-0.2	-1.3	-1.4	-0.3	-0.9	-1.2
Non-financial corporations	-0.2	-0.2	-0.3	-0.3	-0.5	-0.8
Households	0.0	-1.1	-1.1	0.0	-0.4	-0.4
Financial derivatives	-0.2	0.3	0.1	-0.4	0.6	0.2
Other investment	0.8	-2.6	-1.8	0.7	-2.5	-1.8
Errors and omissions			**-1.8**			**-0.7**

Sources: *INE* and Banco de Portugal.
Notes: A (+) sign means an increase in foreign liabilities or a decrease in foreign assets, *i.e.* a financial inflow. A (-) sign means a decrease in foreign liabilities or an increase in foreign assets, *i.e.* a financial outflow. (a) Figures in brackets under "Other investment" of monetary authorities and of other monetary financial institutions are adjusted for temporary end-year operations between these two sectors, which were reversed in the first days of the following year.

8. CONCLUSION

The Portuguese economy has been characterised in recent years by an atypical pattern. This has involved oscillation between short periods of acceleration and deceleration of activity in the context of a lower trend growth than in previous cycles. This behaviour has been influenced not only by external circumstances, among them the substantial real and nominal shocks witnessed over the current decade but also by the domestic structural framework, characterised by low productivity growth. This occurred in the context of a gradual change, albeit late in coming, in the institutional framework, both in terms of the functioning of markets and the quality of the economy's factors of production. In this context, in particular with the growing participation in world markets of very large countries with low unit labour costs, competing directly with traditional sectors in tradable goods, the Portuguese economy has gone through a long period of real divergence *vis-à-vis* the European Union, in a process that cannot merely be assessed from a strictly cyclical perspective.

During 2008, another factor meshed in: the gradual transmission to the Portuguese economy of a series of external shocks affecting the financial markets and global economic activity that had begun to loom in the second half of 2007. Within the current institutional framework, it is crucial to try to understand how the Portuguese economy will adjust in the near future. It will above all be essential to assess the magnitude and duration of the present crisis in the international financial system, as well as the level at which the financial markets will stabilise. These elements are vitally important to assess the sustainability of the indebtedness path of economic agents.

In fact, the solvency conditions stemming from families' intertemporal budgetary constraints are becoming more active, given the relatively low level of savings and the significant part of income that families have to allot to capital and interest repayments. With a relatively high level of indebtedness in the sector, these developments suggest that the relative dynamism of private consumption seen in the recent past will not be sustainable in the future, at least until it can be based on the trend growth in income. The adjustment of non-financial enterprises will, in its turn, depend on their competitive capacity in an adverse international context, in which there are more stringent financing conditions. With consumption and investment slowing, the current and capital accounts should narrow. Finally, the current crisis in the international financial markets reinforces the importance of maintaining a sustainable path for the public accounts in the medium and long term. Building on the budget consolidation achieved over the past few years this will contribute towards greater economic growth in the future.

The current macroeconomic framework is characterised by a strong interaction between a rapid worldwide economic slowdown and an unprecedented crisis in the international financial markets. This has been progressively transmitted to the Portuguese economy and the pressure is likely to accentuate in the future. In addition, the uncertainty as to the moment when the slowdown will reach a trough and turn around leads to downside risks on exports and investment, macroeconomic aggregates that are particularly sensitive to external developments. This will have significant repercussions on the labour market, translated in particular into less dynamic employment. However, the deepening of the international crisis has led to measures being put in place across the world in a relatively co-ordinated fashion targeted on the one hand on the financial markets and, on the other, involving expansionary fiscal and monetary policies. The short-term effects of these measures are still difficult to assess, but they should act as a counter-weight to the persistent worsening of the crisis. As regards the Portuguese economy specifically, important facts in the short term worth highlighting are the decline in interest rates and the deceleration in fuel prices. The earlier rises in these had had a considerable impact on families and enterprises.

In the medium and long term, it is now ever more important to continue to bolster the institutional and structural framework of the Portuguese economy, in particular the quality of human capital and the functioning of the goods and labour markets, as well as maintaining the current macroeconomic stability framework. The maintenance of these objectives remains crucial in order to create the conditions that ensure, after the current global slowdown in economic activity, a sustained process of growth and real convergence to the per capital income levels of the European Union.

This article was written with information available up to the end of October 2008, with the exception of monetary policy decisions and Monetary and Financial Statistics.

Box 1. Housing markets in some advanced economies

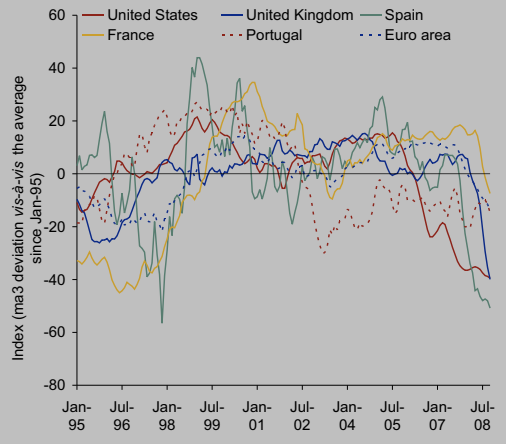
In a number of advanced economies, the housing sector is witnessing a considerable downturn both in activity and in prices. In the United States, activity indicators started to decelerate from the second half of 2004 and to observe a pronounced declining trend from the end of 2005. Against this backdrop, prices in real terms have been falling year-on-year since the third quarter of 2007, and in nominal terms since early 2008.[1] In most European countries, the turnaround in the housing market has been more recent. In these economies the adjustment process became steeper with the onset of the financial market turmoil in mid-2007, as can be seen in the business confidence indicators for the residential building sector (Chart 1). The downwards correction of activity in the residential sector and the slowing of mortgage credit are taking on major proportions in Ireland, Spain and the United Kingdom. In these countries, as in the United States, nominal prices are already presenting year-on-year reductions[2] (Charts 2, 3 e 4).

The adjustment in house prices in these economies has come after a period of big rises since the mid-90s. Between 1996 and 2007, the cumulative increase of prices in the United States stood at around 100 per cent. Although this increase is high it is in fact lower than in some other advanced economies (Chart 5). In the United Kingdom, prices in the same period rose by around 200 per cent. In the euro area, prices grew on average by around 80 per cent between 1996 and 2007, though there were big differences between countries. In some cases, prices moved up sharply, as in Ireland, where the rise was 350 per cent and, to a lesser extent, in Spain (200 per cent), France, the Netherlands and Belgium (around 150 per cent). In contrast, in Germany, prices over the same period hardly moved.

In Portugal, the cumulative increase in prices between 1996 and 2007 was only 45 per cent, with investment in housing declining considerably (in cumulative terms) since the turn of the millennium. There was a moderate rise in prices towards the end of the 90s but this lost momentum in the beginning of the current decade as activity slack-

Chart 1

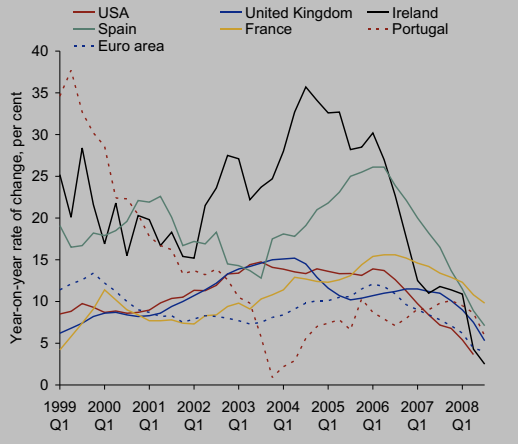
BUSINESS CONFIDENCE IN THE RESIDENTIAL BUILDING SECTORS



Sources: European Commission and Thomson Reuters.

Chart 2

LOANS TO INDIVIDUALS FOR HOUSE PURCHASE [(a)]



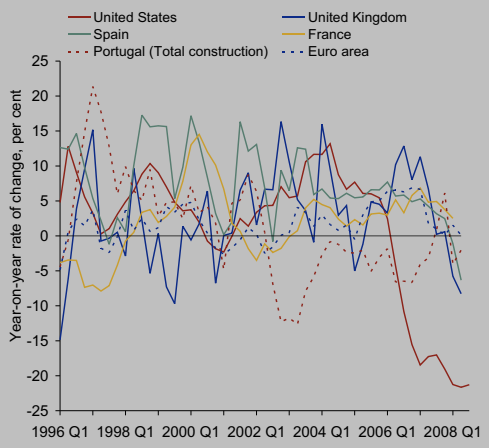
Sources: ECB, Bank of England and Thomson Reuters.
Notes: (a) In the case of the United Kingdom and the United States, this includes loans granted by other institutions than MFIs.

(1) *The price index used in this Box for the United States is the median price index for existing homes (the OFHEO index). This is considered to be more representative of prices for the economy as a whole and the best one to use for comparisons with other countries. The S&P/Case-Shiller index (made up of 10 towns) is also frequently used. This index started to fall earlier and presents sharper declines than the OFHEO. The two use different methodologies. The S&P/Case-Shiller index only covers certain regions in the country, it does not cover only homes acquired on the basis of conventional mortgage loans (as the OFHEO does) and each home is given a weighting proportional to its value (the OFHEO gives all homes the same weighting).*

(2) *The Spanish National Statistical Office began in October 2008 to publish an indicator for house prices which is more harmonised with the price indexes of the European Union than the index included in this box, which is published by the Ministério de Vivienda. According to the new indicator, house prices have fallen by 0.3 per cent year-on-year in the second quarter of 2008, whereas the Ministério de Vivienda gives an increase of 2.0 per cent.*

Chart 3

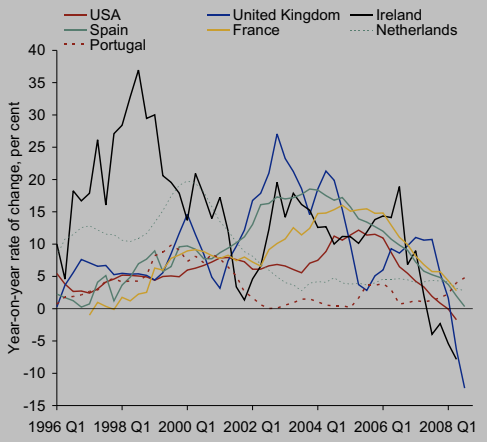
GROSS FIXED CAPITAL FORMATION - RESIDENTIAL BUILDING



Sources: Eurostat, *INE* and Thomson Reuters.

Chart 4

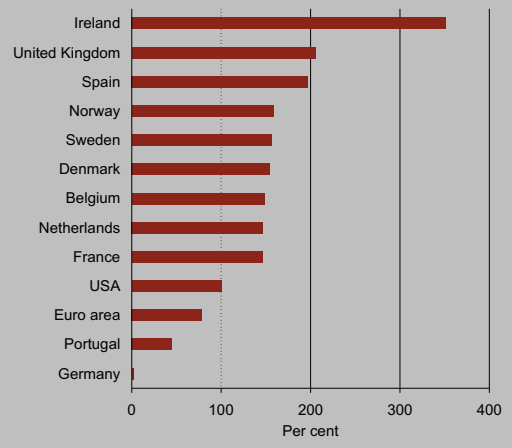
HOUSING PRICES [(a)]



Sources: *Imométrica* and Thomson Reuters.
Note: (a) Prices for the United Kingdom, Spain and Portugal relate to all housing (new and existing), whereas prices for Ireland, France, the Netherlands and the United States relate to existing housing only.

Chart 5

ACCUMULATED INCREASE IN HOUSE PRICES BETWEEN 1996 AND 2007 [(a)]



Sources: Bank of International Settlements, *Imométrica* and Thomson Reuters.
Note: (a) Prices for the United Kingdom, Spain, Denmark, Portugal and Germany relate to all housing (new and existing), whereas prices for Ireland, Norway, Sweden, Belgium, France, the Netherlands and the United States relate to existing housing only. The series for the euro area is an aggregate of the national series calculated by the ECB.

ened and since then the growth rate of prices has been low. In this framework, the available empirical evidence seems to indicate that house prices are not over-valued.[3]

(3) *See IMF (2008a) and "Box 6.1. Housing Prices in Portugal and Macroeconomic Fundamentals: Evidence of Quantile Regression", Banco de Portugal, Financial Stability Report 2005.*

The recent expansion of housing markets in some advanced economies differs in several ways from other past episodes of strong increases in residential property prices.[4] In the first place, prices increased more and went on rising for a longer period.[5] In the second place, unlike the normal pattern, prices in real terms continued to rise strongly even as the economy slowed in the first years of the current decade. Lastly, the period of steep rises involved more economies than in previous cycles.

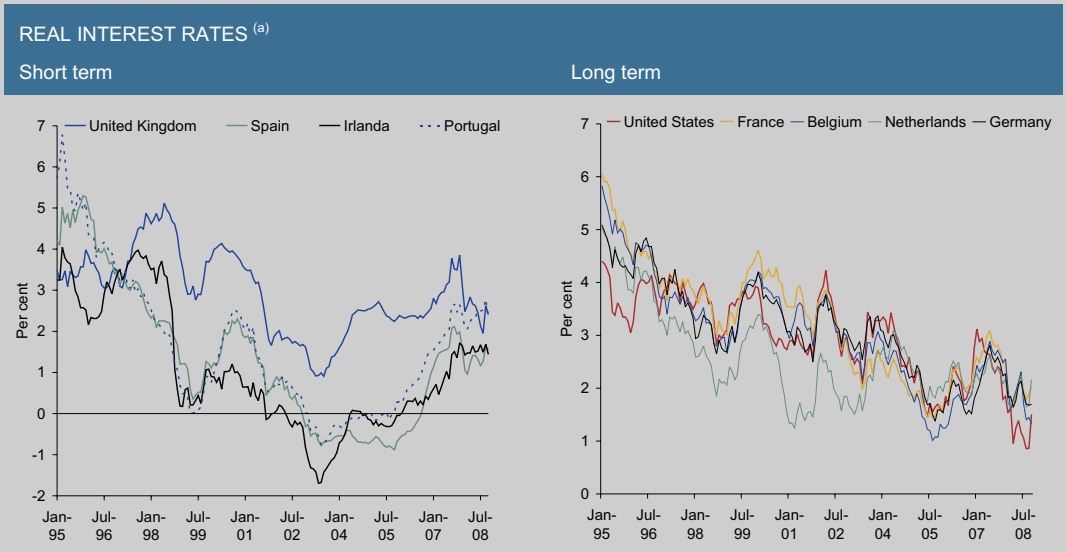
Housing markets tend to be local and are therefore very prone to respond to specific conditions in the economy, among them legal and fiscal issues. The highly synchronised move in prices from the mid-90s, however, suggests that common factors have played an important role in this particular cycle.

It is possible to pinpoint a number of factors that have contributed to dynamic demand for housing in several of the economies where there were significant price hikes (although the impact on each of the countries differed as a function of their specific macroeconomic framework):

- *Interest rates dropped considerably during the 90s, and remained low for the first half of the current decade (Chart 6), contributing to a reduction in the cost of bank loans. This factor was particularly important in those economies with high interest rates in the first half of the 90s.*
- *The financial innovation and competition in the banking sector throughout this period made it easier for credit institutions to finance mortgage loans (for example, by credit securitization) and for families to have access to more diverse funding products. These effects, which stemmed to a large extent from greater liberalisation in the financial sector, were less important in the euro area[6] than in the United Kingdom, the Nordic countries and, above all, the United States.[7] The possibility of equity withdrawal could also have played a part in the dynamics of the housing market, especially in Anglo-Saxon countries, where the practice is more widespread.*

Chart 6

REAL INTEREST RATES [(a)]



Sources: Consensus Economics, Thomson Reuters and Banco de Portugal calculations.
Note: (a) The three-month interbank rates and the rates of return on ten-year public debt are deflated on the basis of the forecasts of Consensus Economics for inflation one year ahead.

(4) *See Girouard et al. (2006).*

(5) *According to the analysis made by Girouard et al. (2006), in historical terms the cycles in house prices in some advanced economies have been characterised on average by around 6 years of expansion, during which house prices in real terms increase around 45 per cent and then contract over five years with average falls in prices of around 25 per cent.*

(6) *In the euro area, deposits continue to be the banks' main source of financing, although there has been an increase in the proportion of market-based sources, such as debt securities collaterised by mortgage credit, particularly covered bonds. This type of instrument, which is very common in Germany (Pfandbriefe bonds), has been becoming more important in other euro area countries (mainly Spain but also France). Covered bonds are, however, different in many respects from mortgage-backed securities. Among these differences is the fact that they normally stay on the balance sheet of the issuer and this limits the transfer of risk by the banks. In addition, mortgage-backed securities have different features in different countries. This has consequences in terms of the incentives to monitorise credit risk and therefore in terms of expansion of the credit market itself.*

(7) *See Hilbers et al. (2008) and the IMF (2008b).*

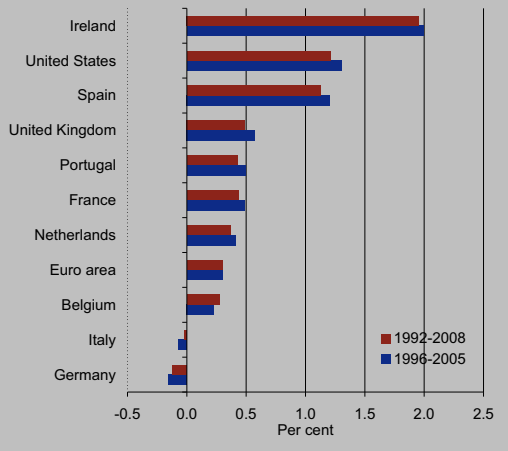
- *The decline in stock markets during the 2001-2003 period, after the dotcom bubble burst, in parallel with ample liquidity in the international financial system (deriving to a large extent from low interest rates), could well have led to a reallocation of investment to the housing market.*
- *A relatively sustained and strong growth in families' disposable income was observed in a number of countries, among them Ireland, the United Kingdom, Spain, the United States and France.*
- *The fall in the cost of transport, in tandem with the other factors mentioned before, seems to have also contributed to an increase in the demand for second houses. In some countries, especially Spain, this led to a considerable increase in the demand for houses from non-residents.*[8]
- *The higher population growth, which was related in some countries to the process of immigration (Chart 7).*
- *The reduction in the average size of families.*[9]

Along with these common factors, the increase in demand for housing since the mid-90s was also affected by the following idiosyncratic factors:

- *In the United States, there was a particularly noticeable easing in the mortgage lending standards, as a result of the combined effects of the tax and legal systems, the tenor of financial regulation and the mortgage market.*[10] *This can be seen, for instance, in the rise in loan-to-value ratios, resulting in many cases from successive re-financing, from the existence of interest-only loans, low documentation standards regarding debtor solvency and in general from the major expansion in the mortgage sub-prime segment. In the European economies, and above all in most of the euro area, these kinds of developments were limited. In these economies, the sub-prime mortgage segment is only a small proportion of the total credit, there are more conservative loan-to-value ratios and fewer opportunities for refinancing a mortgage or getting second mortgages.*
- *The increase in demand for housing could well have been pushed by the substantial subsidies available in France and in the Netherlands by mortgage interest tax deductions.*[11]

Chart 7

AVERAGE ANNUAL POPULATION GROWTH (16 TO 65 YEARS)



Source: OECD.

(8) *According to RICS (2008), the countries of southern Europe are among those where second homes have a higher share in housing stocks (in Greece, Italy, France and Spain they represent 10 - 15 per cent of all dwellings). Such homes are also important in Scandinavia and Ireland.*

(9) *See, for example, the Factsheets of the European Mortgage Federation covering various European countries.*

(10) *See Ellis (2008).*

(11) *See RICS (2008).*

The different development of housing supply in various countries, which in many cases was the result of very distinct public policies, might well also have factored into the moves in house prices. Among these features are the following:

- *In some countries, among them the United Kingdom,[12] the Netherlands and some of the Nordic countries, the regulations on land use hamper construction, providing fertile ground for big price rises.*
- *In the United States, on the other hand, according to Ellis (2008), the regions where demand was more dynamic were those where fewer restrictions on construction existed, and this probably helped push up supply (when compared to demand) more than in other countries where big price hikes were seen. This could be the reason why prices in the United States rose relatively less than in other countries - although there were marked regional variations.*
- *In Germany, government incentives for housing introduced after reunification in force until 2006, gave an initial boost to growth in the residential sector but led to an excess of supply from the mid-90s. This situation, in tandem with low growth of disposable income in the early part of the millennium and less favourable financing conditions than in other countries, led to the poorer performance of the housing market.*

The downturn in the housing market in some European economies and in the United States also seems to have been influenced by a raft of common factors, though the size and magnitude of the adjustments depend on the vulnerabilities in the economies concerned.

By and large, downward moves in housing markets probably reflected to a large extent an inversion of some of the factors favourable to demand. A rise in residential property prices above the growth of disposable income has contributed to reducing the affordability of houses for families. This situation was exacerbated by the rise in interest rates. From mid-2007, the financial crisis put even more downside pressure on demand for housing, with interest rates offered by banks remaining high on the back of increased risk premia, tighter credit conditions, a less positive evolution in families' disposable income and generally pessimistic expectations as to the macroeconomic outlook. The increase in interest rates over recent years has impacted above all on short-term rates and thus it probably affected more negatively the demand for housing in countries where variable rates predominate. As a last point, correction in residential property prices is occurring in a situation where there are signs of possible overvaluations and this could well have contributed to a reversal of the feeling that prices would continue to rise.[13]

With the economy weakening and financing conditions worsening, the housing market in some advanced economies will probably continue to ratchet down. The correction in this sector may have substantial negative effects on economic activity through a range of channels. The most direct impact is in cutbacks to investment in construction, but there are many other related economic activities involved where negative pressures will also be brought to bear (among them estate agency operations, banking credit and activities durable goods related). Corrections to activity and prices in the residential sector can have a negative impact on consumption in various ways. Firstly, the fall in house prices might determine a reduction in families' wealth. Secondly, private consumption might be impacted negatively through the credit, channel since houses can be used as collateral for consumer credit. Lastly, there is the impact of a rise in unemployment in the sectors mentioned above. In addition, as financing costs rise and disposable income presents a more negative evolution, the effect on private consumption will tend to be greater in economies where there is a higher level of household indebtedness. Given this, the extent of the impact on economic growth depends not only on the depth of the current downturn in the housing market, but also on the particularities of each country. This includes families' financial situations and the weight of construction and related activities in GDP.

(12) *See Kuenzel and Bjornbak (2008).*

(13) *See IMF (2008a) and Banco de Espanã (2006).*

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Box 2. Authorities responses in the context of the financial crisis: liquidity management measures and intervention in financial systems

International financial markets have experienced heightened turmoil since the summer of 2007, which has intensified after September 2008.[1] Although it began in main advanced economies, the turmoil broadened in geographical terms, reaching a global scale. These events are associated with a risk price revision that translated into the incorporation of very high credit and liquidity risk premia by investors. The interconnection between credit and liquidity risks has become evident with the strong restrictions to lending faced by financial institutions, putting at risk institutions in principle solvent but facing liquidity strains. This situation, as well as that of institutions in financial difficulties with strong systemic links, also entails contagion risks within the financial system and to the overall economy.

Against this background, the authorities of main advanced economies have implemented a number of measures in response to the growing financial market turbulence. The purpose of the box is to analyse the measures taken particularly in the euro area, USA and the United Kingdom, as well as the motivation underlying them.[2]

Liquidity management measures

Traditional central bank tasks include the role of lender of last resort. In order to avoid that a solvent institution facing liquidity strains is not able to meet its responsibilities, the central bank may provide liquidity to the institution at a penalty rate and against good collateral. This assistance measure is also aimed at preventing a contagion, both through a bank run or through the impact on other banks' balance sheet. Therefore, the traditional role of lender of last resort consists in direct lending to a solvent financial institution under penalising conditions.

The novelty of the present financial crisis lies in the comprehensive shortage of liquidity, which does not affect only individual institutions, but is rather widespread across financial markets. Greater demand for liquidity and the mistrust on the soundness of the balance sheets of market participants have led to a significant increase in the degree of credit tightening in short-term financing markets, both via quantities and prices. Liquidity constrains have the potential to create difficulties to institutions in complying with their responsibilities, even if they hold enough assets in the respective balance sheet.

This situation falls within the scope of a wider interpretation of the role of lender of last resort to be taken up by the central bank, or market-maker of last resort, i.e. the central bank should intervene in order to solve possible market failures that may disturb its normal functioning. The interventions of main central banks since the summer 2007 have been intended to guarantee liquidity and its appropriate dissemination by the markets, especially the money market, given its importance in the interest rate channel of the monetary policy transmission mechanism. In this context, the measures taken by central banks within the scope of liquidity management may be grouped as follows (Table 1):

- ***Liquidity injection*** *– This is the most immediate type of measure taken, and consists in primary liquidity injection into the market well above the needs implied in the aggregate balance sheet of the banking system.[3] This provision of funds has been usually carried out through regular central bank reverse transactions.[4] For instance, the ECB has responded to counterparties' strong preference for liquidity frontloading by allotting, in main refinancing operations, amounts largely exceeding the benchmark amount. However, in some cases, it was necessary to create new types of operations in order to address the elevated pressures in the markets, such as the establishment of the Term Auction Facility (TAF) by the Federal Reserve.*

(1) *See "Section 2 The international framework".*

(2) *Due to the geographical spillovers of the financial crisis, namely to emerging market economies, the IMF has agreed support programmes with some economies, in particular Iceland, Ukraine and Hungary, involving loans that reach, in terms of volume, USD 2.1 billion, USD 16.5 billion and €20 billion (together with the European Union and the World Bank), respectively. In addition, the IMF has implemented a short-term credit facility addressed at emerging market economies with sound policies that may be facing temporary liquidity problems. This is a flexible facility that does not require compliance with prior conditions or policy changes.*

(3) *In general, as regards the central banks under review in the present box, primary liquidity needs of the banking system are the result of the credit institutions' obligation to meet reserve requirements and other factors beyond the direct control of the central banks, inter alia demand for banknotes.*

(4) *Given that primary liquidity needs change over time, central banks intervene regularly, usually resorting to reverse transactions, in order to maintain the market interest rate around the monetary policy benchmark rate. These transactions are therefore short-terms loans against adequate collateral to an amount usually determined by the central bank.*

- ***Operations' maturity*** *– Since institutions showed a strong preference for liquidity and avoided lending in the market at longer maturities, where uncertainty is higher, the central banks have strived to promote liquidity at these maturities through an increase in the average maturity of credit operations. In the case of the ECB, this included an increase in the allotted amounts in 3-month operations and the setting up of 6-month maturity reverse operations.*
- ***Counterparties*** *– Monetary authorities may select the counterparties with whom they wish to conduct monetary policy operations. When markets are experiencing elevated pressures, the wider this group of counterparties, the easier the liquidity dissemination by the financial system. During the last year, the Federal Reserve has even expanded the range of counterparties beyond monetary policy operations, creating lending facilities to non-financial corporations.*
- ***Collateral*** *– In all credit operations, the central bank must require financial assets as collateral, in order to eliminate the counterparty risk and limit perverse incentives to bank participation in these operations. In the present juncture, demand for safer and more liquid assets, in particular government debt securities, has been strong, while there is a situation of near absence of liquidity in other assets, namely securitised assets. With a view to contributing to the access to primary liquidity by the banking system, most central banks have widened the collateral eligible to credit operations. For instance, before the turmoil, the Eurosystem collateral framework was wider than Federal Reserve's, which meant that the widening of the eligible collateral had to be larger for the Federal Reserve than for the Eurosystem.*
- ***Standing facilities*** *– The purposes of the marginal lending facility (and deposit facility) are to promote stability of market conditions and interest rates, especially in the short term, in line with the monetary policy stance. However, some credit institutions have shown some reluctance, associated with confidentiality issues, in resorting to this facility, fearing that it might signal financial difficulties. Central banks have aimed to foster the use of the marginal lending facility as an actual facility at the disposal of counterparties, particularly important in situations of liquidity constraints in the money market. In the Eurosystem, changes have been introduced to this instrument, but with different purposes. Given the deteriorating financing conditions as of September 2008, which have led to the near absence of money market transactions, the ECB has reduced the standing facilities symmetric corridor, facilitating bank financing at lower costs and contributing to limiting interest rate volatility.*
- ***Reserve requirements*** *– The purpose of this instrument is to accommodate daily liquidity shocks, thus preventing excess volatility in short-term interest rates.[5] In this vein, some central banks have introduced changes in compliance rules or reserve remuneration, thus allowing for an accommodation of the excess volatility observed in the short-term money market. For instance, the Bank of England has widened the target range for compliance of reserve requirements within which these are remunerated.*
- ***Liquidity provision in US dollars*** *– Liquidity strains have spilled over into foreign currency financing, particularly in US dollars, and have especially affected European banks, which had an effect in foreign exchange swap quotations. Since only domestic banks may have assess to Federal Reserve operations, swap lines have been established with a number of central banks (initially only the ECB and the Swiss National Bank, subsequently extending to a group of 10 central banks from advanced economies and 4 from emerging market economies) so that these could provide US dollar liquidity to the respective counterparties, fostering liquidity in international financing markets.*
- ***Other measures*** *– In view of the strong linkages among financial systems, namely in Europe, central banks have also taken steps to support the financial systems of other countries, in order to prevent adverse systemic implications. In this vein, the ECB has entered into foreign exchange agreements for liquidity provision in euros with the central banks of Hungary and Denmark.*

(5) *This function is valid when reserve requirements are complied as an average over the maintenance period.*

Table 1 (to be continued)

LIQUIDITY MANAGEMENT MEASURES TAKEN BY SOME CENTRAL BANKS

	ECB/Eurosystem	Federal Reserve	Bank of England
Liquidity injection	*Average balance of €470 billion since Aug/07 (€427 billion from Jan/06 to Aug/07).*	*Average balance of USD 182 billion since Aug/07 (USD 27 billion from Jan/06 to Aug/07).*	*Average balance of GBP 50 billion since Aug/07[6] (GBP 48 billion from Jan/06 to Aug/07).*
Collateral	*Temporary expansion of the list of eligible assets to liquidity-providing operations (Oct/08)[7]:* • *Marketable debt instruments issued in the euro area and denominated in US dollar, British pound and Japanese yen;* • *Euro-denominated syndicated credit claims governed by the UK law;* • *Debt instruments issued by credit institutions, which are traded on some non-regulated markets;* • *Subordinated debt instruments when they are protected by an acceptable guarantee;* • *Minimum collateral rating accepted lowered to BBB- (ABS excluded).*	• *Establishment of the Term Auction Facility (TAF), with a wider range of eligible collateral than regular operations.* • *Set up of the Term Securities Lending Facility (TSLF) (Mar/08): lending of Treasury Bills to a maximum amount of USD 200 billion for 28 days collateralised by other securities (among which Asset-Backed Securities).* • *Creation of the TSLF option programme for periods of heightened market pressure (Jul/08), to the amount of USD 50 billion.* • *Expansion of the list of eligible assets to the Primary Dealers Credit Facility (Sep/08), including lower-rated equity and debt securities.* • *Plans to purchase short-term debt securities from Fannie Mae and Freddie Mac (Sep/08).*	• *Expansion of the list of eligible assets to 3-month operations (Dec/07 and Oct/08).* • *Set up of the Special Liquidity Scheme (SLS) (Apr/08): swaps of Residential Mortgage Backed Securities issued up to the end of 2007 for Treasury Bills, to the amount of GBP 200 billion (extended in Oct/08).* • *Consultation on the permanent establishment of longer-term operations against wider collateral with demand broken down by collateral classes.*
Counterparties	*Expansion of the range of eligible counterparties to fine-tuning operations, covering all Eurosystem counterparties (Oct/08)*	• *The group of eligible counterparties for the TAF is wider than for regular operations* • *Approval of the statutory requirement from investment banks to become bank holding companies supervised by the Federal Reserve* • *Lending to institutions for the purchase of Asset-Backed Commercial Paper from money market funds (Sep/08)* • *Creation of the Commercial Paper Funding Facility (CPFF) (Oct/08): purchase of commercial paper from non-financial corporations* • *Set up of the Money Market Investor Funding Facility to finance the purchase of assets from money market funds up to USD 540 billion (Oct/08)*	

(6) *This value does not include the lending facility to the Northern Rock, included in an "other operations" item, which fluctuated around GBP 15 to GBP 20 billion as of the third quarter of 2007.*

(7) *In September 2008, the ECB announced the revision of the Collateral Framework in the context of its biennial evaluation, tightening the rules with effect as of February 2009.*

Table 1 (continued)

LIQUIDITY MANAGEMENT MEASURES TAKEN BY SOME CENTRAL BANKS

	ECB/Eurosystem	Federal Reserve	Bank of England
Maturities	• *3-month supplementary operations (Aug/07).* • *6-month liquidity-providing operations (Mar/08).* • *38-day special term operation (Sep/08) and operations with a maturity matching the length of the reserve maintenance period (Oct/08).*		
Operational procedures	*Changes in the procedure of liquidity-providing operations for fixed-rate tenders with full allotment up to the first quarter of 2009 (Oct/08).*	• *Establishment of a new type of variable-rate tender, TAF (Dec/07); total initial amount: USD 40 billion.* • *Establishment of TAF forward tenders for year-end to the total amount of USD 150 billion.* • *The amounts involved in these tenders rose in October to a potential amount of USD 900 billion at year end.*	*Set up of a minimum bid rate for 3-month operations at 50 b.p. above the OIS for the same maturity, following the collateral expansion (Oct/08).*
Marginal lending and deposit facilities	*Narrowing of the symmetric corridor of standing facility rates to 100 b.p. (Oct/08).*	• *Cut in the discount window rate to 25 b.p. above the fed funds rate and extension of the maximum maturity to 90 days.* • *Establishment of the Primary Dealer Credit Facility (PDCF) (Mar/08).*	*Permanent change through the creation of two different facilities:* • *Operational standing facilities, with the aim of absorbing technical and operational imbalances;* • *Discount window facility, in order to provide liquidity insurance in the event of stress, and with a higher confidentiality level.*
• **Reserve requirements**		• *Reserve requirements and excess reserves start to be remunerated (Oct/08).* • *Increase in the remuneration rates of the reserves.*	*Widening of the interval for compliance with remunerated reserves (Sep/07).*
• **Liquidity provision in foreign currency**	• *At the beginning (Dec/07), provision of up to USD 20 billion with 28 and 35-day maturities.* • *Unlimited provision of US dollars at a fixed rate (Oct/08).* • *EUR/USD foreign-exchange swaps (Oct/08).* • *Foreign-exchange agreement with the SNB for provision of Swiss francs (Oct/08).*	• *Establishment of swap lines, initially with the ECB and the SNB (Dec/07), subsequently extended in Sep-Oct/08 to include the central banks of the United Kingdom, Canada, Japan, Australia, Sweden, Denmark, Norway and New Zeeland. Initial amount of USD 24 billion, extended to unlimited amounts in Oct/08.* • *Establishment for the first time of swap lines with central banks of emerging market economies (Brazil, Mexico, South Korea and Singapore) to a maximum amount of USD 30 billion each.*	• *At the beginning (Sep/08), provision of up to USD 40 billion with overnight and one-week maturities.* • *Unlimited supply of US dollars at a fixed rate (Oct/08).*

Table 1 (continued)

LIQUIDITY MANAGEMENT MEASURES TAKEN BY SOME CENTRAL BANKS			
	ECB/Eurosystem	**Federal Reserve**	**Bank of England**
Other measures	*Foreign-exchange agreements with the central banks of Hungary and Denmark for the provision of euros to the respective financial systems*		

Government measures in some financial systems

With a view to preventing extreme adverse implications on the financial system, protecting savings and keeping the funding of the real economy, authorities have also directly intervened in the financial system (Table 2). Chronologically, this intervention first included single measures directed to support specific institutions, subject to case-by-case evaluation. As more institutions were being affected by the market turmoil, it was evidently necessary to provide a systemic response, in a few cases concerted namely between some advanced economies. Indeed, the global scale of the financial crisis makes desirable a concerted action. Hence, with the purpose of promoting the necessary confidence so that private investors may again provide funds and capital to the markets and financial institutions, G7 members presented a set of common principles for government intervention, and euro area Member States submitted a concerted action plan. The main objectives of this plan were the following: (i) to ensure appropriate liquidity conditions, in cooperation with the Eurosystem; (ii) to facilitate the funding of banks through, for instance, government guarantees; (iii) to recapitalise the banking system, including, if necessary, capital injections by the government; (iv) to ensure sufficient flexibility of accounting rules, given current exceptional circumstances. Decisions regarding operational aspects were made on an individual basis, according to the needs of each financial system and to the fiscal ability of individual euro area countries, given the autonomy regarding fiscal policies in the European Union.[8] Nonetheless, national plans should comply with the guiding principles defined by the European Commission to guarantee equal treatment, fair competition and taxpayer protection. Therefore, government support should be temporary, clearly defined, limited in scope, not based on nationality, and should imply the establishment of a code of conduct. These principles should lead to measures that imply that certain conditions are satisfied by the supported institutions, reducing moral hazard and ensuring appropriate incentives to risk management of the institutions from an intertemporal perspective.

In this context, government measures may be grouped as follows:

- ***Guarantees** – In the present situation of heightened financial market instability, there is potential for substantial losses, which would worsen the financial situation of the banking system and impact on savings and lending to companies and households. In order to prevent excess volatility, authorities can implement measures with limited costs in order to promote the confidence of agents. In effect, the potential cost of the action will be the lower, the faster confidence is re-established in the banking system. Deposit guarantees and guarantees to lending to financial institutions fall within this context. Usually, governments guarantee bank deposits up to a certain ceiling, so as to prevent bank runs and to stimulate confidence in the banking system. This ceiling has been extended by most governments. Guarantees to bank funding seek to restore the investors' confidence in the banking system, so as to foster the regular functioning of funding markets and, as a result, the normal activity of financial intermediation banks and lending to households and companies.*
- ***Lending to institutions and purchase of illiquid assets** – Governments have also intervened in supporting institutions facing temporary financing difficulties or whose bankruptcy would carry over systemic risks. In this context, one can consider, for instance, the loan made by the US Treasury to AIG under penalising conditions. Another alternative action followed by governments was the direct purchase of assets, namely*

(8) *For further details on the plans for Portugal and other euro area countries, see the box "Main measures taken by the Portuguese authorities regarding the financial system in the context of the international financial crisis".*

the most illiquid assets, from financial institutions, aiming at removing from the institutions' balance sheets the risk associated with those assets. For instance, the Spanish government has created a fund to purchase high-quality assets from banks, thus contributing to their funding needs.

- ***Capital injections*** *– This type of measure implies the allocation of public resources directly to the capital of companies facing financial difficulties. It applies in situations where the institution failure entails systemic risk and the institution is not able to obtain capital from private investors in very adverse market conditions. In the case of the euro area, given that every country is autonomous as regards the respective fiscal policies, these decisions are made at an individual level, even though, in view of the large size of some affected banks and their supranational character, concertation across countries is sometimes necessary, as regards both intervention in specific institutions and concertation of action principles.*
- ***Other measures*** *– Several authorities supervising capital markets have changed their rules, limiting the short-selling of equities,[9] given that, in a situation of excess volatility, this might lead to an exacerbation of downward prices. International authorities also strove for ensuring sufficient flexibility of accounting rules. Mark-to-market international accounting standards[10] tend to have a pro-cyclical effect, given that when the asset valuation is revised downwards, institutions seek to reduce their leverage which then leads to further asset prices falls and more reduced liquidity. The authorities have therefore relaxed the accounting rules, in order to limit excessive losses, making it possible to reclassify some financial instruments and ensuring that the valuation actually reflects the fair value, i.e. the price of assets under regular market conditions, instead of forced sale or high illiquidity situations.*

It is also worth mentioning that these measures have been adopted not only by the authorities of main advanced economies presented in Table 2, but also by other countries. By way of example, it should be mentioned that Sweden has implemented a plan of action similar to that enforced in the EU, South Korea has announced an action plan to support the financial system, and the Russian Federation has announced several measures aiming at supporting domestic financial markets and the funding of banks and companies of the key-sectors of the economy.

Table 2 (to be continued)

GOVERNMENT MEASURES IN SOME FINANCIAL SYSTEMS

	Euro area	USA	United Kingdom
Comprehensive and systemic action plan	*Concerted action plan among European countries, including: guarantees to bank funding, banking sector recapitalisation, greater flexibility in accounting rules. Approximate amount: €1.5 trillion for financing guarantees and over €100 billion for capital injections.*	• *Troubled Assets Relief Plan, with an initial purpose of purchasing "toxic" assets to an amount of USD 700 billion. Of this amount, USD 250 billion are intended for capital injections in financial institutions.* • *Temporary guarantee of the new debt issued by banks, up to 125 per cent of debt outstanding at the end of September de 2008.*	*Financial support to the banking industry plan:* • *Temporary guarantee of GBP 250 billion of new short- and medium-term debt issued by banks;* • *Purchase of equity from British banks to the maximum amount of GBP 50 billion.*

(9) *Short-selling of equities permits investors to sell equities they do not actually hold in their portfolio at the time of the sale. Under regular market situations, this makes it possible to raise liquidity and to contribute to the equity price-setting.*

(10) *These rules imply that the assets in the balance sheets of the institutions are valued at the current market price.*

Table 2 (continued)

GOVERNMENT MEASURES IN SOME FINANCIAL SYSTEMS

	Euro area	USA	United Kingdom
Guarantees[11]	*Increase in the minimum deposit guarantee to €50 thousand in the EU; some States guarantee the full amount.*	• *Temporary guarantee of money market funds up to USD 50 billion; funds opting for joining the programme will pay a commission.* • *Full deposit guarantee to Washington Mutual.* • *Temporary increase in the deposit guarantee to USD 250 thousand (unlimited for non-interest bearing transaction accounts).*	*Increase in the deposit guarantee to GBP 50 thousand.*
Lending to individual institutions[11]	• *Loan of €7 billion by the German government to IKB.* • *Loan of €50 billion to Hypo Real Estate, supported by the government up to €27 billion and the rest by a consortium of German banks.*	• *Loan of USD 124.8 billion to AIG.* • *Loan of USD 29 billion to JPMorgan for the purchase of Bear Stearns.*	
Capital injection[11]	• *€11.2 billion injected in Fortis by the Belgian, Luxembourgian and Dutch governments. Each State shall hold 49 per cent of the institution's capital in the respective country.* • *Nationalisation of Fortis Netherlands by the Dutch government to the amount of €16.8 billion.* • *€6.4 billion injected in Dexia by the Belgian, French and Luxembourgian governments.* • *The Belgian and Luxembourgian governments hold BNP Paribas equity as a counterpart for this bank assuming at least one third of Fortis business.*	• *USD 200 billion injected in Fannie Mae and Freddie Mac.* • *Government holds 79.9 per cent of AIG equity.*	• *Nationalisation of Northern Rock.* • *Nationalisation of Bradford & Bingley to the amount of GBP 18 billion.*
Other measures[11]	• *Limit to the short-selling of equities.* • *Greater flexibility in mark-to-market accounting rules.*	• *Limit to the short-selling of equities.* • *Greater flexibility in mark-to-market accounting rules.*	*Limit to the short-selling of equities.*

(11) *These measures do not include those taken in the context of the comprehensive and systemic action plan.*

THE PORTUGUESE BANKING SYSTEM IN 2008

1. OVERVIEW

The year under review has been marked by a crisis in the international financial markets, interacting with a global economic slowdown. This has led to particularly unfavourable conditions for banking activity. The Portuguese economy is small and highly integrated in economic and financial terms, so Portuguese banks have also been affected by the turmoil in the world's financial system. The impact on the country's financial system has had two fundamental effects: it has become more difficult to obtain financing in the international wholesale markets; and the losses on financial assets have increased, even though there is no significant exposure to the subprime market and related transactions. Bank revenue coming from commissions and financial operations have, however, also been affected by the deterioration in financial conditions at the global level. The negative international backdrop has therefore taken its toll, affecting profitability, liquidity and solvency. The banks have however continued to show good capacity for adaptation to this particularly adverse situation, which has persisted since the summer of 2007.

In actual fact, the activity of the Portuguese banking system, evaluated by total assets on a consolidated basis, continued to show strong growth in the first half of this year. There has been some slackening of momentum in relation to the intense expansion of recent years, but banking activity, especially credit operations, seem not to have been significantly affected by the turmoil in quantitative terms. This was in part possible because Portuguese banks, notwithstanding the stormy conditions in the international financial markets, managed to maintain access to wholesale financing markets. Customer deposits, moreover, recorded increased substantially in the same period, though the rise was associated with asset portfolio shifts by banks' customers, those assets where remuneration was more sensitive to market fluctuations being replaced by deposits. It is not likely to be possible to maintain such as high growth rate of customer deposits over time without a substantial increase in the private sector savings rate.

Customer credit was the main element underpinning the growth in banking activity. In line with recent developments, this increase partly reflected the increasing importance of international operations involving the main banking groups. This activity is concentrated in countries with a high growth in credit. The domestic market also continued dynamic, in spite of the economic and financial backdrop that was less clearly propitious than in recent years. Portuguese banks' international exposure is, however, relatively small if compared with other countries in the European Union. Such exposure is much more concentrated in countries of the euro area and others where the sovereign rating is high. In the domestic market, bank loans to non-financial corporations continued to grow strongly, though the pace slackened somewhat. Moreover, there were also substantial issues of commercial paper, most of them taken up by banks. As to individuals, loans for mortgages continued to slow, following the trend visible since 2006. Loans for consumption and other purposes had come in with high rates of variation at the start of the year, but then tailed off.

Over the past decade, a considerable part of the expansion of Portuguese banks has been financed through wholesale debt markets, above all in euros and at medium- to long-term maturities. This helped to reduce refinancing risk. This pattern was similar to global trends, and as mentioned in Banco de Portugal Stability Reports, this made the system vulnerable in terms of liquidity, were there to be a severe clampdown on the access to these markets over a long period.

As it turned out, liquidity risk, in the context of intense and long drawn-out turbulence in the wholesale debt markets, assumed a proeminent role in the assessment of stability of the Portuguese banking system. From the summer of 2007, central banks across the globe pumped huge amounts of liquidity into the banking system, but financial institutions continued to find themselves up against extremely adverse conditions in the wholesale debt markets, not only in late 2007, but right the way through 2008. As uncertainty persisted and confidence among market players fell across the board, the interbank money markets were subject to severe strains. In addition, financial institutions, when trying to place debt securities in the wholesale market, have been hampered by the deeper aversion to counterparty risk associated to asymmetric information problems.

For the Portuguese banking system, customer deposits have continued to be the main source of financing, even though recourse to the wholesale debt markets have built up to a significant size over recent years. The increased difficulties in access to these markets over the past year would seem to have played their part in increasing the importance of customer deposits in the banks' financing, above all for domestic banks. These funds, in fact, especially from individuals, became the main financing inflow for domestic banks in the second half of 2007 and the first half of 2008. The overall figures show that for these banks the increase in customer deposits was larger than the increase in loans during the first half of 2008, leasding to a small fall in the credit to deposits ratio.

Portuguese banks weathered the stormy conditions in the wholesale debt markets by managing to keep access to primary debt securities markets. Banks' issues tallied around 14 thousand milion euros in Portugal and abroad up to the end of October in the current year. Around 45 per cent of this was made up of covered bonds. These are guaranteed against loans for housing and are separated as autonomous assets in banks' portfolios, so the underlying cost of financing is less than for bonds issued through the Euro-Medium Term Notes programmes (EMTN). Most of these bonds were taken up by non-resident investors, though there were problems - as everywhere - in medium- to long-term placements, even for covered bonds. Maturities were therefore shorter than observed in the recent past, a fact that added to the refinancing risk. Average maturity of bond issues for banks had been 5 years in 2007 and this was down to 3 years in 2008, while covered bond maturities were down from 7 to 3 years in the same period. In addition, financing costs over the year have been higher than the historically low costs visible in previous years. In general terms, cuts in maturity and higher underlying financing costs deriving from upward pressure on risk *premia* are stylised facts when there is tension in financial markets.

Against a background of difficulties for banks' access to wholesale debt markets across the world with this rise in risk aversion and deeper asymmetric information problems, a part of the operations normally undertaken through the interbank market and the debt markets has been carried out through central banks. Portuguese banks have been no exception.

Though the circumstances were unpropitious, there was a positive development in the first half of 2008 - above all in domestic institutions - in terms of the gaps between liquid assets and volatile liabilities with residual maturities of less than one year. This was fundamentally the result of an increase in interbank assets and above all in assets eligible as collateral for ECB monetary policy operations. The latter came to a large extent from the securities acquired by the banks from securitisation vehicles deriving from loans originated by the banks themselves. This was similar to general practice witnessed in other European banks. For these securities to be eligible in ECB monetary policy operations, the underlying assets have to be effectively and unconditionally ceded to securitisation vehicles held by third parties. More recently, some Portuguese banks have been using loans to bolster the pool of assets eligible for ECB monetary policy.

However, the liquidity gap up to one year remains negative. This means that liabilities with residual maturities of less than one year are greater than highly liquid assets and this gives some indication of the pressure of refinancing needs for the banks during this period. Given this, continued turbulence in the wholesale debt markets could exacerbate the liquidity risk in the Portuguese banking system. Against this backdrop, the measures announced by the Portuguese government, in articulation with other European governments, should help to curtail this risk. The measures in Portugal include government guarantees up to 20 thousand million euros, earmarked for fulfillment of financing or refinancing obligations that the credit institutions have. With recourse to these guarantees, Portuguese banks should be able to ensure access to financing in the wholesale debt markets, even if the squalls continue. In addition, banks have recently been focusing their financing strategy fundamentally on increasing customer deposits from the household segment. This, in tandem with a tighter rein on loans, is a very positive development. It means that the banks have access to a more stable source for their financing needs and at the same time it reduces their exposure to the wholesale debt markets, above all for short-term operations. It is therefore fundamental for these trends to continue so as to ensure a structural reduction in the credit/deposit ratio, a process that has recently been visible in domestic institutions.

The turmoil that had gripped the international financial markets in the summer of 2007 had already taken its toll on the profits of Portuguese banks in the final months of that year. This development was the result of higher financing costs, losses on asset portfolios and the drop in some commissions. During the current year, as the markets seized up, these effects intensified. Pre-tax and minority interest results on a consolidated basis plummeted. This meant losses both in return on assets and return on equity. The fall was largely the result of losses on financial operations, the increase in provisions and impairment losses. All this was in line with developments in financial markets over the past year. Of particular relevance here are the cross-holdings in the main banking groups, since financial institutions' stock prices have been among the worst affected by the slide in stock markets.

The financial margin continued to rise, fundamentally as a result of the volume effect. This is related to expansion of the loan portfolio, with a small decline visible in the overall margin between borrowing and deposit rates, as well as between the rates for customer loans and deposits. The squeeze on this margin stemmed on the one hand from the smaller differential between the interest rate on deposits and money market interest rates. On the other hand, the differential in credit operations remained fundamentally unchanged, which contrasts with the decline observed in the recent past. With interbank interest rates continuing to rise, the fall in the margin on deposits was related to the competitive strategies carried out by banks to attract customer funds. The move came on the back of the turbulence in the wholesale debt markets, and also led to an increase in the proportion of term deposits to total deposits. Meanwhile, developments in the margin on loan operations seem also to have resulted from the banks changing their policy on granting credit.

Most Portuguese financial institutions move to Basle II in 2008, and the capital adequacy ratio on a consolidated basis stood at 9.9 per cent in June of this year. The move in this ratio was in line with the recent trend, with a big increase in the requirements for own funds. This was higher than the increase in total own funds, which were significantly affected by plunging stock markets. In terms of Tier I capital, the capital adequacy ratio stood at 7.1 per cent at the end of this first half year. The increase in total own funds stems fundamentally from growth in Tier I capital, since the other items overall showed unfavourable developments. Capital increases undertaken by some of the banking groups during the last twelve months were the main contribution to the rise in Tier I capital. In contrast, the potential losses in the value of some of the financial instruments contained in the available-for-sale portfolio, in light of the severe turmoil that has taken hold of the capital and debt markets gave a negative contribution to Tier I capital.

On 2 November, the Portuguese government announced a series of additional measures to shore up financial stability. A plan was tabled to recapitalise credit institutions with registered head office in Portugal, against the background of European Union recommendations. The plan was in line with others announced by a number of different countries. The aim is to ensure that banks are in a position to bolster their Tier I capital, with the Banco de Portugal recommending those institutions that it supervises to bring this ratio up to a minimum of 8 per cent by 30 September 2009. The support provided is for credit institutions that are solid and solvent in light of the law and supervisory criteria. It will be financed by the issue of public debt of up to 4 thousand million euros.

In recent years, when the international financial climate was benign, Portuguese banks offset part of the rise in debt servicing in the non-financial private sector stemming from the rise in interest rates by offering tailor-made credit products that allowed them to adapt the charges elated to debt servicing to the financial capacities of families and enterprises. These practices sustained the demand for credit and the differential between expenditure and income in these sectors. This translated into a sustained fall in savings rates. As a result, there was a substantial rise in debt in these sectors. The financial turmoil that took hold in the summer of 2007 made it clear that this dynamic was unsustainable, in light of the clamp on financial conditions in the international financial markets. However, throughout 2008, the impact of the international financial crisis on the Portuguese economy was gradual, reflecting the lag between changes in market conditions, specifically in the credit market, and its propagation to the economy as a whole. During this period, debt to the private non-financial sector continued to rise substantially, with another increase in the financing needs of this sector. The increase reflected to a large extent the decline in the savings of households and corporations, with the recovery of investment on hold and private consumption dipping only slightly. Default on credit was on the rise, both with individuals and non-financial corporations, as the financial situation of some families and corporations worsened. The circumstances were not helpful: economic activity was slowing, bank interest rates were moving upwards, credit standards had tightened and it was becoming ever clearer that the risk of a strong and prolonged instability in the credit markets was materialising. There is likely to further repercussions from the financial crisis on the Portuguese economy against a backdrop characterised by a major slowdown in the global economy. Even on the assumption that the measures taken by the authorities will bring the international financial markets back into line, there is likely to be a further slowdown in credit and defaults rising. The measures for the banking system announced by the Portuguese government should limit the strains in financial intermediation and therefore the financing of the economy.

Although the level of indebtedness for individuals and corporations is a source of vulnerability, there are some mitigating factors in terms of the effect of this on financial stability. The tendency towards increased indebtedness was largely the endogenous response of economic agents to the new regime arising from the country's participation in the euro area. This was characterised by lower and less volatile interest rates. As a result, the interest paid by the non-financial private sector as a percentage of GDP remained on an even keel, even though the indebtedness increased. This occurred, moreover, without speculative bubbles in the housing market, contrary to what happened in other countries, aided by the absence of a sub-prime segment in mortgage credit in Portugal. The most recent survey of household assets and debts (*Inquérito ao Património e Endividamento das Famílias* - IPEF) shows that families with low income play only a small part in the credit market, in particular in the housing market. Furthermore, the gross wealth of indebted families (a figure which includes the value of property) is comfortably above their debt.

2. MACROECONOMIC AND FINANCIAL FRAMEWORK

2008 has been marked by the crisis in international financial markets and by its interaction with the global economic deceleration, translating into a particularly adverse environment for banking business. Considering that the Portuguese economy is a small economy strongly integrated from an economic and financial perspective, Portuguese banks have also been affected by the disturbances in the world financial system. The impact on the Portuguese banking system has been chiefly felt due to difficulties in borrowing from international wholesale markets, as well as to losses in financial assets, although the exposure of Portuguese banks to the US sub-prime market and related instruments is not materially relevant. Moreover, income of banks from commissions and financial operations has also been conditioned by the deterioration of global financial conditions. Thus, the conditions under which the Portuguese banking system operates have negatively affected its profitability, liquidity and solvency. In turn, pressure on the banking system may condition economic agents' consumption and investment decisions, in particular if the lending capacity of banks is strongly constrained.

Since the summer of 2007, the world economy has suffered a number of negative shocks that led to a remarkable strengthening of the already existing expectations of an economic slowdown. On the one hand, inflationary pressures intensified due to the rise in food commodity prices and a strong increase in the price of oil until mid-August 2008, although subsequently these commodity prices fell sharply. On the other hand, the impact on the world economy of the strong disturbances in the financial system has been deteriorating since the end of 2007. The interaction between the functioning of the financial system and world economic activity has amplified these disturbances. Finally, the deterioration of the situation in the real estate markets of several advanced economies has also negatively affected economic growth and financial stability. Against this background, the world economy has been decelerating significantly, with several advanced economies recording growth levels close to a recession. More recently, emerging market and developing economies also started to be severely affected, in an environment of deteriorating financing conditions, global economic slowdown and falling energy and food commodity prices.

According to the IMF forecasts, the US economy is projected to grow 1.4 per cent in 2008, compared with 2.0 per cent in 2007. In the course of 2008, economic growth has been underpinned by the behaviour of net exports, favoured by a depreciating US dollar during the first half of the year. In turn, residential investment made a negative contribution to economic growth, with private consumption decelerating somewhat. US non-financial corporations initially showed a favourable performance, benefiting from reduced indebtedness levels, the accumulation of profits and robust external demand. However, more recently, profits of non-financial corporations started to show the impact of financial market disturbances and worldwide economic slowdown. IMF forecasts point to a contraction of the US economy by 0.7 per cent in 2009.

Although financial market disturbances initially originated in the United States, the impact on the euro area financial system and economy has been rather significant, in a context of strong economic and financial integration. Thus, according to the IMF forecasts, economic activity in the euro area is projected to decelerate from 2.6 per cent in 2007 to 1.2 per cent in 2008. The strong rise in energy and food prices until mid-2008 affected negatively private consumption in the euro area, while the appreciation of the euro over that period exerted a negative pressure on the export performance. More recently, euro area exports seem to be also negatively affected by a strong deceleration in external demand, despite the euro depreciation and falling oil and other commodity prices since August 2008. Tighter credit standards and a rise in financing costs are also likely to have a negative impact on invest-

ment and consumption developments. Against this background, the IMF foresees a 0.5 per cent contraction of the euro area economy in 2009.

In turn, emerging market economies are also likely to slow down in 2008 and 2009. Although the impact of financial market disturbances on these economies was relatively limited in the course of 2007, in the most recent period these economies have been significantly affected by a deterioration in both the financial system and the world economy.

The Portuguese economy has also felt the impact of the interaction between the international financial crisis and the deterioration of world economic growth prospects. In this context, in 2008 economic activity is forecast to decelerate, reflecting less buoyant exports and domestic demand, in particular driven by a slowdown in investment, while private consumption will only decelerate somewhat.[1]

The main downside risk to world economic growth relates to the potential persistence for a more protracted period of serious disturbances in the world financial system, while there is still uncertainty about the effectiveness of the measures announced by several authorities at international level. Thus, the risk persists of an abrupt deleveraging of the financial sector, with a consequent tightening of credit standards and constraints on economic activity. Moreover, a further deterioration of the situation in real estate markets in the United States and in some European countries may affect negatively economic growth. A potential abrupt adjustment of global macroeconomic imbalances poses an additional risk.

During the last year, the articulation between cooling economic activity and mounting inflationary pressures, against a background of increasing turbulence in international financial markets, posed particularly complex challenges for the conduct of monetary policy. Thus, the US Federal Reserve System justified the successive cuts in the federal funds rate with the deterioration of risks for economic activity. In June 2008 the Federal Reserve interrupted this process of interest rate cuts, amid the intensification of inflationary pressures. Also in this context, in July 2008 the ECB increased by 25 basis points the minimum bid rate on the main refinancing operations. However, the widening of the spread between money market rates and the key ECB rate, the deterioration of financial market conditions and the appreciation of the euro contributed to even tighter monetary conditions in the euro area, in particular in some countries. From August 2008 onwards, pressure on energy and food commodity prices eased and, subsequently, the sharply deteriorating conditions in financial markets increased expectations of cuts in the official interest rates in several advanced economies. Against this background, on 8 October the ECB, the Federal Reserve, the Bank of England, the Swiss National Bank, Sveriges Riksbank and the Bank of Canada took the joint decision of reducing by 50 basis points their policy interest rates, taking into account the increase in risks to economic growth and the decrease in inflationary pressures. At the end of October, the Federal Reserve cut the federal funds rate by a further 50 basis points to 1 per cent, and, in early November, the ECB decreased the rate on main refinancing operations from 3.75 to 3.25 per cent.

The strong disturbances in the world financial system and the progressive deterioration of economic growth expectations have negatively affected financial markets as a whole. In the beginning of the year, the disclosure of losses by some of the large internationally active financial groups and the increased probability of a recession in the United States added to a deterioration of financial market conditions. These disturbances were aggravated in mid-March, when the problems of Bear Sterns – one of the biggest US investment banks – were made public, requiring the intervention of the US Federal Reserve System. This intervention seems to have contributed to the interruption of the trend deterioration in international financial market conditions. However, from May onwards, the disclosure of problems in several financial institutions and the rise in the estimated impact of these disturbances on

(1) See "The Portuguese economy in 2008", in this *Economic Bulletin*.

economic activity added to a further increase in the risk *premia* in debt markets and, mainly, to losses in equity markets, particularly in financial sector shares.

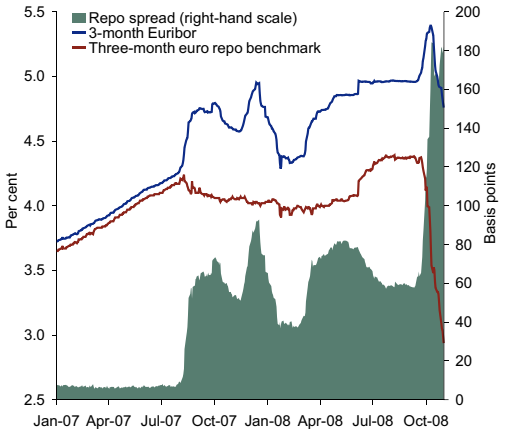
Following the State intervention in several US financial institutions, the most important being in Fannie Mae, Freddie Mac (which together held the largest share of mortgage lending in the United States) and AIG (one of the largest insurance companies in the world), the situation in international financial markets deteriorated sharply as from the middle of September. The bankruptcy of Lehman Brothers, one of the biggest global investment banks, aggravated substantially this situation, giving rise to a global confidence crisis. Some European banks have also suffered solvency problems, with several injections of public funds. In the wake of these serious disturbances, several measures were announced at international level in order to restore the smooth operation of financial markets and strengthen confidence in the financial system.[2] In addition to governmental measures, the central banks continued to provide liquidity to the banking system and made several changes in the operational framework for their monetary policy operations.

The disturbances observed since the summer of 2007 have been broadly based across financial markets, namely the interbank money market, private and public debt markets and equity markets.

Against this background, the problems faced by banks at international level became particularly visible with the persistence at high levels of the spreads between the interest rates on uncollateralised and collateralised operations in interbank money markets[3] (Chart 2.1). The widening of these spreads chiefly reflects a mismatch between the supply and demand for funds in this market. Given the prevailing uncertainty and the strong rise in counterparty risk, banks have tightened the supply of funds in the money market, trying to maintain adequate liquidity levels and avoid future difficulties in borrowing. These spreads remained at globally high levels during most of the year, having increased remarkably in mid-September to above 150 basis points. According to market expectations, tensions in money markets are likely to persist for a relatively protracted period, despite expectations of a gradual narrowing of these spreads (Chart 2.2).

Chart 2.1

3-MONTH REPO SPREAD – EURO AREA



Source: Thomson Reuters.

(2) For a summary of the main policy action of authorities at the global level, see "Box 2 *Authorities responses in the context of the financial crisis: liquidity management measures and intervention in financial systems*", in the text "The Portuguese economy in 2008" of this *Economic Bulletin*. The main measures announced in Portugal are summarised in "Box 1 *Main measures taken by the Portuguese authorities regarding the financial system in the context of the international financial crisis* " in this text of the *Economic Bulletin*.

(3) For an analysis of the reasons underlying this persistence, see "Box 2.1 *Risk premium in the money market during the period of financial market turmoil: credit or liquidity risk?*" in the *Financial Stability Report* 2007 of the Banco de Portugal.

In this context, Portuguese banks had to cope with rather adverse financing conditions in wholesale funding markets throughout 2008. The issuance level in some of the usual wholesale funding markets of Portuguese banks was rather subdued during part of the year. For instance, in the primary market of covered bonds there were no issues during a significant period of time. The demand for securitised assets recorded also a steep decline. Even in these adverse conditions, Portuguese banks were able to issue a relatively significant volume of securities, although with higher costs and shorter maturities than in the past, as discussed in "Section 4.3 *Liquidity risk*".

Banks' tighter financing conditions were reflected in a substantial increase in the spreads of securities issued by Portuguese banks, continuing the trend seen since the summer of 2007. This rise was broadly in line with that seen in other euro area banks (Chart 2.3 and Table 2.1).

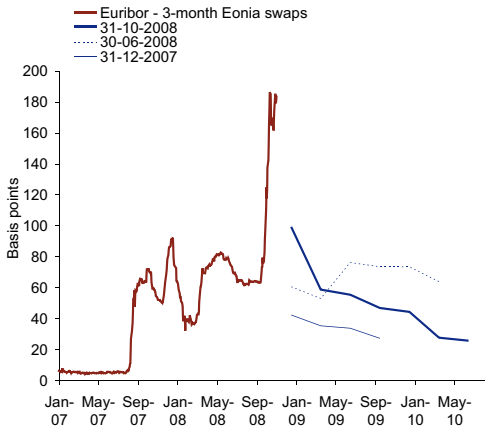
The rise in the risk underlying the financial system can be illustrated by developments in the credit default swaps (CDS) *premia*. These *premia* recorded a sharp rise until mid-March, reflecting fears that some US banks might not be solvent (Chart 2.4). After the intervention of the US Federal Reserve in the Bear Sterns investment bank, CDS *premia* decreased somewhat. However, the strong disturbances observed after mid-September were translated into a very sharp rise in these risk *premia*, which was partly reversed after mid-October, in the wake of the measures announced by several authorities at international level. Notwithstanding, these risk *premia* remained at quite elevated levels.

The need to inject public funds in several banks and the recently announced granting of guarantees to the debt issued by the financial system implied an increase in the underlying credit risk of sovereign issuers. As a consequence, CDS *premia* of the sovereign debt of several European countries increased strongly as from the end of September, moving closer to the financial sector risk *premia* (Chart 2.5).

Developments in equity indices have reflected financial sector tensions and a deterioration of economic growth prospects and, hence, of corporate profits. In the second half of 2007 falls in equity indices were relatively moderate, being chiefly concentrated in the financial sector. However in the course of 2008, the main indices recorded substantial falls, which intensified as from mid-September (Chart 2.6). Until the end of October, the S&P 500 index had lost around 34 per cent of its value compared with

Chart 2.2

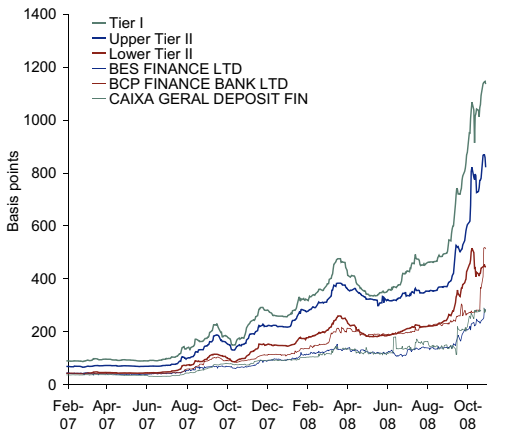
ACTUAL AND EXPECTED SPREADS BETWEEN EURIBOR AND 3-MONTH EONIA SWAPS



Sources: Bloomberg, Thomson Reuters and Banco de Portugal calculations.
Note: Expected spread measured as the difference between the three-month Euribor implied in futures contracts and the forward rate of the 3-month Eonia swap starting from the future's maturity date.

Chart 2.3

SPREADS OF BONDS ISSUED BY EUROPEAN BANKS



Sources: Bloomberg, JP Morgan and Banco de Portugal.

Table 2.1

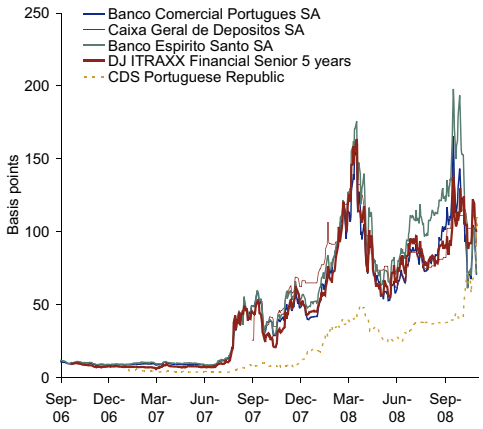
SPREADS OF FIXED-RATE SECURITIES ISSUED BY EUROPEAN BANKS [a]

	Subordinated (Y/N)	Maturity	Rating Bloomberg Composite [b]	Spread 23.07.2007 (p.p.)	Spread 31.12.2007 (p.p.)	Spread 31.10.08 (p.p.)	Change since 23.07.2007 (p.p.)	Change since 31.12.2007 (p.p.)	Change between the minimum and 31.10.2008 [c]
BBV INT'L FIN (CAYMAN)	Y	24/12/2009	AA-	0.49	1.07	2.99	2.50	1.92	2.70
ING BANK NV	Y	15/06/2010	AA-	0.23	0.64	3.04	2.81	2.40	2.86
SANTANDER CENT HISP ISSU	Y	05/07/2010	AA-	0.29	0.70	2.61	2.32	1.91	2.38
SANTANDER CENT HISP ISSU	Y	14/03/2011	AA-	0.30	0.84	2.90	2.60	2.06	2.65
ING BANK NV	Y	19/12/2035	AA-	0.60	0.88	1.52	0.93	0.64	1.19
CAIXA GERAL DEPOSIT FIN	Y	**12/10/2009**	**A+**	**0.37**	**0.93**	**2.93**	**2.56**	**2.00**	**2.67**
BANK OF IRELAND	Y	10/02/2010	A+	0.34	1.22	4.00	3.66	2.78	3.80
BBV INTL FINANCE LTD	Y	25/02/2010	AA-	0.30	0.86	0.96	0.67	0.10	0.80
ABN AMRO BANK NV	Y	28/06/2010	A+	0.23	0.61	1.49	1.27	0.88	1.35
POPULAR CAPITAL SA	Y	29/10/2049	A+	1.50	1.63	6.69	5.19	5.06	5.54
BCP FINANCE BANK LTD	Y	**29/03/2011**	**A**	**0.46**	**1.08**	**5.13**	**4.67**	**4.06**	**4.79**
BES FINANCE LTD	Y	**17/05/2011**	**A**	**0.45**	**0.91**	**3.16**	**2.71**	**2.25**	**2.80**
SNS BANK NEDERLAND	Y	15/04/2011	A-	0.40	0.59	7.82	7.42	7.23	7.50
BANKINTER SA	Y	18/12/2012	NR	0.58	1.16	2.43	1.85	1.27	2.22
BANCO SANTANDER SA	N	15/03/2009	AAA	0.17	0.57	2.14	1.97	1.57	2.01
BANCO SANTANDER SA	N	19/12/2008	AAA	0.17	0.59	3.33	3.17	2.74	3.27
BANCO SANTANDER SA	N	10/09/2010	AAA	0.20	0.43	1.45	1.25	1.02	1.34
RABOBANK NEDERLAND	N	02/07/2010	AA+	0.02	0.22	2.20	2.17	1.97	2.12
BANCO ESPANOL DE CREDITO	N	23/02/2011	AA+	0.26	0.51	1.73	1.47	1.23	1.61
BANCO ESPANOL DE CREDITO	N	12/05/2010	AA+	0.21	0.52	1.48	1.27	0.96	1.42
CAIXA GERAL DE DEPOSITOS	**N**	**18/10/2012**	**AA**	**0.42**	**0.73**	**1.22**	**0.81**	**0.49**	**1.16**
BANK OF IRELAND	N	22/10/2010	AA-	0.37	0.75	2.21	1.84	1.46	1.95
BCP FINANCE BANK LTD	**N**	**31/03/2024**	**A+**	**0.56**	**0.69**	**1.86**	**1.30**	**1.17**	**1.41**
BCP FINANCE BANK LTD	**N**	**22/12/2008**	**A+**	**0.24**	**1.06**	**3.51**	**3.27**	**2.46**	**3.32**
BES FINANCE LTD	**N**	**25/03/2010**	**A+**	**0.38**	**0.89**	**3.36**	**2.97**	**2.47**	**3.05**
SNS BANK NEDERLAND	N	12/11/2014	A+	0.47	0.84	2.01	1.55	1.17	1.87
BANCO BPI SA CAYMAN	**N**	**14/11/2035**	**A**	**0.56**	**0.58**	**1.59**	**1.02**	**1.01**	**1.27**
BANCO PORTUGUES DE INVES	**N**	**05/10/2009**	**A**	**1.94**	**2.31**	**3.35**	**1.41**	**1.04**	**1.84**
BCP FINANCE BANK LTD	**N**	**12/07/2011**	**A**	**1.96**	**2.13**	**3.61**	**1.65**	**1.48**	**2.07**
SNS BANK NEDERLAND	N	28/05/2014	A	1.94	2.03	4.17	2.23	2.15	2.89
BAYER HYPO- VEREINSBANK	N	17/03/2014	SR	0.28	0.47	0.93	0.65	0.45	0.90
EUROHYPO SA DUBLIN	N	12/03/2009	SR	0.37	0.91	2.52	2.15	1.62	2.34
BES FINANCE LTD	**N**	**12/02/2009**	**SR**	**0.27**	**1.05**	**3.54**	**3.28**	**2.49**	**3.33**
BANCO SABADELL SA	N	15/06/2015	SR	0.41	0.61	1.71	1.30	1.11	1.57
BANCO SABADELL SA	N	26/01/2011	SR	0.25	0.56	1.86	1.60	1.29	1.75
BANCO POP VERONA NOVARA	N	21/01/2009	SR	0.33	0.91	2.75	2.42	1.84	2.51
Average				**0.51**	**0.90**	**2.78**	**2.27**	**1.88**	**2.45**

Sources: Bloomberg and Banco de Portugal.
Notes: (a) Sample of banks constructed by taking into account banks whose size is comparable to that of the Portuguese banks considered. In addition, the ratings and maturities of bonds considered in this table are close to those of the Portuguese banks analysed, to ensure the comparability of spreads. (b) Bloomberg Composite - average of Moody's and S&P's ratings. (c) Minimum observed since the beginning of 2005.

Chart 2.4

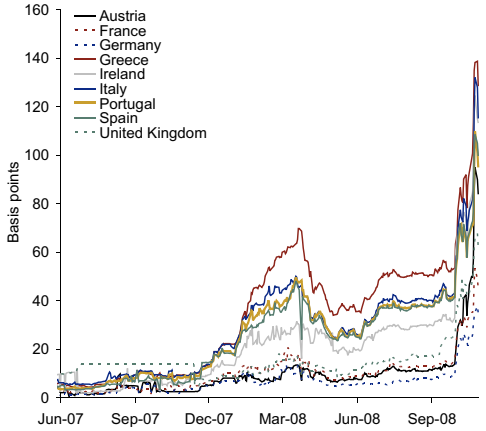
CREDIT DEFAULT SWAP SPREADS OF PORTUGUESE BANKS (5 YEARS SENIOR)



Sources: Bloomberg and Thomson Reuters.

Chart 2.5

CREDIT DEFAULT SWAPS OF EUROPEAN COUNTRIES (5 YEARS SENIOR)

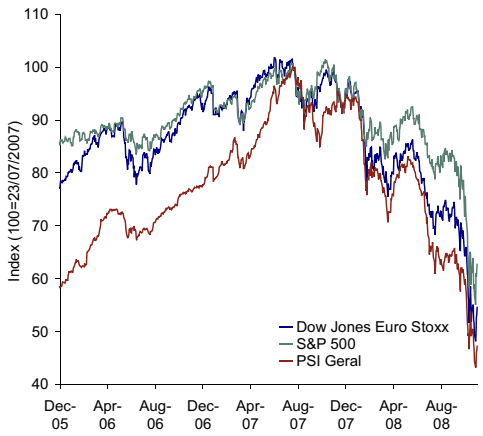


Source: Thomson Reuters.
Note: The credit default swap for the French Republic has a maturity of six years.

end-2007, while in the same period, the Dow Jones Euro Stoxx and the PSI Geral indices had recorded a negative change of 43 and 49 per cent respectively. These falls were more marked in the equity indices of the banking sector (Chart 2.7). In turn, shares of Portuguese banks recorded even steeper falls, with the PSI Financial Services index losing around 59 per cent in the same period. Share prices of *Banco Comercial Português* (BCP) and *Banco Português de Investimento* (BPI) fell by more than 60 per cent over the same period, while the shares of *Banco Espírito Santo* (BES) recorded a 50 per cent devaluation (Chart 2.8). However, it should be noted that between the end of 2005 and July 2007, shares of Portuguese banks had increased far more than shares of the European or the US financial sector.

Chart 2.6

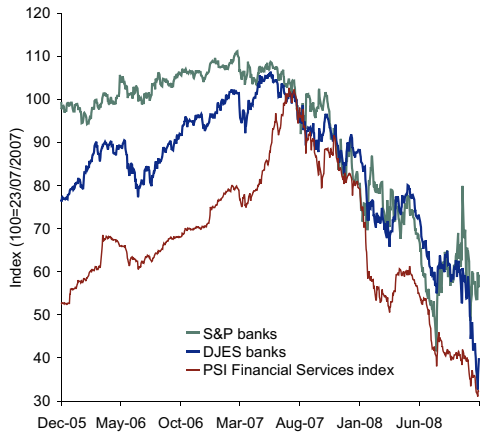
PRICE DEVELOPMENTS IN STOCK MARKETS



Source: Bloomberg.

Chart 2.7

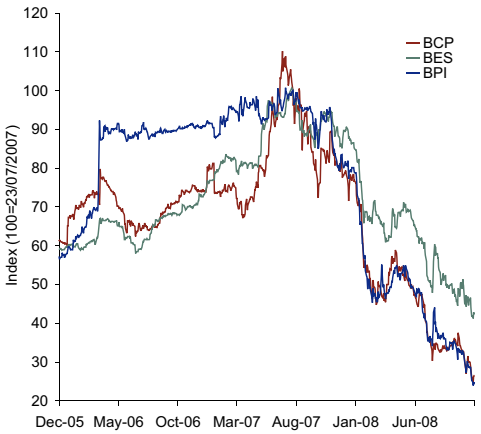
DEVELOPMENTS IN BANK STOCK PRICES



Source: Bloomberg.

Chart 2.8

DEVELOPMENTS IN THE STOCK PRICES OF PORTUGUESE BANKS



Source: Bloomberg.

The negative performance of equity markets affects banks through different channels. On the one hand, banks record losses in their portfolio of financial assets, as well as in the portfolio of assets of the pension funds of bank employees, with a negative impact on their profitability and solvency. On the other hand, the financial market turmoil affects negatively bank income from commissions and financial operations.[4]

The financial market turmoil has been reflected in a substantial deterioration of the ratings given to banks and financial sector corporations at the global level. However, Portuguese banks have not been much affected by this general trend. The rating of *Banco Português de Negócios* (BPN) was downgraded by Moody's, which gave a negative outlook to the rating prospects of this banking group, taking into account the losses recorded in some assets and management problems in this banking group. In mid-October, Fitch placed under revision (in the negative direction) its rating assessment of Santander Totta and BPN and S&P gave a negative outlook to the rating of the Millennium BCP group. More recently, in mid-November, Moody's downgraded the rating of *Banco Privado Português*, reflecting the challenges faced by the bank to maintain a business model which is highly dependent on financial market developments. By contrast, S&P upgraded the ratings given to CGD at the end of August, following favourable developments in profitability and asset quality, as well as two capital increases made in the last year.

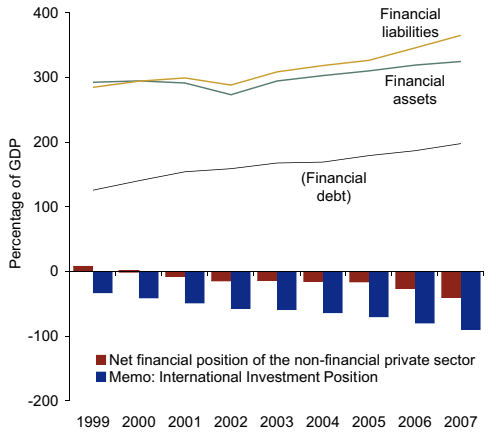
(4) The activity, profitability and solvency of Portuguese banks are analysed in detail in Section 4 below.

3. THE FINANCIAL SITUATION OF THE NON-FINANCIAL PRIVATE SECTOR

The strengthening of financial integration of the Portuguese economy during the current decade, bolstered by participation in the euro area, has made it possible to substantially expand the choices available to resident economic agents. It has helped towards the fall in restrictions on liquidity in circumstances where interest rates are lower and less volatile and it has opened the way to a wide and diversified array of opportunities for allocating financial wealth with no exchange rate risk. Against this backdrop, the Portuguese economy has seen a relatively long period with rates of growth in domestic demand higher than income. This has been made possible by a growing recourse to external savings, channelled to a very large extent through the banking system to the non-financial private sector. In addition, there was a particularly benign international financial framework over a very long period, enabling Portuguese financial institutions to obtain funds in euros and with long maturities. These institutions expanded their credit operations, like their counterparts in the euro area and in other advanced economies, thus providing the financing needed by Portuguese families and enterprises. As a result, the financial debt of these sectors increased considerably between 1997 and 2007. At the end of 2007, it stood at 198 per cent of GDP, one of the highest levels in the euro area. The financial position of the private sector had moved into negative territory in 2001, and since then has worsened unremittingly, on the back of a substantial growth in debt, only partially offset by higher asset values. This development has led to a worsening of the international investment position of the Portuguese economy, with a salient increase in the proportion of liabilities towards non-residents on the balance sheets of banking institutions (Chart 3.1). It should be pointed out, however, that this development came to a large extent from the exogenous response of economic agents to the new situation of the Portuguese economy in the international financial framework as the country moved into the euro area. This occurred, moreover, without speculative bubbles in the housing market, as happened in other countries, aided by the fact that the country has no problem with mortgage credit in the sub-prime segment. The most recent Survey on Household Wealth and Indebtedness (*Inquérito ao Património e Endividamento das Famílias* - IPEF) shows that families with low income play only a small part in the

Chart 3.1

FINANCIAL POSITION OF THE NON-FINANCIAL PRIVATE SECTOR



Source: Banco de Portugal.

credit market, above all in the housing market. Furthermore, the gross wealth of indebted families (a figure which includes the value of property) is comfortably above their debt.[5]

Towards the end of 2005, official interest rates increased. However, the move in credit to the non-financial sector up to summer 2007 benefited from the fact that banks could look to a relatively low spread for their financing in international banking markets. Along with this, a climate of fierce competition had pervaded the credit market, above all in the housing segment, with non-financial enterprises also affected, albeit to a lesser extent. Given this framework, Portuguese banks offset part of the extra cost to the non-financial sector through credit products that made it possible to adapt the debt service costs to the financial capacities of households and enterprises. In this way they maintained the level of demand for credit and the differential between expenditure and income in the sector. As a consequence, savings rates tracked unbrokenly down. But when financial turmoil took hold in the summer of 2007, it became clear that this dynamic was unsustainable, with financing seizing up in the international financial markets. The effects of this on the Portuguese economy in the first half of 2008 remained, however, limited. This reflected the lag between changes in market conditions, particularly the credit market, and the contagion that was to spread to the real economy. During this period, private non-financial sector debt continued to rise substantially, with a further increase in the borrowing needs of the sector. With the recovery of investment on hold and private consumption dipping only slightly, the impact was fundamentally from the decrease in current savings of households and enterprises. Default on credit was on the rise, both with individuals and non-financial enterprises, as the financial situation of some families and companies weakened. The circumstances were not helpful: economic activity was slowing, bank interest rates were still on their upward curve, the conditions for credit had tightened and it was becoming ever clearer that no answer could be given to the question of how long the instability in the credit markets would exist, how far it would spread and consequently what risks were involved (see "Section 4.4 *Credit Risk* in this article).

Individuals

In the first half of 2008, individuals' net lending stood at around 0.9 per cent of GDP. This was a fall both in year-on-year terms and in relation to the whole of 2007, coming fundamentally on the back of the continuing fall in the sector savings rate (Chart 3.2). Private consumption was continuing to rise at a higher rate than household disposable income, even though it had moderated somewhat compared with a twelve-month earlier, above all in the acquisition of durables.[6] The moves in private consumption over the last two years have stemmed from families making much more use of the bank credit available for consumption. The big growth in bank loans in 2007 was above all linked to a rise in vehicle purchases and this was partly a result of operations involving an array of credit institutions specially focused on this type of credit.[7] In the first half of the current year, the figures seem to indicate that there was a slight tail-off, with a slowdown in expenditure on durables, loss of confidence among consumers and an increasing move to alternative sources of financing, especially the use of savings. Even so, growth in this credit aggregate continued to be solid and the dynamic of current consumption did not slacken. Investment by individuals would seem to have grown moderately during the first half of the current year. Credit to individuals for housing and for other purposes than consumption was slowing,

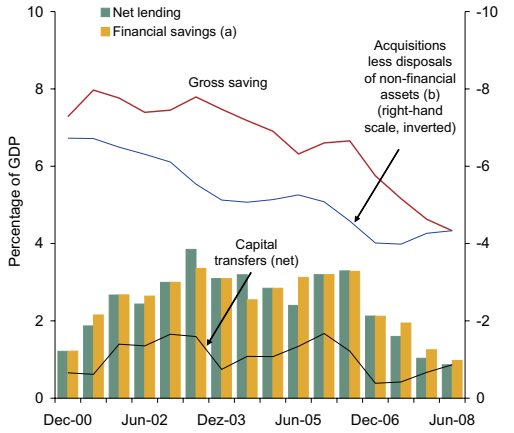
(5) See Farinha, "Indebtedness of Portuguese Households: Recent Evidence Based on the Household Wealth Survey IPEF 2006-2007", Banco de Portugal *Financial Stability Report*, 2007.

(6) In 2007, the consumption of durables rose substantially. This was related with car purchases and the trend is being partially reversed in the current year. The dynamism of this demand component (influenced by changes in tax on vehicles) was in part sustained by a high growth in consumer credit. This path was visible over the whole year, in spite of the instability in international financial markets. On this subject, see "Box 4.1 Private consumption developments in 2007 and the behaviour of durable goods", Banco de Portugal, *Annual Report*, 2007.

(7) On this subject, see "Box 7.1. *Recent developments in the market of consumer credit and other lending to individuals*", Banco de Portugal, *Annual Report* 2007.

Chart 3.2

SAVING, INVESTMENT AND NET LENDING OF HOUSEHOLDS



Sources: *INE* and Banco de Portugal.
Notes: Annual figures up to the month under review. **(a)** Financial savings are given by the difference between net acquisition of financial assets and net incurrence of liabilities by the sector in the period under review. Excluding a statistical discrepancy, they correspond to net lending/net borrowing resulting from non-financial operations. **(b)** It corresponds to the sum of GFCF, changes in inventories, acquisitions less disposals of valuables and acquisitions less disposals of non-produced non-financial assets.

suggesting less use of bank credit for financing investment in tangible assets[8] (see "Section 4.4 *Credit Risk*" in this article).

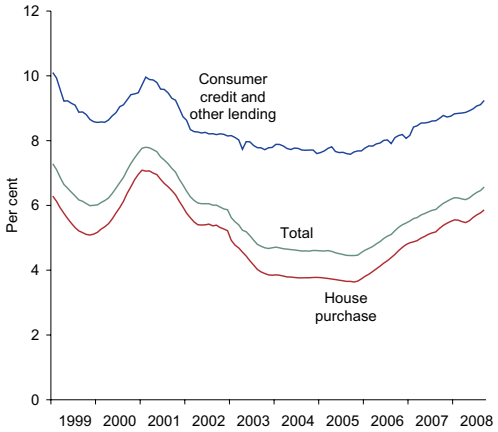
The consumer survey carried out by the National Statistical Office (*INE*) in relation to the economic and social climate reveals that confidence among Portuguese families seems to have fallen unbrokenly to the early part of the fourth quarter of the present year. At this point, it reached a figure not far from the minimum of 2003. This path reflects falling expectations among a growing number of families in relation to the overall economic circumstances, the specific financial situation, the rise in unemployment and the capacity to save as the economy slows and there is on-going instability in the international financial markets. In light of the available information, the financial crisis impacted, albeit to a limited extent, on the financial situation of individuals. The causes were two-fold: higher debt service costs; and lower levels of wealth, with the latter deriving in part from the fall in value of a number of financial assets. In terms of the first of these, debt service for individuals has increased by around 0.7 percentage points of GDP compared with the first half of 2007. Interest rates on individuals' loan outstanding amounts rose in an unbroken stretch from the fourth quarter of 2005 through the first half of 2008, with September seeing levels similar to those at the end of 2001 (Chart 3.3).

In terms of financial assets held by individuals, there was a clear shift that started with the financial turmoil, as portfolios were rejigged in favour of assets - such as deposits - that were less sensitive to market fluctuations. This move seems to have reflected both greater risk aversion and the impact of instability in the financial markets on the yield from the range of instruments where savings could be placed. There was in addition the more competitive approach of banks (especially the domestic ones) towards customer deposits, leading to a rise in term deposit interest rates against a backdrop of increasing difficulties felt by the banks in the wholesale financing markets. A considerable rise in depos-

(8) Only one part of the GFCF made by individuals (albeit a substantial one) corresponds to investment in housing. The remainder is related to the productive activity of this sector, among these being agriculture, retail trade, repair and restaurant services, sectors with a considerable number of self-employed and sole proprietorships producing. In the first half of 2008 (going through to the third quarter) there was a slowdown of mortgage and other credit to individuals (where most of the loans to the self-employed and sole proprietorships are classified).

Chart 3.3

INTEREST RATES ON OUTSTANDING AMOUNTS OF LOANS TO HOUSEHOLDS



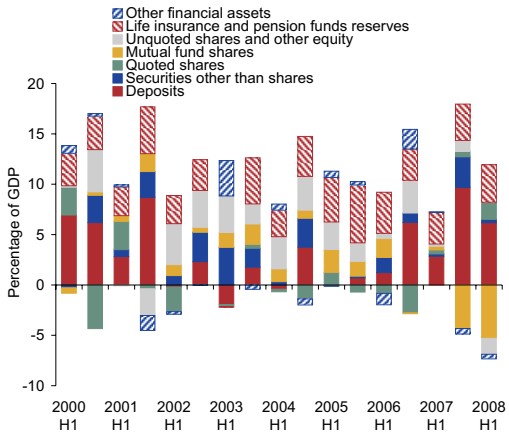
Source: Banco de Portugal. Latest figures: September 2008.

its was witnessed in the first half of 2008 (coming in at around 7 per cent of GDP) to the detriment of mutual fund shares with net redemption (around 5 per cent of GDP) (Chart 3.4). Financial market instability also brought very big fluctuations in the portfolios' component of shares and other equity, above all listed shares. It is estimated that the net loss in these portfolios between December 2007 and June 2008 represents around 6 per cent of GDP. At the same time, the sector's financial debt continued to rise, and stood at 92 per cent of GDP at the end of the first half of this year (Charts 3.5 and 3.6). According to the results of the last IPEF, those families that were in debt had outstanding amounts totalling around twice their annual income or, in other words, a little over 60 per cent of their total gross

Chart 3.4

NET ACQUISITION OF FINANCIAL ASSETS BY HOUSEHOLDS

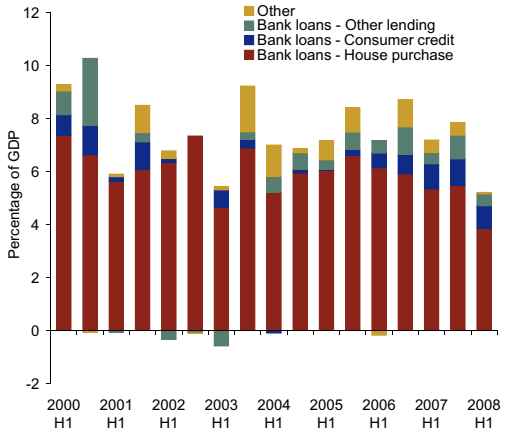
Transactions



Source: Banco de Portugal.

Chart 3.5

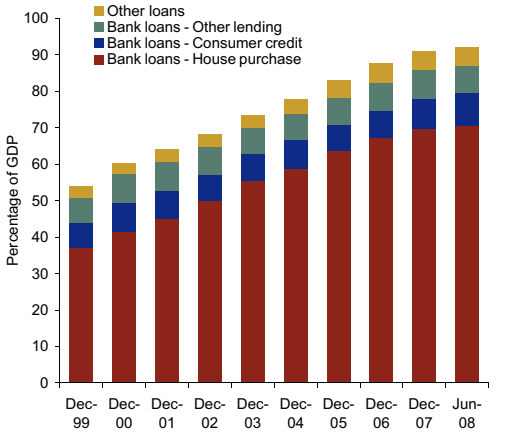
NET FLOWS OF LOANS TO HOUSEHOLDS
Consolidated figures



Source: Banco de Portugal.
Note: Comprising households (including sole entrepreneurs and emigrants) and non-profit institutions serving households.

Chart 3.6

HOUSEHOLD FINANCIAL DEBT



Source: Banco de Portugal.
Note: Comprising households (including entrepreneurs and emigrants) and non-profit institutions serving households.

wealth.[9] A particularly high ratio of debt to income is visible in families on low income and whose the reference person is still young. The situation, however, is partially mitigated by the fact that the major part of the debt in these strata relates to mortgages, where credit is guaranteed against property. Moreover, in most cases, even in these aggregates, gross wealth covers debt by a relatively comfortable margin. The IPEF results also suggest that the financial system is not likely to be jeopardised by this situation, since there is a relatively small proportion of credit that has been advanced to families in strata which are particularly vulnerable, or could become so (for instance through the reference person becoming unemployed).

Non-financial corporations

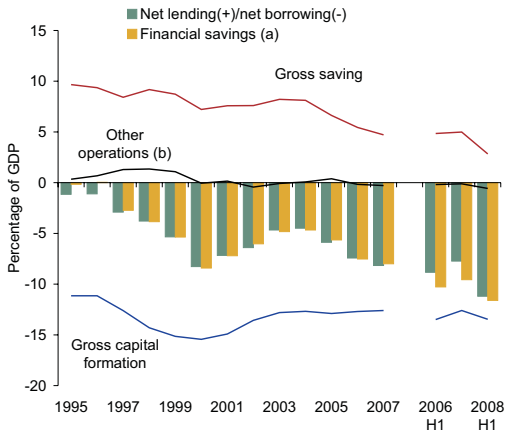
Net borrowing of the non-financial corporations in the first half of the current year was almost 2 percentage points of GDP higher than a year earlier, a marked increase fundamentally bridged by another fall in the savings rate. It is estimated that the gross capital formation of this sector came in now at a slightly higher percentage of GDP (Chart 3.7). The cut in current savings of non-financial enterprises reflects a big fall in operational results and a high outlay paid by the sector as return on capital invested (interest and dividends). Quarterly information from the Banco de Portugal Central Balance Sheet Database shows that this fall is in large measure the consequence of a rise in intermediate consumption against a background of slackening domestic and external demand. This brought down the sector's operating surplus (Chart 3.8).[10] The rise in interest rates has also had an impact, in tandem with the extra indebtedness picked up in recent years, leading to bigger charges for interest levied on enterprises.

(9) For the sector aggregate (that is, families with and without debt), bearing in mind the available estimates on non-financial wealth (fundamentally housing for ownership), the financial debt in 2007 represented around one-fifth of total wealth in this sector (financial and non-financial wealth). The figure has been rising constantly over the past decade. See Cardoso, Farinha and Lameira, "Household wealth in Portugal: revised series", September 2008, Banco de Portugal, *Occasional Papers*.

(10) For a detailed analysis of the sample of companies participating on the Central Balance Sheet Database of the Banco de Portugal - in the annual survey (CBA) and in the quarterly survey (CBT) - see Banco de Portugal Supplement 5/2005 to the Statistical Bulletin, December 2005 and Supplement 1/2008 to the Statistical Bulletin, May 2008. In the quarterly survey and, though to a lesser degree, in the annual survey up to 2005, there is a considerable skew towards large enteprises. From 2006, with the introduction of the Simplified Corporate Information (*Informação Empresarial Simplificada*), the coverage of the annual survey improved considerably and is now close to 100 per cent in terms of total gross value added of non-financial corporations.

Chart 3.7

NON-FINANCIAL CORPORATIONS' NET BORROWING AND DETERMINANTS



Sources: *INE*, Eurostat and Banco de Portugal.
Notes: Annualised six-month figures. Annual figures for 2007 calculated on the basis of quarterly national accounts. **(a)** Financial savings are given by the difference between net acquisition of financial assets and net incurrence of liabilities by the sector in the period under review. Excluding a statistical discrepancy, they correspond to net lending/net borrowing that results from non-financial operations. **(b)** Capital transfers (net) minus acquisitions less disposals of non-produced non-financial assets.

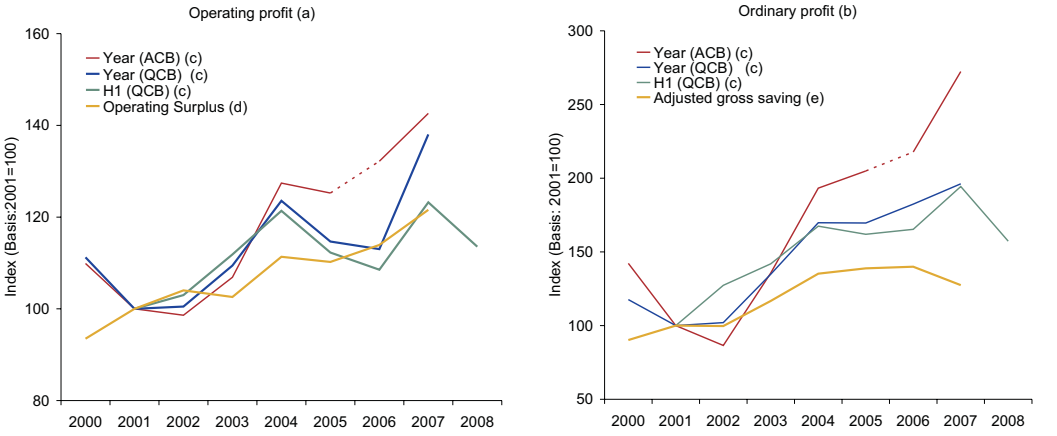
This also played its part in the fall in disposable income during the half year under review. To this can be added the amounts paid out as dividends in net terms (this figure relating significantly to listed companies), at a higher point than in the previous year. So, there was less surplus kept for the own sector.

Since 2004, gross saving of non-financial corporations as a percentage of GDP has been falling progressively. At the same time, according to the Banco de Portugal Annual Central Balance Sheet Database, the return for enterprises in this sector rose in successive periods until 2007 (according to the Quarterly Database, the figures for the first half of 2008 indicate that the trend was then reversed) (Chart 3.9). The operating surplus of non-financial enterprises as a percentage of GDP has remained virtually the same during that period (with even a slight increase in 2007). So, the path of savings rate has reflected the continued rise in remuneration of the investors in non-financial enterprises, whether through those who took on debt issues or shareholders [11] (Chart 3.10). As a result, the sector's self-financing capacity fell steadily, leading to a growing need for financing, even though the investment undertaken remained unchanged. These needs have been covered over recent years by an increase in debt contracted through the financial sector. Also, especially in 2006, there has been a substantial rise in financing from partners and shareholders, mainly taking the form of supplementary capital (Chart 3.11). During the first half of the current year, loans to this sector continued to rise at a high rate, and there were also considerable amounts raised through debt issues, especially short-term, mainly taken up by banks (around 75 per cent) (see "Section 4.4 *Credit Risk"* in this article*).*

(11) The operating surplus for a sector corresponds to the difference between the gross added value (equal to output less intermediate consumption) and the compensation of employees plus taxes on production and imports paid. It is therefore a measure of the income generated (or absorbed) as a result of the production (before the recording of financial costs and proceeds). Leaving out depreciation and provisions, this could be interpreted, for non-financial enterprises, as an approximation to the aggregate operating income of the sector. In the national accounts system (*Sistema Integrado de Contas Nacionais*), the operating surplus is a resource for the sector. This can be transferred to other sectors in the form of property income (such as interest, dividends and rents), current taxes on income and wealth and other current transfers. The balancing item is the disposable income. In sectors with final consumption (households, non-profit institutions serving families and public administrations), disposable income can be used in consumption and saving. In the other sectors (such as non-financial corporations) disposable income equals saving.

Chart 3.8

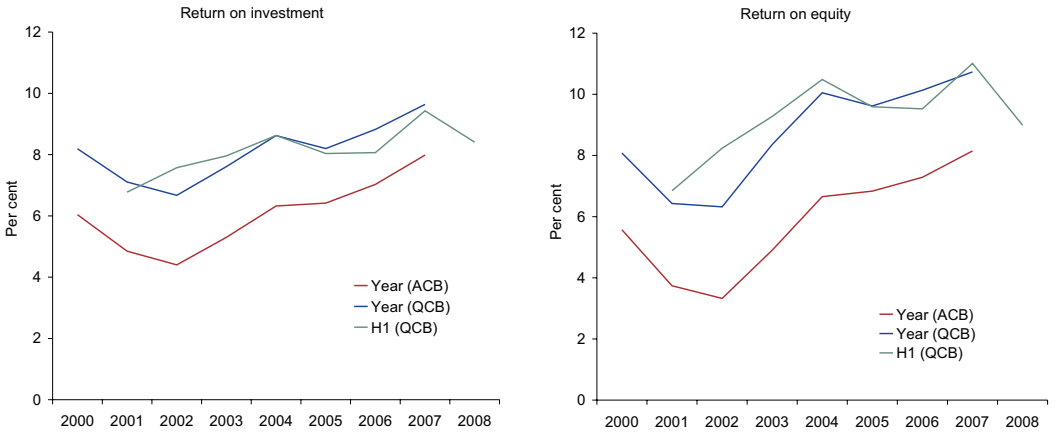
DEVELOPMENTS IN PROFIT AND LOSS OF NON-FINANCIAL CORPORATIONS



Sources: *INE* and Banco de Portugal.
Notes: Indices based on year-on-year changes of cumulative data since the beginning of the year for the same corporations participating in the Central Balance-Sheet Database in two consecutive years. Operating surplus and adjusted gross saving calculated on the basis of annual national accounts up to 2006 (including); in 2007, calculated on the basis of quarterly national accounts. (a) Operating profit = gross value added - personnel costs + other operating income (net of operating costs) - taxes (excluding indirect) - depreciation and provisions for the year. (b) Ordinary profit = operating profit + financial profit. (c) ACB: Annual Central Balance-Sheet Database. QCB: Quarterly Central Balance-Sheet Database. In the case of QCB, changes considered refer to the first half of each year (H1) and the year as a whole. Break in the series in 2006 for ACB; as from that year, on the basis of Simplified Corporate Information. On the basis of gross value added of non-financial corporations, the coverage rate in ACB is around 60 per cent up to 2005 and close to 100 per cent since 2006. For QCB, coverage rate ranges between 41 and 45 per cent. (d) Gross operating surplus in the year. (e) Gross saving plus distributed income of corporations payable minus net reinvested FDI earnings.

Chart 3.9

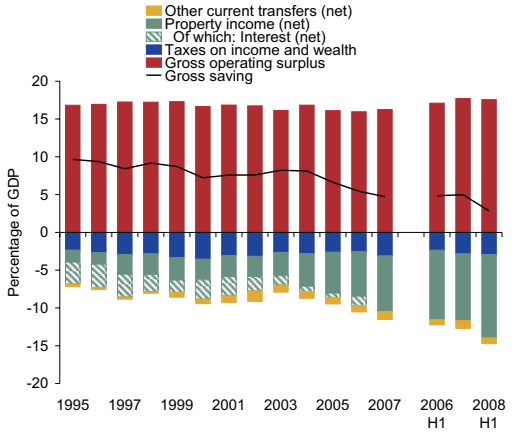
RATES OF RETURN IN NON-FINANCIAL CORPORATIONS



Source: Banco de Portugal.
Notes: Return on investment = (ordinary profit + interest payable) / (shares and other equity + financial debt). Return on equity = ordinary profit / shares and other equity. ACB: Annual Central Balance-Sheet Database. QCB: Quarterly Central Balance-Sheet Database. In the case of QCB, ratios refer to the first half of each year (H1) and the year as a whole. Ratios are calculated by applying to the latest figures available rates of change derived from the same corporations in two consecutive years. As from 2006, the ACB ratio is calculated on the basis of Simplified Corporate Information.

Chart 3.10

CONTRIBUTIONS TO GROSS SAVING OF NON-FINANCIAL CORPORATIONS

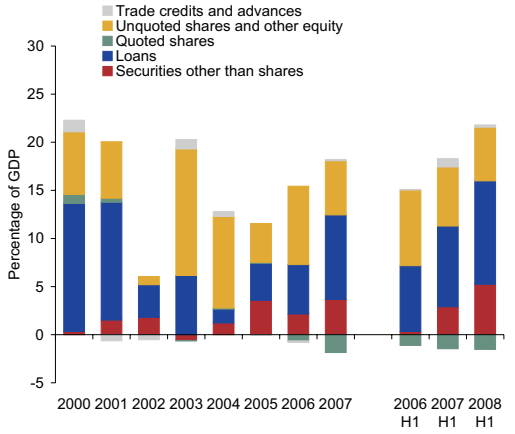


Source: *INE*.
Note: Annual national accounts up to (and including) 2006 and quarterly national accounts in 2007 and for half-year (annualised) figures. Net figures correspond to the difference between resources and uses.

Chart 3.11

FINANCING FLOWS OF NON-FINANCIAL CORPORATIONS

Consolidated figures



Source: Banco de Portugal.
Note: Annualised half-year figures.

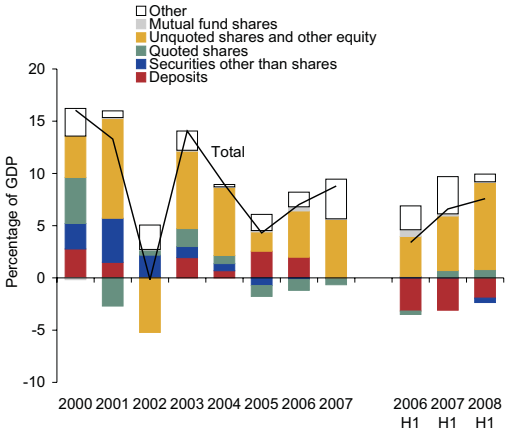
Non-financial corporations acquired considerable amounts of shares and other holdings in the first half of this year (Chart 3.12). In non-consolidated terms, the amount is considerably higher, which suggests that a significant part of the extra capital (for example, supplementary capital) could well be linked to a process of consolidation between companies. As net borrowing rose in the first half of this year, the financial debt of non-financial enterprises rose to around 113 per cent of GDP (having been 107 per cent at the end of 2007). The end result of this is an increase in the sector's financial leverage ratio (Chart 3.13).

Instability in the financial markets and the growing realisation of the risks to the real economy could well be influencing production and investment decisions by non-financial corporations. There is likely to be a deteriorating financial situation among these companies as a consequence of the world's economic woes, impacting on demand for Portuguese goods and services, in tandem with more difficulty in raising finance. In this context, the results of the Investment Survey carried out in April and the monthly surveys to manufacturing industry conducted during the present year, show that there has been a rise since last year, though not a big one, in the number of companies which are pointing at financial constraints as one of the main factors limiting investment and production.

Chart 3.12

NET ACQUISITION OF FINANCIAL ASSETS BY NON-FINANCIAL CORPORATIONS

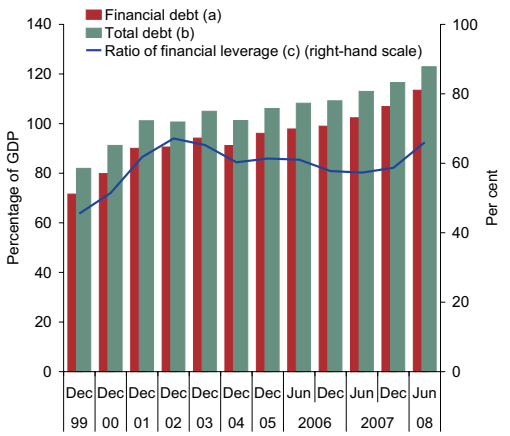
Transactions



Source: Banco de Portugal.
Notes: Consolidated figures. Annualised half-year figures.

Chart 3.13

DEBT OF NON-FINANCIAL CORPORATIONS



Source: Banco de Portugal.
Notes: (a) Includes loans and securities other than shares (consolidated figures). (b) Includes loans granted by (resident and non-resident) credit institutions, loans/additional capital granted by non-resident companies belonging to the same economic group (excluding those granted to non-financial corporations having their head office in the Madeira off-shore), commercial paper and bonds issued by non-financial corporations held by other sectors and trade credits received from other sectors. (c) Ratio of financial debt to financial liabilities in shares and other equity (non-consolidated figures).

4. BANKING SYSTEM[12]

4.1. Activity, international exposure and profitability

Activity

The turmoil in international financial markets that started in the summer of 2007 was characterised by strong disturbances in the wholesale debt markets and sharp devaluations in stock markets, having changed dramatically the operational environment of the Portuguese banking system. Considering the relevance of wholesale market funding for the expansion of the banking activity in the past few years, in line with the international trend, as well as the sensitivity of some balance sheet items to market fluctuations, the magnitude and persistence of the events that marked the last year may trigger a slowdown in activity and a revision of the management strategies of bank assets and liabilities.

In June 2008, the year-on-year rate of change in the activity of the Portuguese banking system, assessed by total assets, on a consolidated basis, was close to 10 per cent (Table 4.1.1). Thus, despite some deceleration after strong growth in the past few years, banking activity does not seem to have been significantly affected in quantitative terms by the financial turmoil in the first half of 2008. These developments reflected the fact that Portuguese banks, despite the adverse conditions prevailing in financial markets, continued to have some access to wholesale funding and the resources from customers increased substantially over the same period. Nevertheless, as this increase was associated with a shift in the portfolio of financial assets of customers, the persistence of an elevated rate of change in these resources is not likely to be sustainable over the medium term, without a significant rise in the private sector saving rate.

The portfolio of credit to customers, which accounts for around two thirds of assets, was the key determinant of activity growth, with a rate of change close to 13 per cent in June 2008. In line with developments in the most recent period, this rise reflected not only the increasing importance of the international activity carried on by the major banking groups, which is concentrated in countries characterised by high credit growth, but also the sustained buoyancy of the domestic market, despite a clearly more adverse financial and macroeconomic environment than in the previous years.

In the domestic market, the rate of change in loans to the non-financial private sector stood at around 10 per cent in June 2008.[13] Turning to non-financial corporations, bank loans continued to grow strongly, albeit slowing down somewhat, in a period characterised by significant issuance of commer-

(12) In this chapter, the aggregate defined as Portuguese banking system relates to credit institutions and financial corporations operating in Portugal subject to the supervision of Banco de Portugal, with the exception of the institutions having their head office in the Madeira off-shore. Thus, it encompasses financial groups, on a consolidated basis, which include within the same consolidation at least one credit institution or an investment firm, and credit institutions and investment firms, on an individual basis, which are not consolidated in Portugal (including branches of credit institutions or investment firms). The analysis of this universe is important as the new Capital Adequacy Directive is applied to this group of institutions, being considered the benchmark universe in the large majority of European countries. However, there are no data available before 2007 for this aggregate, as the adoption of the International Accounting Standards (IAS) was not implemented by all institutions. Therefore, in 2005 and 2006 there were different accounting systems. Thus, data in this chapter are based on different aggregates of institutions. In particular, up to 2004 the group of institutions refers to banks and savings banks, with the exception of banks having their head office or carrying on their exclusive activity in Madeira off-shore and/or predominant activity with non-residents. Branches of credit institutions having their head office in another European Union Member State – excluding those that are not classified as monetary financial institutions (MFIs) – as well as branches of credit institutions having their head office in third countries were included as banks. From December 2004 to June 2008, two groups of institutions are considered. The first, for the period from December 2004 to December 2007, corresponding to the thirteen banking groups that have adopted the IAS (or the Adjusted Accounting Standards) in the preparation of their financial statements in 2005 (which in December 2004 represented around 87 per cent of total assets of the group of institutions analysed until then). The second, the one adopted in this section, for the period from March 2007 to June 2008. The overlapping period of the different groups of institutions enables a consistent analysis of the variations. For clarity purposes, whenever necessary the tables and charts in this chapter contain a vertical line to signal the breaks in the series.

(13) Developments in loans granted to the non-financial private sector are based on information relating to the group of resident monetary financial institutions, in accordance with the Monetary and Financial Statistics. The annual rate of change was calculated on the basis of the ratio of the outstanding amounts of bank loans at the end of the month, adjusted for securitisation, and monthly transactions (which are calculated on the basis of outstanding amounts and adjusted for write-offs and price and exchange rate revaluations).

Table 4.1.1

BALANCE SHEET OF THE BANKING SYSTEM

On a consolidated basis

	EUR millions			Structure (as a percentage of total assets)						Year-on-year rates of change[a]					
	2007		2008	2007				2008		2007				2008	
	Jun.	Dec.	Jun.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.	Mar.	Jun.	Sep.	Dec.	Mar.	Jun.
Cash and claims on central banks	5 739	9 378	7 920	1.6	1.4	1.6	2.1	1.9	1.7	18.2	-11.9	3.5	12.4	36.4	38.0
Claims on other credit institutions	3 797	4 480	4 206	0.9	0.9	1.0	1.0	0.8	0.9	-0.4	-19.4	23.6	2.5	10.2	10.8
Investment in credit institutions	40 273	38 496	38 301	8.6	9.5	9.3	8.7	7.7	8.3	-15.1	11.2	0.9	-6.7	1.1	-4.9
Financial assets at fair value through profit or loss	27 026	23 145	24 682	6.2	6.4	5.9	5.2	5.0	5.3	5.2	13.4	4.7	0.1	-7.6	-8.7
Equity	1 553	1 701	1 415	0.5	0.4	0.3	0.4	0.3	0.3	-9.6	32.8	-10.3	21.9	-24.0	-8.9
Debt instruments	17 569	13 528	13 541	4.1	4.2	3.8	3.1	2.8	2.9	0.4	3.4	-4.0	-12.8	-22.8	-22.9
Other	7 905	7 915	9 726	1.6	1.9	1.8	1.8	1.9	2.1	23.3	34.9	28.5	22.3	35.4	23.0
Available-for-sale financial assets	24 865	27 220	27 978	5.8	5.9	5.7	6.1	5.9	6.0	23.3	29.9	25.4	34.2	14.2	12.5
Equity	7 924	7 939	6 338	1.7	1.9	1.7	1.8	1.5	1.4	42.4	66.8	29.9	25.9	-3.7	-20.0
Debt instruments	16 306	18 502	19 828	3.9	3.9	3.9	4.2	4.2	4.3	20.3	22.4	22.6	37.0	21.3	21.6
Other	635	779	1 812	0.2	0.2	0.2	0.2	0.2	0.4	-39.2	-56.4	40.3	78.2	33.5	185.3
Investment held to maturity	1 633	1 451	2 296	0.4	0.4	0.3	0.3	0.6	0.5	-19.2	-21.8	-27.2	-28.4	65.1	40.6
Hedging derivatives	2 060	1 385	1 599	0.4	0.5	0.3	0.3	0.4	0.3	31.6	56.3	-5.6	-12.9	15.0	-22.4
Investment in subsidiaries	3 645	3 769	3 293	1.1	0.9	0.9	0.8	0.8	0.7	6.1	-11.6	-7.4	-15.3	-23.1	-9.7
Net credit to customers	272 167	293 255	308 826	64.9	64.4	65.5	66.1	67.5	66.6	12.5	13.9	16.8	14.5	18.3	13.5
Gross credit	278 854	300 019	316 107	66.5	66.0	67.0	67.7	69.1	68.2	12.2	13.6	16.4	14.3	18.2	13.4
of which: overdue credit to customers	5 022	5 035	6 181	1.2	1.2	1.2	1.1	1.3	1.3	4.5	8.4	5.1	14.1	22.1	23.1
Impairment and value adjustments in credit to customers	-6 687	-6 764	-7 281	-1.6	-1.6	-1.6	-1.5	-1.6	-1.6	-0.4	3.9	-0.7	8.4	14.3	8.9
Securitised non-derecognised assets	19 113	19 867	23 018	4.9	4.5	4.5	4.5	4.7	5.0	23.3	20.8	3.7	18.5	10.5	20.4
of which: credit to customers	19 116	19 935	23 018	4.9	4.5	4.5	4.5	4.7	5.0	23.0	20.8	3.7	19.1	10.7	20.4
Tangible and intangible assets	5 256	5 529	5 581	1.3	1.2	1.2	1.2	1.3	1.2	13.0	12.6	10.0	10.0	14.0	6.2
Other assets	16 817	15 478	16 048	4.0	4.0	3.5	3.5	3.5	3.5	-0.3	5.4	0.6	-0.9	1.4	-4.6
Total assets	**422 391**	**443 454**	**463 746**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**10.2**	**13.4**	**13.1**	**11.7**	**13.8**	**9.8**
Resources from central banks	2 369	5 731	6 898	0.5	0.6	1.0	1.3	1.0	1.5	-77.3	-76.6	150.0	198.8	115.1	191.2
Resources from other credit institutions	72 809	72 362	74 730	16.9	17.2	16.4	16.3	16.3	16.1	8.8	6.7	-3.0	4.1	10.0	2.6
Resources from customers and other loans	179 493	195 604	203 276	43.5	42.5	43.3	44.1	45.0	43.8	4.2	5.6	10.3	8.2	17.8	13.3
Liabilities represented by securities	95 943	97 333	105 232	22.1	22.7	22.5	21.9	21.6	22.7	32.0	44.2	23.5	17.5	11.6	9.7
Subordinated liabilities	10 719	11 693	11 455	2.6	2.5	2.5	2.6	2.7	2.5	0.8	0.9	4.7	9.3	14.3	6.9
Financial liabilities held for trading	9 882	10 004	12 060	1.9	2.3	2.3	2.3	2.4	2.6	16.9	29.7	55.2	61.1	42.7	22.0
Hedging derivatives	2 778	2 015	2 432	0.5	0.7	0.4	0.5	0.5	0.5	76.9	92.8	7.6	7.8	5.2	-12.4
Liabilities for non-derecognised assets in securitisation operations	5 527	5 163	4 673	1.4	1.3	1.6	1.2	1.1	1.0	77.1	81.0	47.4	9.3	-8.0	-15.4
Other liabilities	15 459	15 277	14 573	4.0	3.7	3.5	3.4	3.2	3.1	-4.6	-0.1	3.3	0.9	-7.7	-5.7
Total liabilities	**394 978**	**415 182**	**435 330**	**93.3**	**93.5**	**93.6**	**93.6**	**93.8**	**93.9**	**9.5**	**13.1**	**13.2**	**11.7**	**14.3**	**10.2**
Capital	27 413	28 272	28 416	6.7	6.5	6.4	6.4	6.2	6.1	21.6	17.5	12.0	11.8	6.2	3.7
Total equity and liabilities	**422 391**	**443 454**	**463 746**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**10.2**	**13.4**	**13.1**	**11.7**	**13.8**	**9.8**

Source: Banco de Portugal.
Note: (a) In 2007 year-on-year rates of change were based on the thirteen banking groups that adopted the International Accounting Standards in 2005, due to lack of comparable financial statements for the banking sector as a whole in 2006 and 2007.

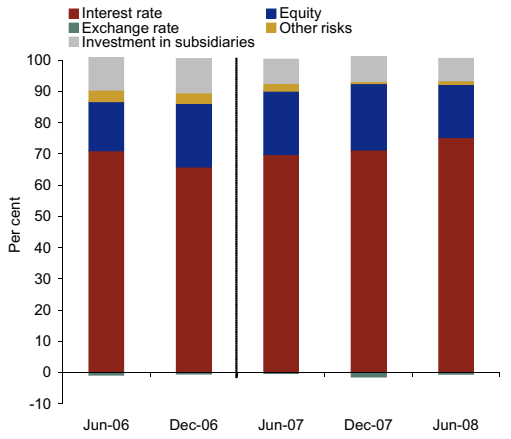
cial paper, largely subscribed by banks. As to households, loans for house purchase continued the trend deceleration observed since 2006, while consumer credit and other lending, in spite of recording high rates of change at the beginning of the year, also slowed down somewhat at the end of the first half of 2008.[14]

Reflecting the turmoil in financial markets, the value of the overall portfolio of securities and financial investments decreased by 2.6 per cent in year-on-year terms in June 2008.[15] Financial instruments whose main source of risk is the change in the interest rate continued to represent the largest component of this portfolio, increasing their share to 75 per cent in June 2008 (Chart 4.1.1). In a period of rising long-term interest rates, these developments reflected chiefly the net acquisition of debt securities, in particular securities issued by special-purpose vehicles. In turn, the weight of financial assets particularly exposed to changes in the price of shares and other capital instruments in the total portfolio of financial instruments decreased (standing at around 17 per cent), in line with the devaluation in most stock markets and the sale of some holdings.

In the first half of 2008, conversely to previous years, the annual rate of change in resources from customers was considerable and similar to that of credit to customers, by approximately 13 per cent.[16] These developments mainly reflected the rise in resources from resident customers, despite having also benefited from the expansion of the international activity of the major banking groups. In the domestic market, the rise in resources from customers largely reflected shifts in the portfolio of financial assets of economic agents, which, in view of the strong instability in financial markets, reinvested their savings in bank deposits to the detriment of financial investments that are more sensitive to fluctuations in debt and capital markets, such as mutual fund units. This increase may have also reflected the offer of higher interest rates resulting from the adoption of more competitive strategies by banks in taking resources from customers, due to the increased difficulty in borrowing from the wholesale market.

Chart 4.1.1

STRUCTURE OF FINANCIAL ASSET PORTFOLIO ACCORDING TO RISK SOURCE



Source: Banco de Portugal.
Note: The break in the series in 2007 corresponds to a widening of the group of institutions under analysis.

(14) For further details on developments and quality of the credit portfolio, see "Section 4.4 *Credit Risk*".

(15) The portfolio of securities and financial investment includes financial assets measured at fair value through profit or loss, including trading derivatives (net of financial liabilities held for trading purposes), available-for-sale financial assets, held-to-maturity investments, investments in branches, and hedging derivatives.

(16) For further details on the financing of financial institutions in the course of 2008 and respective liquidity position, see "Section 4.3 *Liquidity risk*".

Despite the disturbances in the international wholesale debt markets, both in terms of price and quantity, in June 2008 liabilities represented by securities increased by approximately 10 per cent, in year-on-year terms. In turn, interbank money market funding (net of investment) increased by 23 per cent. The rise in the debtor position of the Portuguese banking system in the interbank market chiefly reflected a reduction in the assets of other credit institutions compared with an increase in resources obtained from them. It should be noted however that domestic institutions as a whole showed the opposite behaviour, with a decline in the (net) recourse to this type of financing. At the same time, there was an increase in operations with the central banks, which albeit continuing to represent a small share in the total financing of the banking system, made it possible to accommodate part of the disturbances recorded in other funding markets, in particular in the interbank market.

According to data published by some banking institutions, the developments observed in the first half of 2008 persisted over the third quarter of the year. In particular, banking activity continued to be essentially underpinned by the growth of the portfolio of credit to customers, albeit with a more moderate growth pace. In turn, the turmoil in financial markets (which increased considerably as from mid-September) led to additional losses in the value of some financial instruments included in the portfolios of marked-to-market financial assets.

International exposure of the domestic banking system

At the end of the first half of 2008, the value of the foreign claims of domestic banking groups, on a consolidated basis, was equivalent to around 72 per cent of GDP, rising by 7.5 per cent from June 2007 (Table 4.1.2).[17] These assets corresponded approximately to 30 per cent of total assets of domestic banks. Local claims denominated in local currency (associated with the local activity of branches and subsidiaries abroad) reached around 8 per cent of total assets. By borrower sector, there was a high concentration in the private sector (banks and non-bank private sector).

Compared with other banking systems of the European Union, the size of the international exposure of Portuguese banking groups (assessed by the respective weight in GDP) is relatively small, being strongly concentrated in euro area countries and in countries with high sovereign rating. In fact, at the end of June 2008, most foreign claims of domestic banks translated into exposures to developed countries, mainly in Europe (nearly two thirds of the total), and in particular to Spain, followed by the United Kingdom and Germany (one third of the total international exposure of domestic banking groups was related to these three countries) (Chart 4.1.2). Foreign exchange and credit risks associated with this exposure should therefore be relatively limited. In particular, it should be noted that the exposure to emerging market economies was clearly lower than that of the United Kingdom and other euro area countries (namely, Austria, the Netherlands, Belgium and Spain) (Chart 4.1.3).[18] In terms of the total claims on non-residents of Portuguese domestic banks, this exposure accounted for around 15 per cent. The exposure to these economies is particularly relevant in the case of local claims denominated in local currency, where it represented around 23 per cent of the total, corresponding chiefly to the activity carried on by a branch of a large Portuguese banking group in Poland. In the case of international claims, besides Poland, the exposure to Brazil is also considerable.

(17) Foreign claims are considered to be international claims and local claims in local currency of the branches and subsidiaries abroad of domestic banks. International claims correspond to cross-border claims (*i.e. vis-à-vis* non-residents regardless of the currency of denomination) and to local claims of branches and subsidiaries abroad denominated in foreign currency. For further information about these concepts, see "Box 5.3 International exposure of the banking system", Banco de Portugal, Financial Stability Report, 2004.

(18) The aggregate comprised of emerging market economies corresponds to the countries that in September 2008 were included in the Morgan Stanley Emerging Markets Index, *i.e.* Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand and Turkey.

Table 4.1.2

CONSOLIDATED FOREIGN CLAIMS FROM THE PERSPECTIVE OF IMMEDIATE RISK – STRUCTURE

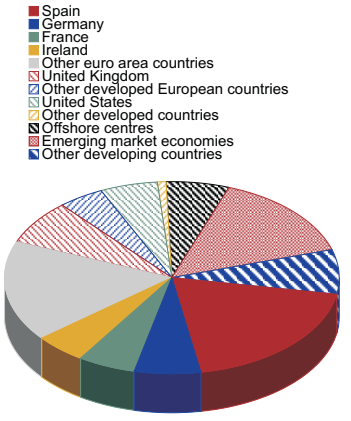
	Dec. 2006	Jun. 2007	Dec. 2007	Jun. 2008[p]
Total (10^6 €)	93 793	95 583	93 586	102 780
International claims	77.8	72.8	70.3	71.9
Maturity				
Up to 1 year	45.3	35.0	30.4	33.6
From 1 up to 2 years	2.7	2.6	2.4	4.0
Over 2 years	22.7	29.9	31.4	30.6
Other	7.0	5.3	5.9	3.8
Institutional borrower				
Banks	46.7	36.2	30.5	32.8
Public sector	3.3	3.2	3.3	2.8
Non-bank private sector	27.7	33.1	36.0	35.9
Other	0.0	0.3	0.5	0.4
Geographical borrower				
Developed countries	55.6	54.1	48.6	51.1
Offshore centres	10.5	6.0	6.9	6.0
Developing Europe	4.0	4.5	5.3	5.8
Other	7.6	8.2	9.4	9.0
Local claims in local currency	22.2	27.2	29.7	28.1
Geographical borrower				
Developed countries	15.6	19.8	21.3	20.1
Offshore centres	0.5	0.5	0.5	0.0
Developing Europe	4.0	4.6	5.1	5.2
Other	2.1	2.3	2.8	2.7
Memo:				
Local liabilities in local currency (10^6 €)	18 379	19 286	21 445	21 580

Source: Banco de Portugal.
Note: p - provisional figures.

Chart 4.1.2

GEOGRAPHICAL STRUCTURE OF FOREIGN CLAIMS OF DOMESTIC BANKING GROUPS

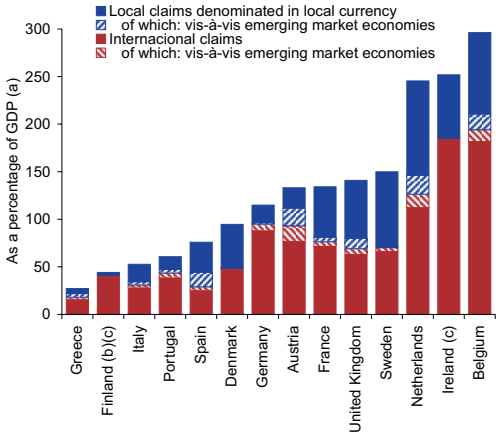
June 2008



Source: Banco de Portugal.

Chart 4.1.3

FOREIGN CLAIMS OF DOMESTIC BANKING GROUPS OF THE EUROPEAN UNION COUNTRIES



Sources: BIS (Consolidated International Banking Statistics) and Eurostat.
Notes: June 2008. EU15, excluding Luxembourg. The dashed series show claims *vis-à-vis* emerging market economies (according to the composition of the Morgan Stanley Emerging Markets Index). (a) GDP forecasts for 2008. (b) Structure relating to December 2007 applied to the value of foreign claims in June 2008. (c) Breakdown by country is only partly available.

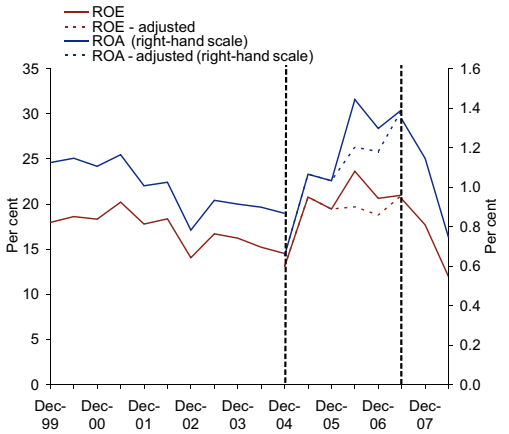
Profitability

The turmoil in international financial markets that started in the summer of 2007, in the wake of problems in the subprime mortgage market of the United States, to which Portuguese banks have a negligible direct exposure, had already affected negatively the results in the latter months of 2007. These negative effects had been felt through an increase in financing costs, a loss in the portfolio value of financial instruments, and through the evolution of some commissions. In the course of 2008, amid deteriorating financial market conditions, these effects intensified significantly. Thus, in the first half of 2008, income before taxes and minority interests of the Portuguese banking system, on a consolidated basis, decreased by around 38 per cent, compared with the first half of 2007 (Table 4.1.3). These developments were reflected into a reduction in the return on assets (ROA) and return on equity (ROE), with the respective indicators standing at 0.74 and 12.0 per cent, at the end of the first half of the year (Chart 4.1.4). In this context, it is important to note that as the international activity is mainly developed in emerging market and developing economies – *i.e.* relatively less affected by financial market developments in the first half of 2008 – income from this activity continued to record high growth rates.[19]

Turning to contributions, the 60 basis points reduction in ROA in the first half of 2008 was chiefly due to the negative performance of income from financial operations and an increase in provisioning and impairment losses, in line with developments in financial markets in the last year, which combined represented 50 basis points of the reduction recorded (Chart 4.1.5).[20] The developments in income from associates and joint ventures and the financial margin made also a negative contribution, albeit to a

Chart 4.1.4

RETURN ON ASSETS (ROA) AND RETURN ON EQUITY (ROE)



Source: Banco de Portugal.
Notes: The break in the series in 2004 corresponds to the implementation of the International Accounting Standards, which also implied a redefinition of the group of banking institutions under analysis. In turn, the break in the series in 2007 corresponds to a widening of the group of institutions under analysis. The adjusted profitability indicators are obtained after deducting from the profit and loss account the impact of the restructuring of participating interests in companies (namely, insurance companies) by one of the major banking groups considered in 2006.

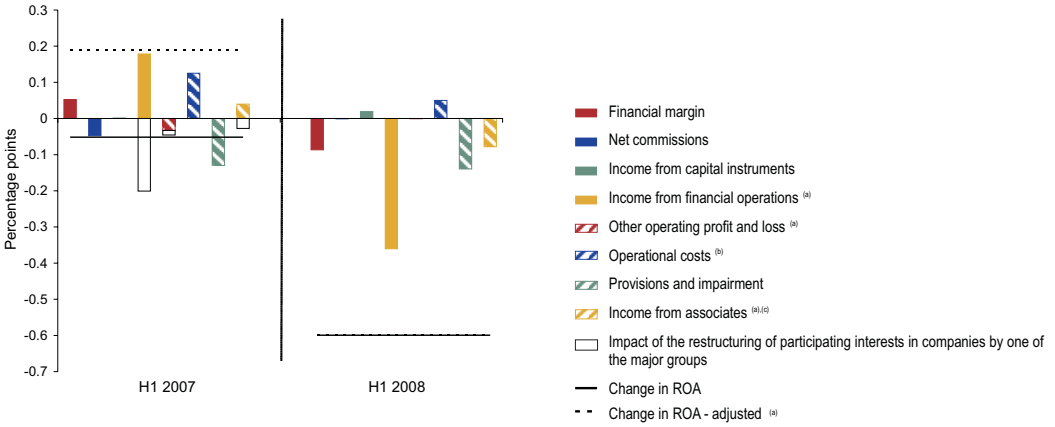
(19) Poland, Romania, Greece, Angola and Brazil are some of the countries where the major banking groups carry on their activity.

(20) Income from financial operations correspond to the sum of income from financial assets and liabilities measured at fair value through profit or loss, income from available-for-sale assets, income from foreign exchange revaluation and income from the sale of other financial assets.

Chart 4.1.5

CHANGE IN RETURN ON ASSETS – ROA

Breakdown of contributions



Source: Banco de Portugal.
Notes: Return on assets is calculated by taking into account income before taxes and minority interests. The break in the series corresponds to a change in the group of banking institutions under analysis. (a) Excludes income associated with a restructuring of participating interests in companies (namely insurance companies) by one of the major banking groups considered in 2006. (b) Operational costs include staff costs, general administrative costs and amortisation and depreciation. (c) Income from associates and joint ventures (equity method).

lesser extent. The remaining income items made a positive but modest contribution to developments in profitability.

In the first half of 2008, income from financial operations decreased in year-on-year terms by approximately 70 per cent, contributing 36 basis points to the fall in ROA. This reduction reflected the impact of the financial market turmoil in the last year, as well as the fact that the first half of 2007 was characterised by particularly favourable developments in financial markets, affecting positively income in that period. It should be recalled that in the first half of 2007 stock markets recorded valuation peaks and debt markets, despite the rise in long-term interest rates, were characterised by reduced risk *premia*. Thus, with the exception of derivatives held for trading purposes, the behaviour of other components incorporated in income from financial operations made a negative contribution to developments in profitability in the first half of 2008 (Chart 4.1.6). The strongest impact came from the component income from financial assets and liabilities measured at fair value through profit or loss, reflecting the decline in the portfolio value, as a consequence of the strong devaluations in stock markets and disturbances in debt markets.[21] Analysing developments in income from financial operations from a risk perspective, it can be seen that the main negative contribution to the reduction in profitability was recorded in shares, in instruments whose interest rate risk is predominant and in investment in branches. By contrast, the foreign exchange component headed in the opposite direction, given that the euro continued to appreciate against the US dollar in the first half of 2008 (Chart 4.1.7).

The year-on-year rate of change in provisioning and impairment losses was close to 45 per cent in the first half of 2008, translating into a 14 basis points contribution to the reduction in ROA. The main factor behind this performance was the recognition of impairment associated with available-for-sale financial assets, as a result of the turmoil in financial markets. In this context, holdings held by some of the major

(21) It should be noted that only potential capital gains and losses of financial assets and liabilities measured at fair value through profit or loss are recorded in the financial statements. The change in the value of available-for-sale financial assets, despite being marked-to-market in the balance sheet, only affect results for the year when they are realised (*i.e.* when they are sold) or through impairment recognition. Unrealised changes in the value of these assets are recorded in the own funds reserve accounts.

Table 4.1.3

PROFIT AND LOSS ACCOUNT OF THE BANKING SYSTEM

On a consolidated basis

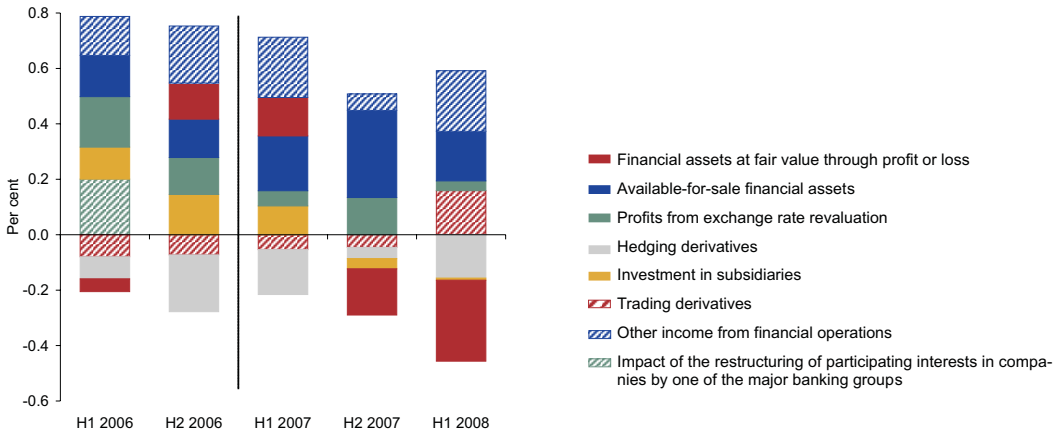
	EUR millions				Structure (as a percentage of average assets)[a]				Year-on-year rates of change (per cent)[b]			
	H1 2007	H2 2007	2007	H1 2008	H1 2007	H2 2007	2007	H1 2008	H1 2007	H2 2007	2007	H1 2008
1.Interest income	12 068	13 925	25 993	15 207	5.95	6.45	6.20	6.70	27.5	29.8	28.7	26.0
2.Interest expenses	8 044	9 787	17 831	10 898	3.97	4.53	4.25	4.80	34.9	40.3	37.8	35.5
3.Financial margin (1-2)	**4 024**	**4 138**	**8 162**	**4 309**	**1.98**	**1.92**	**1.95**	**1.90**	**14.2**	**9.1**	**11.5**	**7.1**
4.Income from capital instruments	158	62	220	220	0.08	0.03	0.05	0.10	12.8	42.7	17.5	39.3
5.Income from services and commissions (net)	1 464	1 745	3 209	1 637	0.72	0.81	0.77	0.72	4.3	14.2	9.4	11.8
6.Income from financial assets and liabilities measured at fair value through profit and loss	300	-472	-171	-214	0.15	-0.22	-0.04	-0.09	-	-	172.7	-
7.Income from available-for-sale financial assets	401	680	1 080	406	0.20	0.31	0.26	0.18	72.7	190.1	130.8	1.3
8.Income from foreign exchange revaluation	111	290	401	80	0.05	0.13	0.10	0.04	-60.8	31.0	-20.8	-28.2
9.Income from the sale of other financial assets	191	-28	163	34	0.09	-0.01	0.04	0.01	-67.1	-102.7	-79.0	-82.3
9.a) Income from the sale of other financial assets - adjusted	*191*	*-28*	*163*	*34*	*0.09*	*-0.01*	*0.04*	*0.01*	*-15.1*	*-102.7*	*-64.5*	*-82.3*
10.Other operating profit and loss	323	386	709	361	0.16	0.18	0.17	0.16	-16.5	-22.5	-19.7	11.5
10.a) Other operating profit and loss – adjusted	*323*	*386*	*709*	*361*	*0.16*	*0.18*	*0.17*	*0.16*	*-10.3*	*-22.5*	*-16.9*	*11.5*
11.Gross income (3+4+5+6+7+8+9+10)	**6 973**	**6 801**	**13 774**	**6 834**	**3.44**	**3.15**	**3.29**	**3.01**	**9.1**	**3.0**	**6.0**	**-2.0**
11.a) Gross income - adjusted (3+4+5+6+7+8+9.a+10.a)	***6 973***	***6 801***	***13 774***	***6 834***	***3.44***	***3.15***	***3.29***	***3.01***	***16.2***	***3.0***	***9.4***	***-2.0***
12.Staff costs	1 885	2 169	4 053	2 063	0.93	1.00	0.97	0.91	-0.1	8.0	4.1	9.5
13.General administrative costs	1 337	1 534	2 871	1 436	0.66	0.71	0.69	0.63	8.5	11.8	10.2	7.4
14.Depreciation and amortisation	272	309	581	301	0.13	0.14	0.14	0.13	6.5	14.1	10.4	10.4
15.Provisions net of refunds and write-offs	139	84	222	36	0.07	0.04	0.05	0.02	112.0	-11.1	41.2	-73.8
16.Impairment losses and other net value adjustments	821	905	1 726	1 356	0.41	0.42	0.41	0.60	45.9	27.2	35.6	65.0
17.Negative consolidation differences	-5	-9	-14	-1	0.00	0.00	0.00	0.00	-	-	-	-76.5
18.Appropriation of income from associates and joint ventures (equity method)	201	267	467	47	0.10	0.12	0.11	0.02	25.0	237.2	97.4	-76.5
18.a) Appropriation of income from associates and joint ventures (equity method) - adjusted	*201*	*267*	*467*	*47*	*0.10*	*0.12*	*0.11*	*0.02*	*72.7*	*237.2*	*141.3*	*-76.5*
19. Income before taxes and minority interests (11-12-13-14-15-16-17+18)	**2 725**	**2 076**	**4 800**	**1 691**	**1.34**	**0.96**	**1.15**	**0.74**	**7.1**	**-4.7**	**1.7**	**-37.9**
19.a) Income before taxes and minority interests - adjusted (11.a-12-13-14-15-16-17+18.a)	***2 725***	***2 076***	***4 800***	***1 691***	***1.34***	***0.96***	***1.15***	***0.74***	***28.6***	***-4.7***	***11.8***	***-37.9***
20.Taxes on profit	476	309	784	362	0.23	0.14	0.19	0.16	25.5	-41.4	-11.9	-23.9
21.Income before minority interests (19-20)	**2 249**	**1 767**	**4 016**	**1 329**	**1.11**	**0.82**	**0.96**	**0.59**	**4.1**	**5.3**	**4.6**	**-40.9**
21.a) Income before minority interests - adjusted (19.a-20)	***2 249***	***1 767***	***4 016***	***1 329***	***1.11***	***0.82***	***0.96***	***0.59***	***29.2***	***5.3***	***17.5***	***-40.9***
22.Minority interests	389	296	685	294	0.19	0.14	0.16	0.13	8.2	19.4	12.8	-24.5
23.Net profit and loss (21-22)	**1 860**	**1 471**	**3 331**	**1 035**	**0.92**	**0.68**	**0.79**	**0.46**	**3.2**	**2.6**	**2.9**	**-44.3**
23.a) Net profit and loss - adjusted (21.a-22)	***1 860***	***1 471***	***3 331***	***1 035***	***0.92***	***0.68***	***0.79***	***0.46***	***35.2***	***2.6***	***18.6***	***-44.3***

Source: Banco de Portugal.
Notes: The adjustment in some of the items in 2006, reflected in the year-on-year rates of change in 2007, refers to the deduction of the effect of the restructuring of participating interests in corporations of the insurance sector carried out by one of the major banking groups considered in the analysis. However, the corresponding adjustment was not made in the items of taxes on profits and (net) minority interests (lines 20 and 22). (a) Half-year data are annualised. (b) In 2007 year-on-year rates of change were based on the thirteen banking groups that adopted the International Accounting Standards in 2005, due to lack of comparable financial statements for the banking sector as a whole in 2006 and 2007.

Chart 4.1.6

INCOME FROM FINANCIAL OPERATIONS ACCORDING TO THE IAS CLASSIFICATION

As a percentage of average assets



Source: Banco de Portugal.
Notes: The break in the series in 2007 corresponds to a widening of the group of institutions under analysis. Half-year data (H1, H2) are annualised.

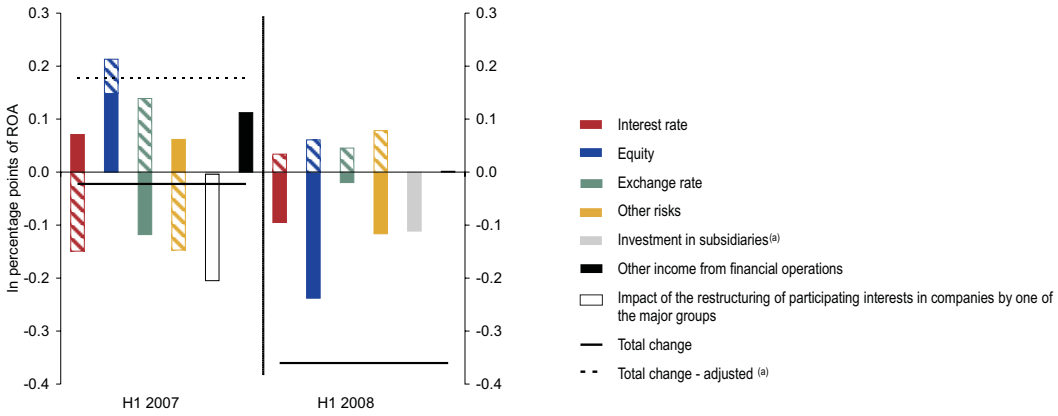
banking groups among themselves were particularly relevant, as share prices of financial institutions were among the most affected by devaluations in stock markets.

The financial margin increased by 7.1 per cent in the first half of 2008, compared with the same period in 2007, declining its contribution to ROA by approximately 9 basis points. The volume effect, essentially associated with the credit expansion, continued to be the key determinant of these developments, in a period in which the effect relating to the change in the interest rate was reduced. Implicit average interest rates in the outstanding amounts of the main balance sheet items continued on a rising trend,

Chart 4.1.7

CHANGE IN INCOME FROM FINANCIAL OPERATIONS

Breakdown of contributions by risk source



Source: Banco de Portugal.
Notes: Return on assets is calculated by taking into account income before taxes and minority interests. The dashed series correspond to the impact of derivative instruments associated with each risk source. The break in the series corresponds to a change in the group of banking institutions under analysis. (a) Excludes income associated with a restructuring of participating interests in companies (namely insurance companies) by one of the major banking groups considered in 2006.

in line with the increase in money market interest rates (benchmark for banking activity in Portugal), as well as with rising financing costs in other debt markets. Thus, the total spread between implicit rates of assets and liabilities narrowed slightly, compared with the first half of 2007. A reduction was also recorded in the spread between deposit and lending implicit rates applied to customers. (Table 4.1.4).

This fact is corroborated by developments in the spread between deposit and lending rates applied to customers presented in the Monetary and Financial Statistics, which narrowed somewhat in the first half of 2008 (Chart 4.1.8). The compression of this margin resulted from the narrowing of the spread between deposit interest rates and money market interest rates, as the corresponding spread in lending operations remained broadly unchanged, interrupting the downward trend previously recorded. The reduction in the margin of deposit operations, in a period in which interbank rates continued to rise, was associated with the adoption of more competitive strategies by banking institutions in the collection of resources from customers. This reflected the disturbances in the wholesale funding markets, which were also associated with the rise in the share of time deposits in the total of deposits. In turn, the margin in lending operations seems to have started to reflect a change in credit policies by banks. According to the results of the Bank Lending Survey, banks adopted tighter credit standards, in particular higher spreads since the second half of 2007. Available data, taking as a basis the interest rates on new loan contracts, indicate an interruption in the narrowing trend of the interest rate differential of these operations. It should be noted however that there is some time lag in the pass-through of the changes in the interest rates on new operations to the average interest rates on outstanding amounts. In parallel, the capacity of banking institutions to revise the conditions of loan contracts already signed is different in the several loan segments, limiting the pass-through of the widening of spreads to interest rates on outstanding amounts. In loans to households for house purchase the repercussion is due to be slow, as the interest rate spreads of these loans are contractually agreed for long maturities. In

Table 4.1.4

IMPLICIT AVERAGE INTEREST RATES OF THE MAIN BALANCE SHEET ITEMS [a]

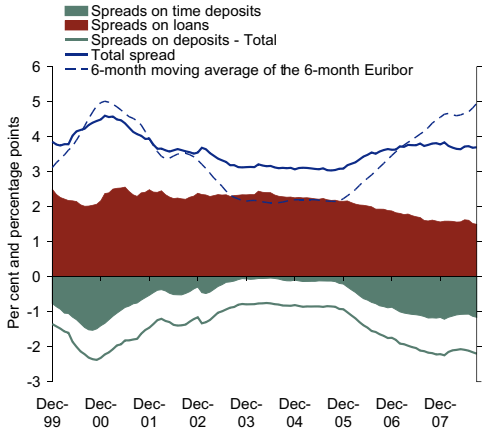
Per cent

	2001	2002	2003	2004	2005	2006	2007	2007 H1	2007 H2	2008 H1
Interest-bearing assets	**5.44**	**4.24**	**3.88**	**3.30**	**4.22**	**4.56**	**5.48**	**5.23**	**5.72**	**5.76**
of which:										
Interbank assets[b]	4.09	2.79	2.23	1.77	2.69	3.71	4.16	3.92	4.39	4.38
Non-interbank assets										
Credit	6.26	4.94	4.60	4.00	4.56	4.86	5.87	5.64	6.08	6.10
Securities	5.05	4.08	3.96	2.94	4.85	4.52	5.67	5.56	5.88	6.54
Interest-bearing liabilities	**3.59**	**2.61**	**2.28**	**1.87**	**2.32**	**2.71**	**3.49**	**3.23**	**3.73**	**3.78**
of which:										
Interbank liabilities[c]	4.42	3.00	2.42	2.02	2.89	3.58	4.39	4.13	4.66	4.66
Non-interbank liabilities										
Deposits	2.81	2.10	1.80	1.45	1.60	1.80	2.46	2.26	2.65	2.83
Securities	4.12	3.17	3.12	2.46	3.03	3.72	4.38	4.02	4.73	4.63
Subordinated liabilities	5.48	4.53	4.30	3.72	4.61	4.82	5.30	5.26	5.32	5.50
Spreads (percentage points):										
Interest-bearing assets - Interest-bearing liabilities	1.86	1.63	1.60	1.43	1.90	1.84	1.99	2.00	1.98	1.98
Credit-deposits	3.45	2.84	2.81	2.56	2.96	3.05	3.40	3.39	3.43	3.27

Source: Banco de Portugal.
Notes: The break in the series in 2004 corresponds to the implementation of the International Accounting Standards, which also implied a redefinition of the group of banking institutions under analysis. In turn, the break in the series in 2007 corresponds to a widening of the group of institutions under analysis. (a) Implicit average interest rates calculated as the ratio of interest flows in the period under review to the average stock of the corresponding balance sheet item. (b) Includes cash, deposits with central banks, claims on credit institutions and investments in credit institutions. (c) Includes resources from central banks and other credit institutions.

Chart 4.1.8

INTEREST RATE SPREADS IN OPERATIONS WITH CUSTOMERS



Source: Banco de Portugal.
Note: Spreads by type of operation were calculated as the difference between interest rates on outstanding amounts (made available by Monetary and Financial Statistics) and a 6-month moving average of the 6-month Euribor. Total spread corresponds to the difference between the interest rate on loans and the interest rate on deposits. Latest observation: September 2008.

turn, in the case of loans to non-financial corporations and to households for consumption and other purposes, the repercussion should be relatively quick, as for part of these loans contractual conditions may be revised with some frequency and their maturities are typically shorter.[22]

The year-on-year rate of change in (net) income from services and commissions stood at around 12 per cent in the first half of 2008 and its contribution to ROA remained virtually unchanged. However, in the first half of 2007 this income item had been significantly affected by costs related to the takeover bid by the Millennium BCP group for BPI. Excluding these costs from income in 2007, the year-on-year rate of change in income from services and commissions would be around 5 per cent, representing a deceleration from the recent past. Commissions from other services supplied made the largest contribution to the increase recorded. Conversely, given the current financial environment, commissions from financial operations declined, in particular the mutual funds management fees and fess related with securities transactions for the account of third parties (Chart 4.1.9).

Operational costs, despite recording a year-on-year rate of change close to 9 per cent, continued to grow less than assets, being favourably reflected in ROA developments. All these cost components, in particular staff costs, recorded high growth rates, reflecting the network expansion by some of the major banking groups over the last year, notably in the external market. Thus, and given the decrease of gross income, the cost-to-income ratio deteriorated, standing at 55.6 per cent (Chart 4.1.10).[23]

Finally, the growth rate of income from the international activity of some of the major banking groups continued to be high (21 per cent), representing at the end of the first half of 2008 approximately 31 per cent of the consolidated income of financial institutions under analysis (Table 4.1.5). Developments in the more traditional banking activity, reflected in the financial margin, continued to make the largest

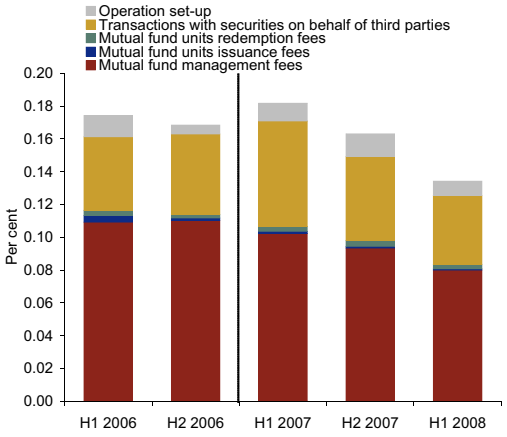
(22) Regarding non-financial corporations, the revision of loan conditions is viable in the context of the reassessment of the economic and financial levels of the borrowers, which at the most occurs on an annual basis.

(23) The cost-to-income indicator corresponds to the ratio of operational costs (defined as the sum of staff costs, administrative costs and depreciation and amortisation) to gross income.

Chart 4.1.9

NET FEES ASSOCIATED WITH FINANCIAL OPERATIONS

As a percentage of average assets

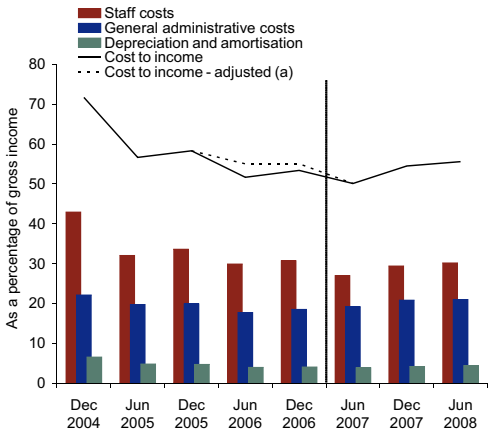


Source: Banco de Portugal.
Notes: The break in the series in 2007 corresponds to a widening of the group of institutions under analysis. Half-year (H1 and H2) data are annualised.

Chart 4.1.10

COST-TO-INCOME RATIO

Breakdown by type of cost



Source: Banco de Portugal.
Notes: The break in the series in 2007 corresponds to a widening of the group of institutions under analysis. (a) The adjusted indicator is obtained after deducting from the profit and loss account the impact of the restructuring of participating interests in insurance companies by one of the major banking groups in 2006.

contribution to the increase recorded. In line with the expansion of activity in these markets, the growth rates of operational costs were also high. This growth of income from international activity made it possible to mitigate less favourable developments in income from the domestic market.

In the third quarter of 2008, according to data published, income of banking institutions continued to be negatively affected by the crisis in international financial markets, with considerable declines in comparison with income of the corresponding period in 2007. The unfavourable performance of income from financial operations and the rise in impairment associated with financial participations played again a key role in these developments.

Table 4.1.5

IMPORTANCE OF INTERNATIONAL ACTIVITY TO THE PROFITABILITY OF THE PORTUGUESE BANKING SYSTEM

Per cent

	Weight of foreign subsidiaries			Year-on-year rate of change
	Jun. 2007	Dec. 2007	Jun. 2008	Jun. 2008
Financial margin	12.9	13.1	16.1	33.8
Commissions	15.1	14.5	16.0	18.1
Gross income	12.0	13.9	16.8	37.0
Administrative costs	12.3	12.1	15.0	32.2
of which: Staff costs	12.7	12.3	15.3	31.8
Impairment	0.0	8.3	4.2	-
Income before taxes and minority interests	15.9	18.0	31.0	21.0

Source: Banco de Portugal.
Note: Banco de Portugal estimates based on information required by Instruction of Banco de Portugal No 14/2006.

4.2. Capital adequacy[24]

In 2007 the New Capital Accord, also called Basel II, entered into force. This Capital Accord sets out new criteria for the calculation of the capital adequacy ratio of banking institutions. In the New Capital Accord, the definition of eligible own funds is similar to that of the previous Capital Accord, *i.e.* Basel I, but the calculation of capital requirements underwent significant changes, in order to make them more sensitive to the actual risk of the credit portfolio and to ensure higher risk coverage, including operational risk. Despite these changes, the minimum regulatory level of the overall capital adequacy ratio remained at 8 per cent.[25] It should be noted however that most institutions operating in Portugal benefited from the prerogative envisaged in Directive 2006/48/EC, having only adopted the prudential framework of Basel II in the calculation of the respective capital ratio in 2008.

Basel II establishes that, for the different risk components, institutions can opt for alternative methods in the calculation of capital requirements, which exhibit different degrees of complexity and sophistication. However, the most advanced assessment methods, based on internal models developed by the institutions, are subject to the approval of the national supervisors. In June 2008, all institutions subject to the prudential supervision of Banco de Portugal have calculated the capital requirements for credit risk in accordance with the Standardised Approach and the capital requirements for operational risk according to the Basic Indicator Approach. Turning to credit risk, which is the main component of total capital requirements, the Standardised Approach is the assessment model closer to the Basel I practices, given that it previously assigns weights to the several risk classes. However, it also allows for some differentiation between customers of the same business segment, through the assignment of weights in accordance with the rating. In fact, while for some risk classes the weights are uniform, for others the weights are determined by reference to the credit assessments of counterparties given by External Credit Assessment Institutions (ECAIs) (Table 4.2.1). Comparing the Standardised Approach with the weights assigned by Basel I to some of the main aggregates of the credit portfolio of the Portu-

Table 4.2.1

MAIN RISK ASSET CLASSES AND THEIR WEIGHTS UNDER BASEL I AND BASEL II - STANDARDISED APPROACH

	Weights	
	Basel I	**Basel II - Standardised Approach**
Central government/ Central banks	0%	0 to 150% (according to the rating assigned)
Banks	20% OECD countries; 100% other countries	20 to 150% (according to the sovereign rating of the country where the bank is located)
Corporate	100%	20 to 150% (according to the rating assigned)
Retail	100%	75%
Residential property mortgage	50%	35%
Commercial real estate mortgage	100%	50%

Source: Banco de Portugal.

(24) The group of financial institutions analysed in this section is different from the one analysed in the previous section, as it excludes branches of financial groups having their head office in European Union Member States.

(25) The objectives and main characteristics of the New Capital Accord were presented in "Chapter 7 Regulatory framework", of the Financial Stability Report 2004, of Banco de Portugal. In turn, the document that incorporates all amendments to the original Capital Accord was published in July 2006, being available on the Internet at http://www.bis.org/publ/bcbs128.htm.

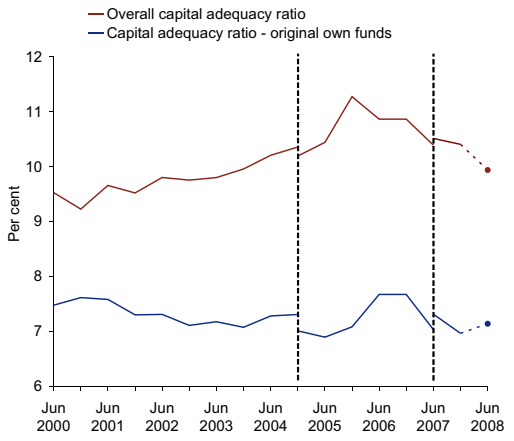
guese banking system, it can be seen that the risk weight of 100 per cent is no longer assigned to the total exposure to corporates, the risk weight assigned to retail exposures was reduced from 100 to 75 per cent, while housing loan exposures, typically secured by real estate property (one of the factors that justified the fact that these loans comparatively had smaller capital requirements in Basel I), are also weighted by lower coefficients than those previously applied.[26]

In the context of the new prudential framework, the overall capital adequacy ratio of the Portuguese banking system, on a consolidated basis, stood at 9.9 per cent in June 2008. In June and December 2007, in accordance with Basel I, the solvency ratio had been fixed at 10.5 and 10.4 per cent respectively (Chart 4.2.1). Like in the recent past, developments in this ratio reflected the rise in total capital requirements, which was not followed by the evolution of total own funds, which were significantly affected by unfavourable developments in financial markets (Table 4.2.2). Taking only into account original own funds (Tier I), the capital adequacy ratio stood at 7.1 per cent at the end of the first half of 2008. In 2007 the same ratio stood at 7.3 per cent in June and 7.0 per cent at the end of the year.

The rise in total own funds reflected chiefly the growth of original own funds, as the other components in general showed unfavourable developments. Capital increases by some banking groups during the last year made the most important positive contribution to the rise in original own funds.[27] In the opposite direction, there were potential losses in the value of some financial instruments included in the portfolio of available-for-sale financial assets, reflecting the strong disturbances in debt and capital markets. Notwithstanding these developments, the market value of some financial instruments included in this assets portfolio continued to show potential gains in June 2008, although far smaller than

Chart 4.2.1

CAPITAL ADEQUACY RATIO



Source: Banco de Portugal.
Notes: The break in the series in 2004 corresponds to the implementation of the International Accounting Standards, which also implied a redefinition of the group of banking institutions under analysis. In turn, the break in the series in 2007 corresponds to a widening of the group of institutions under analysis. In 2008 the capital adequacy ratio was determined according to the Basel II criteria for all institutions under analysis, which basically changed the methodology used for the determination of capital requirements.

(26) The retail segment includes mainly loans to households and to small and medium-sized enterprises, up to the amount of one million euros by borrower.

(27) Since the outbreak of the turmoil in international financial markets until June 2008, several banking groups realized capital increases, namely CGD, Millennium BCP, BPI, and Banif. This behaviour translated into an increase of approximately 1 500 million euros in own funds, in the realised capital component, in comparison with June 2007. This fact corresponded to a rise of around 5 percentage points in total own funds over the same period. Moreover, it should be noted that in the beginning of the second half of 2008, CGD made a further capital increase, to the amount of 400 million euros.

Table 4.2.2

CAPITAL ADEQUACY
EUR millions

	2007		2008
	Jun.	Dec.	Jun.
1. Own funds	**29 305**	**30 877**	**31 244**
1.1. Total original own funds for solvency purposes	20 372	20 653	22 436
1.1.1.Original own funds (gross)	21 305	21 549	23 310
1.1.2. Deductions from original own funds	933	897	874
1.2. Total additional own funds for solvency purposes	10 483	11 135	9 802
1.2.1. Additional own funds (gross)	11 409	12 015	10 652
1.2.2. Deductions from additional own funds	926	881	850
1.3. Deductions from total own funds	1 571	927	994
1.4. Total supplementary own funds eligible to cover market risk	20	17	0
2. Capital requirements	**22 301**	**23 739**	**25 153**
2.1. Capital requirements for credit risk, counterparty credit risk and free deliveries	21 344	22 941	22 525
2.2. Settlement risk	2	1	0
2.3. Capital requirements for position risk, foreign exchange risk and commodities risk	933	773	838
2.3.1. Debt instruments	607	533	548
2.3.2. Equity	153	111	134
2.3.3. Foreign exchange risk	125	99	153
2.3.4. Commodities risk	47	30	3
2.4. Capital requirements for operational risk	16	18	1 781
2.5. Capital requirements - Fixed overheads	6	6	6
2.6. Large exposures - Trading book	0	0	2
2.7. Other and transitional capital requirements	1	0	0
3. Ratios (per cent)			
3.1. Own funds/Total requirements	131.4	130.1	124.2
3.2. Own funds/(Total requirements x 12.5)	10.5	10.4	9.9
3.3. Original own funds/(Total requirements x 12.5)	7.3	7.0	7.1

Source: Banco de Portugal.
Note: The break in the series shown in the table corresponds to the adoption of Basel II criteria, which is mainly reflected in developments in the capital requirement components.

in 2007. The reduction in latent gains in these instruments was the major factor underlying the reduction in additional own funds over the period.[28]

Developments in total capital requirements were conditioned by the change in the calculation methodology under Basel II, as referred to above. Thus, in June 2008 most institutions showed for the first time operational risk requirements, which represented around 7 per cent of total requirements. In turn, credit risk requirements, despite recording an increase in year-on-year terms, decreased compared with the December 2007 levels, in a period in which credit to customers continued to grow. The performance of these capital requirements reflected the smaller weight of a significant share of the credit portfolio of institutions, in accordance with the Basel II criteria in the Standardised Approach.

In September and in the beginning of October, the turmoil in financial markets increased significantly, with sharp falls in stock markets and serious disturbances in debt markets. Given these developments, and the relevance of the financial system in the functioning of the economy, a set of measures was implemented at the international level and also specifically for Portugal, in order to restore normal conditions in the functioning of the wholesale funding markets and to ease the pressure exerted by the current financial juncture on both the results and the capital of financial institutions.[29]

(28) The change in the portfolio value of available-for-sale financial assets is recorded as an own funds item. The registration of the changes in the value of the financial instruments that constitute this portfolio is different between instruments that record losses and those that record potential gains. Thus, while 45 per cent of unrealised gains are recognised in additional own funds, unrealised losses are fully recognised as a negative original own funds item

(29) For further explanations about the financial system support programmes developed by the governments of several countries and the main policy action of some international organisations, see "Box 2 *Authorities responses in the context of the financial crisis: liquidity management measures and intervention in financial systems"*, in the text "The Portuguese economy in 2008" of this *Economic Bulletin* and "Box 1 *Main measures taken by the Portuguese authorities regarding the financial system in the context of the international financial crisis",* in this section of the *Economic Bulletin.*

In this context, it is important to highlight some of the measures that had an impact on developments in own funds. At the international level, the International Accounting Standards Board (IASB) introduced some changes in the accounting rules of financial instruments valued at market price, making more flexible the application of the marked-to-market principle in assessing assets, taking into account the high illiquidity and forced sales that have characterised financial markets. In turn, Banco de Portugal changed the prudential treatment to be given to unrealised gains and losses that do not involve impairment in debt securities classified in the available-for-sale assets portfolio, and widened by three years the period for the recognition of the still-to-recognise impact of staff benefits, resulting from the adoption of the International Accounting Standards (IAS).[30] In addition, it increased the percentage threshold for the recognition of preferential shares with unspecified maturity and without incentives for redemption as a positive original own funds item, and started to accept the full inclusion of deferred taxes in the calculation of own funds.[31] Finally, the Bank issued a recommendation for the institutions subject to its supervision setting out that by 30 September 2009, the lower limit of the ratio of original own funds (Tier I) shall be 8 per cent.

4.3 Liquidity risk

In the course of the last decade, a significant part of the expansion of Portuguese banks' business activity was financed with international financial markets, especially in euro and in the medium to long maturities, which contributed to mitigate refinancing risk. These developments were part of an international trend and, as referred to in the latest issues of the Financial Stability Report of Banco de Portugal, an element of vulnerability for the system's liquidity in case of a significant protracted deterioration in access to these markets.

At international level several banks have been facing serious liquidity problems and in some cases also solvency problems, as discussed in "Section 2 *Macroeconomic and financial framework*". Central banks in advanced economies have been injecting large liquidity amounts into the global banking system since August 2007. This notwithstanding, financial institutions continue to face extremely adverse borrowing conditions in wholesale markets for an already quite protracted period. In fact, there have been serious disturbances in the functioning of the interbank money market, amid high uncertainty and broadly based deterioration in confidence among agents in this market. In addition, financial institutions have been facing difficulties in placing debt securities in wholesale markets, given the intensification of counterparty risk associated with information asymmetry problems. In this context, banks whose financing mainly originates in collecting deposits with customers have been less penalised by liquidity shortage in wholesale financing markets.

Within the current framework, liquidity risk assumed a prominent role in the assessment of the Portuguese banking system's stability. In this vein, Banco de Portugal widened the set of information reported by institutions under its supervision in this field, by requesting several banking groups to send additional data on their liquidity position on a monthly or, in some cases, bi-weekly basis, since the summer of 2007. More recently, within a framework of deterioration of the international financial situation, Banco de Portugal started to request data on a daily basis to a widened set of institutions and banking groups.

Although recourse to borrowing in wholesale financial markets assumed a relevant magnitude in the past few years, deposits collected with customers continue to be the main financing source of the Por-

(30) As amended by Notice of Banco de Portugal No 6/2008 and Notice of Banco de Portugal No 7/2008 respectively.

(31) The revision of the threshold associated with preferential shares was made within the scope of the draft amendments to Directives 2006/48/EC and 2006/49/EC presented by the European Commission, which foresee the establishment of new eligibility limits for hybrid capital instruments as original own funds items. Regulations on deferred taxes were amended by Notice of Banco de Portugal No 9/2008.

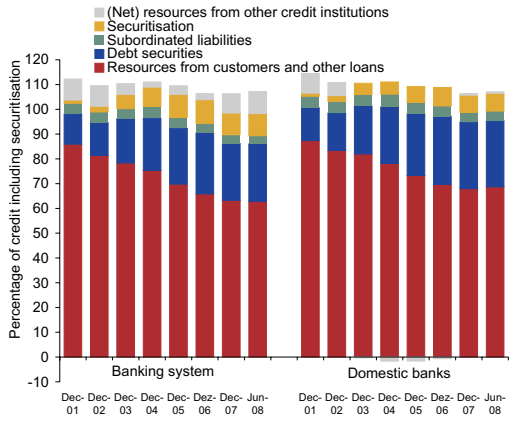
tuguese banking system[32] (Chart 4.3.1). Increased difficulties in access to wholesale market financing in the past year seem to have contributed to a greater importance of raising funds with customers, particularly for domestic banks. In fact, in the first half of 2008, similarly to the second half of 2007, funds raised with customers were the main financing flow of domestic banks (Chart 4.3.2). For this group of banks, funds raised with customers showed a slightly higher change than that in credit granted during the first half of 2008 (with a six-month rate of change of 6.1 and 4.7 per cent respectively), implying a small decline in the credit to deposit ratio (Chart 4.3.3). Non-domestic institutions recorded considerably higher growth in credit granted and more moderate growth in customer resources, which translated into a small increase in the above-mentioned ratio for the banking system as a whole.

Developments in deposits reflect incentives on the demand and the supply side simultaneously. On the one hand, amid interest rate rises and strongly unstable financial markets, investors have been increasing their demand for financial investments with reduced sensitivity to market fluctuations, withdrawing their investments in mutual funds and other riskier financial assets[33] (Charts 4.3.4 and 4.3.5). On the other hand, in a context of borrowing difficulties in wholesale markets, banks have been offering more attractive conditions in the collection of deposits, as discussed in "Section 4.1 *Activity, international exposure and profitability*". The main contribution to the acceleration in deposits originated in resident household deposits, which recorded an annual rate of change of 12 per cent in June 2008, compared with 8 per cent at end-2007 and 5 per cent in June 2007 (Chart 4.3.6).

Despite adverse conditions in wholesale market financing, Portuguese banks were able to preserve access to primary debt securities markets. Until the end of October 2008 Portuguese banks issued

Chart 4.3.1

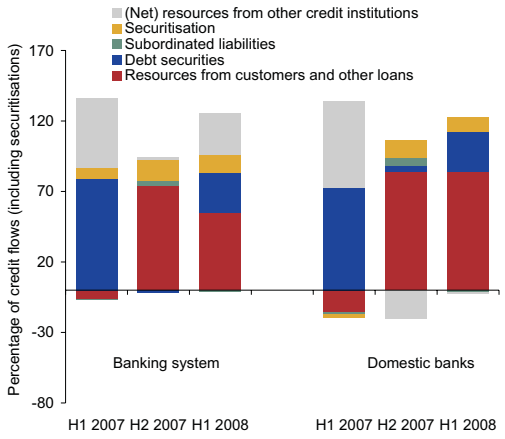
FINANCING SOURCES OF THE BANKING SYSTEM



Source: Banco de Portugal.
Notes: (Net) resources from other credit institutions include net resources *vis-à-vis* central banks. Securitisations include estimates of derecognised and non-derecognised transactions. Estimates of securities issued by banks but placed with their customer base are included in the item "Resources from customers". The break in the series in 2004 corresponds to a change in accounting standards which also implied a redefinition of the group of banking institutions under analysis. In addition, the break in the series in 2007 corresponds to a widening of the group of institutions under analysis.

Chart 4.3.2

FINANCING FLOWS OF THE BANKING SYSTEM



Source: Banco de Portugal.
Notes: (Net) resources from other credit institutions include net resources *vis-à-vis* central banks. Securitisations include estimates of derecognised and non-derecognised transactions. Estimates of securities issued by banks but placed with their customer base are included in the item "Resources from customers".

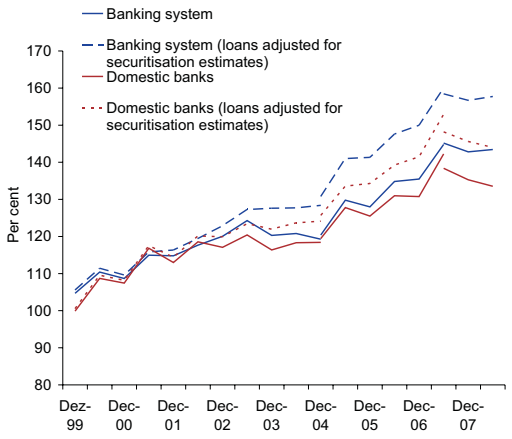
(32) Customer resources accounted for around 55 per cent of the Portuguese banking system's debt in June 2008 (60 per cent for domestic banks). The concept of customer resources used in this section takes into account, in addition to resources and other customer loans (mainly deposits), an estimate of securities issued by banks but placed with their customer base. These securities are excluded from the item "Debt securities". In the first half of 2008 these securities grew considerably, much more than deposits.

(33) Although to a lesser extent, the substantial increase in the redemption of savings certificates due to changes in these assets' remuneration structure may also have contributed to reinforce the demand for deposits.

Chart 4.3.3

RATIO OF CREDIT TO RESOURCES FROM CUSTOMERS

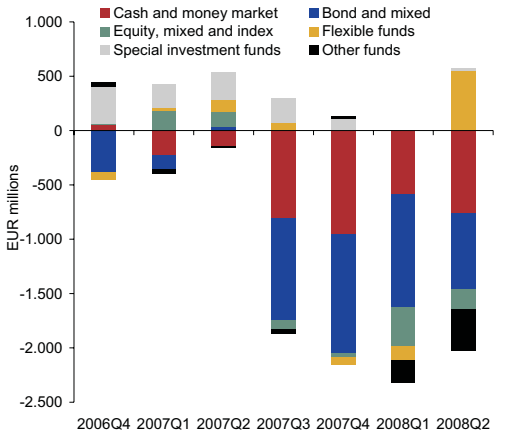
(Including securities issued by banks and placed with customers)



Source: Banco de Portugal.
Note: The break in the series in 2004 corresponds to a change in accounting standards which also implied a redefinition of the group of banking institutions under analysis. In turn, the break in the series in 2007 corresponds to a widening of the group of institutions under analysis.

Chart 4.3.4

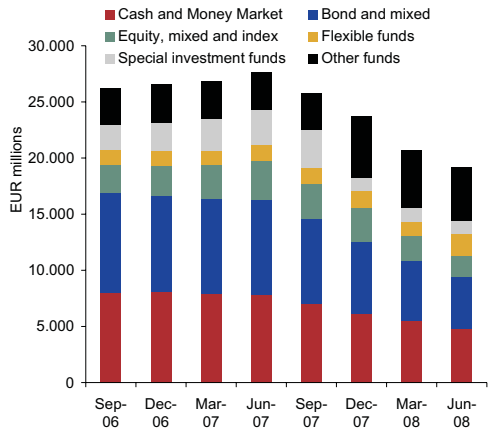
NET SUBSCRIPTIONS OF MUTUAL AND MONEY MARKET FUNDS



Sources: APFIPP and Banco de Portugal.
Note: The "other funds" category includes retirement and education savings funds (PPR-E), equity savings plans (PPA), guaranteed capital funds and other funds. Excluding fund pooling and funds of funds. Figures adjusted for investments in other national funds.

Chart 4.3.5

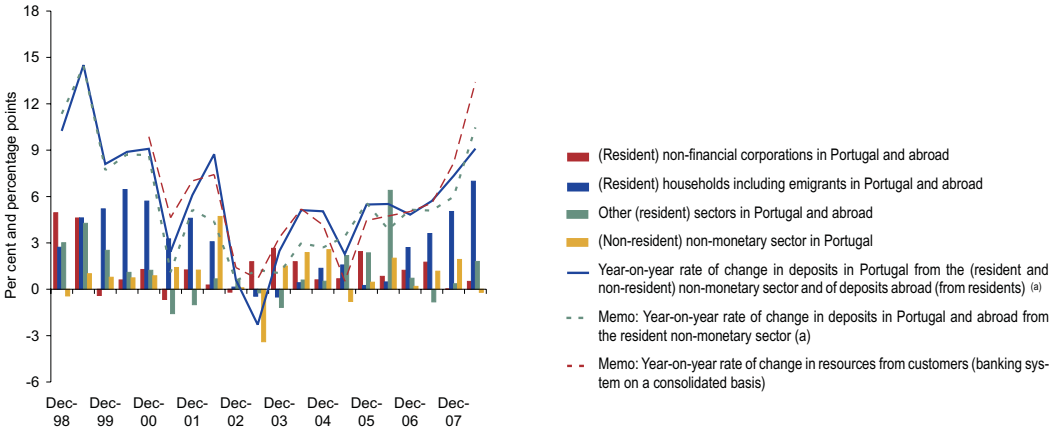
VALUE OF THE PORTFOLIO OF MUTUAL AND MONEY MARKET FUNDS



Sources: APFIPP and Banco de Portugal.
Note: The "other funds" category includes retirement and education savings funds (PPR-E), equity savings plans (PPA), guaranteed capital funds and other funds. Excluding fund pooling and funds of funds. Figures adjusted for investments in other national funds.

Chart 4.3.6

DEPOSITS FROM THE NON-MONETARY SECTOR
Year-on-year rate of change and respective contributions

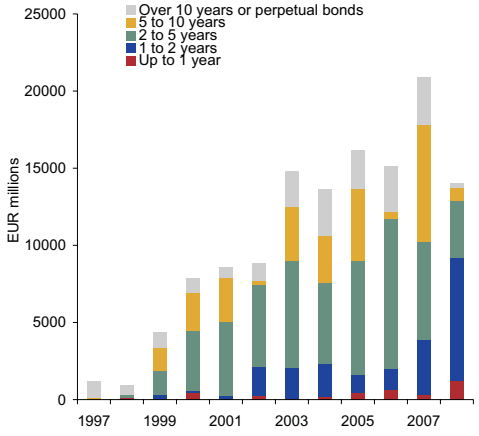


Source: Banco de Portugal (Monetary and Financial Statistics; International Investment Position).
Note: (a) Excluding liabilities recorded as a counterpart of liquidity received from non-derecognised securitisations, recorded as deposits (and deposit-like instruments) of other financial intermediaries and auxiliaries.

around €14 billion in Portugal and abroad (Chart 4.3.7). Around half these bonds were issued at a fixed rate, contrasting with only a fourth in 2007. Approximately 45 per cent of these issues were covered bonds, which, being secured by loans for house purchase that constitute autonomous property in the banks' portfolio, have a lower underlying financing cost than bonds issued via EMTN (Euro-Medium Term Notes) programmes. Covered bonds issued by banks and remaining on their portfolios can be used as collateral in Eurosystem credit operations. Despite this possibility, almost all of these bonds have been placed with non-resident investors. However, as a reflection of difficulties in placing medium and long-term securities, bond issues were conducted mainly in shorter maturities (including covered

Chart 4.3.7

GROSS ISSUANCE OF BONDS BY PORTUGUESE BANKS BY ORIGINAL MATURITY
(in Portugal and abroad)



Sources: Bloomberg, Dealogic Bondware and Thomson Reuters.
Note: Includes observations until end-October.

bonds), which contributed to worsening refinancing risk. The average maturity of bonds issued moved from 5 years in 2007 to 3 years in 2008, while the maturity of covered bonds declined from 7 to 3 years in the same period. In addition, issues over the past year have had higher underlying financing costs, compared with the historically low costs observed in previous years. In general terms, the decline in maturities and the rise in financing costs, stemming from an increase in risk *premia*, are stylised facts in financial market tension situations.

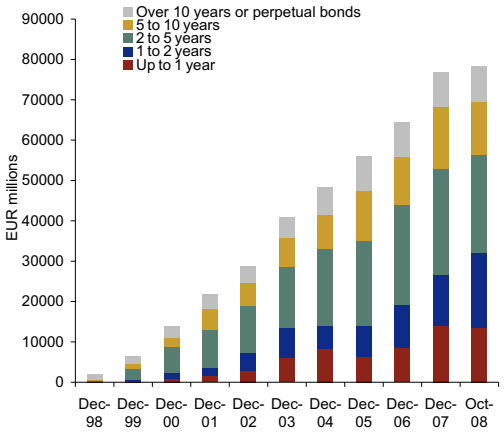
Approximately 17 per cent of the outstanding amount of medium and long-term bonds issued by Portuguese banks will mature in the course of next year (Chart 4.3.8). Hence, persistent disturbances in the functioning of wholesale markets might worsen liquidity risk in the Portuguese banking system. In this vein, the measures announced by the Portuguese government jointly with other European governments will probably make a significant contribution to limit this risk. These measures include the Portuguese State granting guarantees up to a limit of €20 billion, with the purpose of ensuring compliance with credit institutions' obligations within the scope of financing or refinancing operations.[34] Through recourse to these guarantees, Portuguese banks will likely continue to have access to wholesale market financing, even if adverse conditions persist in these markets.

Loan securitisation has also been a significant financing source for Portuguese banks in the past few years (Chart 4.3.1). During the first half of 2008 banks continued to conduct a considerable volume of securitisations (Chart 4.3.9). In fact, the outstanding amounts of loans granted in these operations recorded a year on year rate of change of 20 per cent in June 2008. However, in the current context, the demand for securities resulting from securitisations declined remarkably. Hence, a number of banks purchased securities resulting from these operations from the special-purpose vehicles involved, similarly to other European banks. Securitisations therefore also make a positive contribution to institu-

Chart 4.3.8

OUTSTANDING AMOUNT OF BONDS ISSUED BY PORTUGUESE BANKS BY RESIDUAL MATURITY

(in Portugal and abroad)

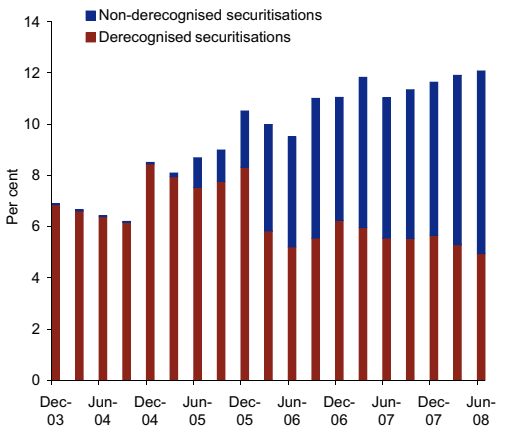


Sources: Bloomberg, Dealogic Bondware and Thomson Reuters.
Note: Includes observations until end-October.

Chart 4.3.9

LOANS GRANTED IN SECURITISATIONS

Percentage of credit granted to the non-financial private sector



Source: Banco de Portugal.

(34) See "Box 1 *Main measures taken by the Portuguese authorities regarding the financial system in the context of the international financial crisis*" in this text.

tions' liquidity management, given that these securities are – as covered bonds – eligible as collateral in Eurosystem credit operations.[35,36]

In the banking system as a whole, over the past 12 months, there was an increase in recourse to net borrowing from credit institutions, including central banks (Chart 4.3.2). This resulted from an increase in funds raised with other credit institutions, and especially with central banks (Table 4.3.1). However, this masks a strong discrepancy between domestic and non-domestic institutions' borrowing from credit institutions. In fact, as regards domestic institutions net money market financing declined, with a drop in funds raised with other credit institutions, especially abroad. Hence, increased recourse to

Table 4.3.1

POSITION OF PORTUGUESE BANKS *VIS-À-VIS* OTHER CREDIT INSTITUTIONS AND CENTRAL BANKS

Banking system	Jun-07	Dec-07	Jun-08
(Net) resources from credit institutions	**25369**	**25739**	**31202**
of which *vis-à-vis* central banks	-4114	-6931	-1441
Cash, claims and investment in central banks	**6483**	**12662**	**8339**
Claims and investment in other credit institutions	**43326**	**39692**	**42087**
in the country	7461	8539	8687
abroad	35865	31153	33401
head office and branches of the institution	2649	3216	1622
Resources from central banks	**2369**	**5731**	**6898**
Resources from other credit institutions	**72809**	**72362**	**74730**
in the country	6444	7672	7096
abroad	66365	64690	67634
head office and branches of the institution	11989	12586	14317

Domestic banks	Jun-07	Dec-07	Jun-08
(Net) resources from credit institutions	**5917**	**1654**	**1550**
of which *vis-à-vis* central banks	-2583	-8099	-1504
Cash, claims and investment in central banks	**4850**	**11601**	**7142**
Claims and investment in other credit institutions	**30720**	**26027**	**30158**
in the country	5452	6112	6200
abroad	25268	19915	23957
head office and branches of the institution	1	1	0
Resources from central banks	**2268**	**3502**	**5638**
Resources from other credit institutions	**39220**	**35780**	**33212**
in the country	4613	5483	5112
abroad	34607	30297	28100
head office and branches of the institution	0	0	0

Source: Banco de Portugal.

(35) As defined in the document entitled "*The implementation of monetary policy in the euro area: General documentation on Eurosystem monetary policy instruments and procedures*", eligible marketable assets in Eurosystem credit operations comprise debt instruments issued or guaranteed by central banks, public sector entities, private sector entities, or international or supranational institutions. However, a bank may not submit as collateral any asset issued or guaranteed by itself or by any other entity with which it has close links, as defined in the General Documentation. Thus, banks may use as collateral securities originating in their own securitisations if there is a true sale to the special-purpose vehicles involved of assets underlying those operations, *i.e.* if these assets constitute autonomous property.

(36) In this regard, the ECB revised risk control measures in Eurosystem credit operations in early September. Inter alia, this revision envisages the implementation of stricter criteria for the use as collateral of asset-backed securities issued by entities with "close links" with banks, as of February 2009, with an estimated minor impact on Portuguese banks' collateral. In mid-October, amid a substantial worsening of financial system conditions, the ECB revised collateral accepted in these credit operations, with a view to facilitating liquidity supply. This revision is of a temporary nature and includes the enlargement of the list of assets accepted as collateral in these operations. This means that, inter alia, Eurosystem monetary policy operations started to accept as collateral marketable assets issued in the euro area and denominated in US dollars, sterling pounds and yens; syndicated loans in euro governed by the United Kingdom's law; debt instruments issued by credit institutions traded in a number of non-regulated markets (defined on the ECB's website); and subordinated debt instruments backed by specific guarantees. In addition, the minimum rating for collateral accepted in Eurosystem credit operations was changed from A- to BBB-, except for asset-backed securities.

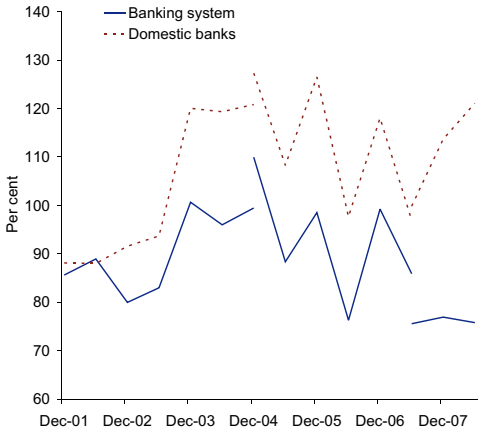
money market financing for the banking system as a whole essentially reflects an increase in financing flows of non-domestic institutions carrying out their business activity in Portugal with the group's head office or branches and with other credit institutions.

Within a framework of difficulties in access to global market financing, increased risk aversion and intensified information asymmetry problems, some operations currently conducted with other banks in the interbank market and in wholesale debt markets are being conducted with central banks, as illustrated by strong growth in assets and resources with central banks.

Developments in the financing of domestic and non-domestic institutions in the interbank market conditioned the trend of the coverage ratio of interbank liabilities by highly liquid assets (Chart 4.3.10). On the one hand, the strong growth in interbank liabilities of non-domestic institutions resulted in a substantial fall in the coverage ratio of interbank liabilities by highly liquid assets for these institutions. On the other hand, domestic institutions subject to the supervision of Banco de Portugal recorded favourable developments in this indicator, since highly liquid assets, which include interbank assets and assets eligible as collateral in monetary policy operations, grew quite strongly, in contrast to the negative change in interbank liabilities.[37] In fact, eligible assets in monetary policy operations made an important contribution to the rise in highly liquid assets, increasing by over 65 per cent year on year. This strong increase in eligible assets in monetary policy operations largely resulted from developments in the portfolio of asset-backed securities, similarly to other European banks. As already mentioned, this portfolio includes securities resulting from securitisations purchased by banks to the vehicles involved in such operations. More recently, a number of Portuguese banks have been reinforcing their pool of eligible collateral in Eurosystem monetary policy operations with credit claims.[38]

Chart 4.3.10

COVERAGE RATIO OF INTERBANK LIABILITIES BY HIGHLY LIQUID ASSETS



Source: Banco de Portugal.
Notes: The coverage ratio is defined as the ratio of highly liquid assets (interbank assets and debt securities eligible for monetary policy operations) to interbank liabilities. The break in the series in 2004 corresponds to a change in accounting standards which also implied a redefinition of the group of banking institutions under analysis. In turn, the break in the series in 2007 corresponds to a widening of the group of institutions under analysis.

(37) This pool of eligible securities in monetary policy operations only includes securities not yet given as actual collateral in any financing operation.

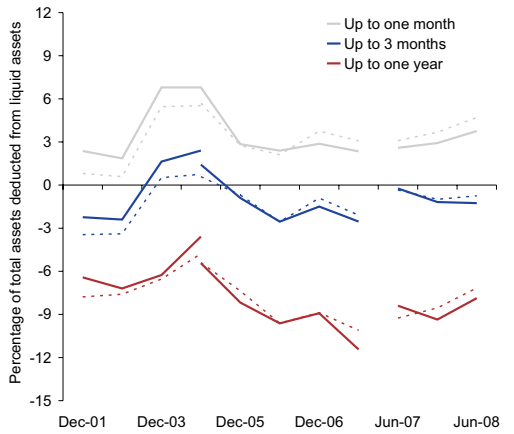
(38) Since the beginning of 2007 non-marketable assets are considered eligible as collateral in Eurosystem credit operations. This namely includes loans granted to non-financial corporations, public sector entities and international or supranational institutions and non-marketable retail mortgage-backed debt instruments. The quality of non-marketable assets is assessed on the basis of the Eurosystem Credit Assessment Framework (ECAF). For more details on the Eurosystem's monetary policy operational framework, see the document entitled "*The implementation of monetary policy in the euro area: General documentation on Eurosystem monetary policy instruments and procedures*".

Despite the unfavourable environment, liquidity gaps in the Portuguese banking system, stress being laid on domestic institutions, evolved positively during the first half of 2008[39] (Chart 4.3.11). The positive trend of these indicators, which assess the gap between liquid assets and volatile liabilities with residual maturities of less than one year, was essentially associated with liquid assets growth. This resulted from a positive change in interbank assets and especially from the already mentioned trend of assets eligible as collateral in Eurosystem monetary policy operations. However, these indicators, although showing positive values in maturities of up to 1 month, being only marginally negative in maturities of up to 3 months, remain at negative values in the one-year horizon, *i.e.* liabilities with residual maturities of less than one year are larger than highly liquid assets. This chiefly reflects the refinancing needs of banks in this maturity. Hence, the measure recently announced by the Portuguese government according to which guarantees will be granted over the issue of bank debt, in line with other European governments, assumes a particular relevance in the sense that it limits banks' refinancing risk in wholesale markets.

In addition, the financing strategy essentially relying on collecting household deposits followed by banks in the most recent period, jointly with the deceleration in credit, is a rather positive development, allowing banks to have access to a more stable financing source and to simultaneously avoid an increase in their exposure to wholesale market financing, especially in shorter maturities. It is therefore of the essence that these trends persist in order to ensure a structural narrowing of the credit to deposit ratio, as is being recently observed in domestic institutions.

Chart 4.3.11

LIQUIDITY GAPS BY MATURITY LADDER



Source: Banco de Portugal.
Notes: The liquidity gap is defined as (liquid assets-volatile liabilities)/(assets-liquid assets)x100 in each residual maturity ladder; the dashed line shows domestic institutions. The break in the series in 2004 corresponds to the change in the accounting standards, which also implied a redefinition of the group of banking institutions under analysis. In turn, the break in the series in 2007 corresponds to a widening of the group of institutions under analysis.

(39) The calculation of liquidity gaps is based on Instruction No 1/2000, which is applicable only to financial institutions collecting deposits.

4.4. Credit risk

In the first half of 2008, the rate of change in credit granted by the banking system to the resident non-financial private sector continued to be high, despite some tightening of supply conditions, in a context of increased difficulty by banks in borrowing from wholesale funding markets and amid the materialisation of the risks of a deceleration of economic activity and deterioration of the creditworthiness of companies and households. Against this background, there was an increase in delinquencies by the non-financial private sector.

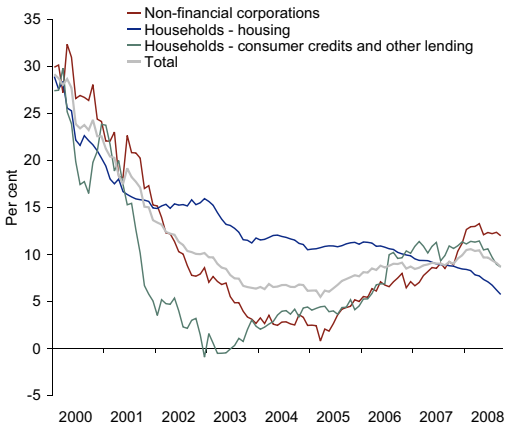
The trend pattern of loans granted to the non-financial private sector was differentiated in its several segments (Chart 4.4.1). Loans for house purchase continued on a decelerating path, which became more pronounced in the first months of the second half year. In turn, consumer credit and other lending also slowed down, but less markedly than housing loans. It should be noted however that consumer credit continued to increase strongly, in an environment in which household consumption expenditure is estimated to decelerate only slightly (see Section 3 *Financial situation of the non-financial private sector*). Loans to non-financial corporations continued to record strong growth and in September their annual rate of change was higher than in June and December 2007, despite the slowdown in investment and production. In addition, the amount of commercial paper issued by this sector in banks' portfolios grew significantly, thus increasing the exposure of the banking system to Portuguese large non-financial corporations.

In the first half of 2008, in a context of intensification of the financial crisis, rising interest rates and decelerating economic activity, default on loans to households and companies increased. It continued to rise in the first months of the second half year. It should be noted that the default ratios on credit to the resident non-financial private sector has decreased during the current decade to relatively subdued levels, when compared with those seen in similar stages of previous business cycles. This may partly

Chart 4.4.1

BANK LOANS TO THE NON-FINANCIAL PRIVATE SECTOR

Annual rates of change



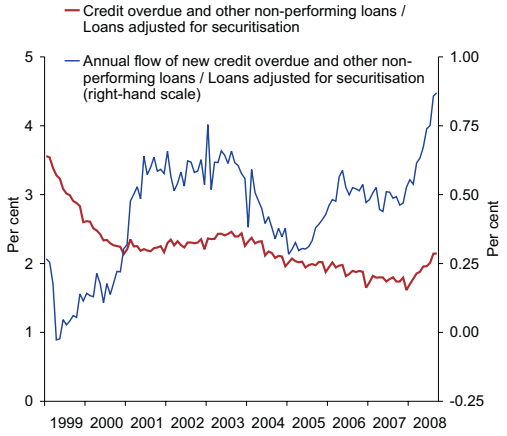
Source: Banco de Portugal.
Note: Rates calculated from figures adjusted for securitisation and reclassifications, write-offs and exchange rate and price revaluations. Monthly figures. Latest figures: September 2008.

reflect the concentration of the credit portfolio of the Portuguese banking system in loans to households for the purchase of permanently owner-occupied houses as well as to large companies, which have recorded high profitability levels in general. Also given the rising trend of interest rates since end-2005, the persistence of the default ratios at low levels reflected, on the one hand, some adjustment of credit supply conditions to the current capacity of individuals and firms to service debt and, on the other hand, active strategies by banks to remove from the respective balance sheets some credit overdue and other non-performing loans with an high degree of provisioning already, either through write-offs or sales. For the non-financial private sector as a whole, the weight of the annual flow of new credit overdue and other non-performing loans on the outstanding amount of bank loans adjusted for securitisation reached the peak of the current decade in September 2008 (Chart 4.4.2). Nevertheless, the default ratio, assessed by the share of credit overdue and other non-performing loans in total credit granted to the sector (adjusted for securitisation), remained below the levels observed in 2003, which largely reflected a significant amount of credit write-offs.[40]

The increase in defaults by households and non-financial corporations was reflected in the ratio of credit with default to total credit of the banking system, which increased from 1.41 per cent in December 2007 (1.44 per cent in June 2007), to 1.61 per cent in June 2008.[41] This movement seems to have been recorded by the main Portuguese banking groups. In turn, specific provisions on credit rose from 1.09 per cent in December (1.12 per cent in June 2007), to 1.17 per cent in June 2008. However, there was a slight reduction in the coverage of default (already occurred or with high probability of occurring) by specific provisions, from 77 per cent in June and December 2007, to 72 per cent in June 2008. This decrease was affected by a decline in the provisioning level of one of the major banking groups, which however remained far above the average for the system. The ratio of credit default, net of provisions for credit overdue and non-performing loans, to total credit, also net of such provisions, increased to 0.45 per cent (up from 0.33 per cent in June and December 2007).

Chart 4.4.2

DEFAULT ON CREDIT TO THE RESIDENT NON-FINANCIAL PRIVATE SECTOR



Source: Banco de Portugal. Latest figures: September 2008.

(40) The aggregate of credit default considered corresponds to the concept as presented in Monetary and Financial Statistics and includes credit overdue and other non-performing loans. Credit overdue includes loans (regarding principal debt or interest) overdue for more than 30 days. Other non-performing loans relate to future instalments of doubtful credit, in accordance with Notice of Banco de Portugal No 3/95 and other legal acts in force.

(41) The prudential concept of credit default encompasses credit overdue for more than 90 days and other non-performing loans reclassified as credit overdue for provisioning purposes, in accordance with Notice of Banco de Portugal No 3/95. For further details, see Instruction of Banco de Portugal No 16/2004 and Notice of Banco de Portugal No 3/95, under www.bportugal.pt/servs/sibap/sibap_p.htm.

In the first half of 2008, the annual rate of change in loans granted by resident monetary institutions to the non-financial private sector continued to be high (Table 4.4.1). Nevertheless, available data on the annualised quarterly change in this aggregate (based on seasonally adjusted figures), show a deceleration in these loans, chiefly during the second quarter of the year, in general persisting until the end of the third quarter (Chart 4.4.3). According to the banks participating in the Banking Lending Surveys conducted in April, July and October 2008, there was a successive tightening of the credit standards applied to loans to both non-financial corporations and households, regardless of the respective purpose, as compared with the previous quarters. Rising financing costs, the shortage of liquidity in wholesale debt markets and banks' balance sheet constraints, together with the deterioration of expectations for the overall economic activity, seem to have been the key factors for the tightening of credit standards applied to loans to the non-financial private sector. The change in credit standards translated into wider interest rate spreads and stricter remaining contractual conditions, such as

Table 4.4.1

LOANS GRANTED BY OTHER MONETARY FINANCIAL INSTITUTIONS TO THE NON-FINANCIAL PRIVATE SECTOR [(a)]

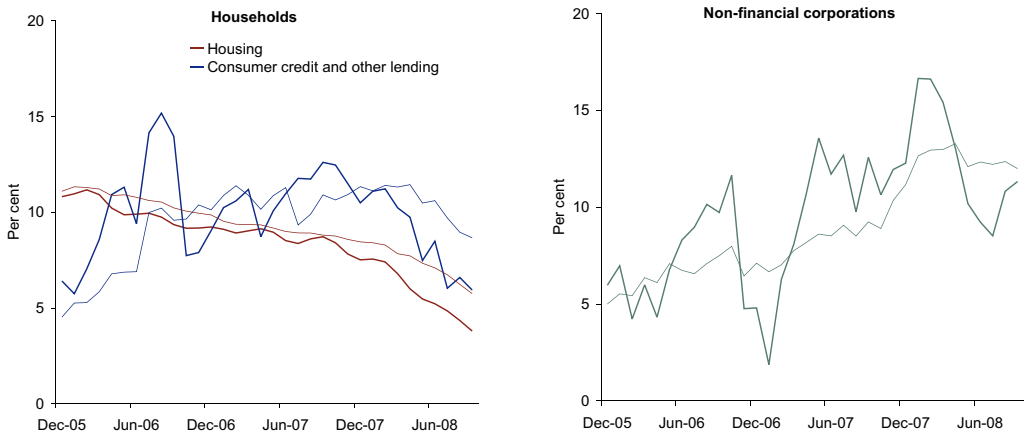
Annual rate of change

	2003	2004	2005	2006	2007		2008	Latest month	Weight in total loans
					Jun.	Dec.	Jun.	Set.08	Dec. 2007
Total	6.4	6.1	7.7	8.7	9.0	9.9	9.7	8.7	100
Households	9.6	9.2	9.8	9.9	9.4	9.0	7.7	6.3	57.7
For house purchase	11.8	10.5	11.1	9.9	9.0	8.5	7.1	5.7	46.7
Consumer credit and other lending	2.4	4.4	4.5	10.1	11.3	11.3	10.6	8.7	11.0
of which:									
Consumer credit	6.8	0.3	1.9	9.6	12.4	13.7	11.9	11.8	5.7
Other lending	-1.8	9.3	7.2	10.6	10.2	9.1	9.1	5.3	5.3
Non-financial corporations	2.7	2.5	5.0	7.1	8.5	11.2	12.3	12.0	42.3
Memo:									
Loans granted by other monetary financial institutions to non-financial corporations and debt securities issued by this sector in the portfolio of other monetary financial institutions	2.7	3.4	7.1	9.6	12.0	14.7	16.0	14.5	-
Non-financial corporations, by branch of activity[(b)]:									100
Agriculture, livestock, hunting, forestry and fishing	7.8	5.0	4.5	10.0	11.4	16.1	20.7	24.4	1.6
Mining and quarrying	15.4	-6.7	0.6	-5.1	4.0	4.5	12.4	14.3	0.4
Manufacturing	0.5	-3.8	-3.0	0.7	4.9	7.9	5.9	6.5	12.7
Generation and distribution of electricity, gas and water	4.8	-2.0	37.9	-11.3	-8.4	13.7	31.8	25.5	2.1
Construction	3.8	6.0	10.7	5.4	8.9	10.7	12.8	12.2	19.7
Services	2.6	3.2	4.2	9.9	9.8	11.8	12.7	12.2	63.5
of which:									
Real estate activities	11.6	13.9	11.9	12.9	14.9	14.4	14.2	12.1	20.0
Other services provided mainly to corporations	-6.1	-1.7	6.7	13.8	16.7	16.6	13.1	15.7	15.0
Trade, hotels and restaurants	4.6	2.0	3.1	7.1	4.7	6.3	10.9	10.2	17.8
Transport, post and telecommunications	3.7	-4.5	-10.6	0.7	-3.7	11.0	14.6	12.9	5.4

Source: Banco de Portugal.
Notes: (a) Rates of change are calculated on the basis of the ratio of end-of-period outstanding amounts of bank loans to transactions calculated from outstanding amounts adjusted for reclassifications, as well as for securitisation, write-offs and exchange rate and price revaluations. (b) The allocation of loans to non-financial corporations by branch of activity is based on the structure of the Central Credit Register.

Chart 4.4.3

BANK LOANS TO THE NON-FINANCIAL PRIVATE SECTOR
Rates of change



Source: Banco de Portugal.
Note: Rates calculated from figures adjusted for securitisation and reclassifications, write-offs and exchange rate and price revaluations. The thick line shows annualised quarterly rates of change on the basis of seasonally adjusted figures. The thin line shows annual rates of change. Monthly figures. Latest figures: September 2008.

shorter maturities in new contracts, the reduction of amounts of credit granted and of the ratio loan-to-value, stricter requirements regarding guarantees, higher commissions and other non-interest rate charges, and the imposition of tighter loan covenants (Chart 4.4.4).

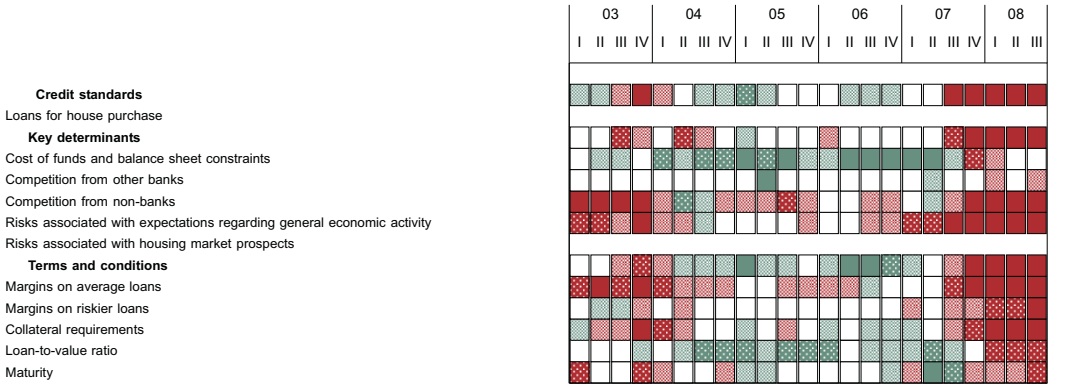
With regard to loans to households, the deceleration path observed since mid-2006 became steeper in the course of 2008. Contrasting with 2007, when the two segments of loans to households evolved differently, both loans for house purchase and consumer credit and other lending slowed down in the first three quarters of the current year, although more markedly in the former (Chart 4.4.1). In September, the annualised quarterly rate of change (calculated from seasonally adjusted figures) in loans for house purchase was close to 4 per cent while that of consumer credit and other lending stood at 6 per cent (Chart 4.4.3). The downward path of the growth rate of loans for house purchase was broadly based across banks, with the market share of the five major banking groups remaining unchanged (at around 80 per cent of the total) (Chart 4.4.5). According to the replies of these latter groups to the Bank Lending Survey conducted in April, July and October 2008, households' demand for loans for house purchase declined significantly in the first three quarters of the year, in line with the reduction in its annual growth rate and in the number of new contracts of credit signed in the first two quarters of 2008. According to data from the Directorate-General for the Treasury and Finance, the number of loans for house purchase agreed in the first half of the current year was 11 per cent lower than in the corresponding period a year earlier.[42] In turn, the average loan amount was slightly higher (by 1.6 per cent) than the average value of new contracts signed in the first half of 2007 (Chart 4.4.6). This increase, albeit lower than the rise in housing prices in the same period (around 3 per cent, as measured by the average rate of change in the *Índice Confidencial Imobiliário*) was similar to that recorded in the second half of 2007. Thus, considering the lag between the moment the house price is agreed and the moment the loan contract is signed, the rise observed in the average value of contracts in the first half of 2008 seems to have closely reflected the change in house prices, suggesting the stabilisation of the loan-to-value ratios. Still according to the banks participating in the Bank Lending Survey, the decline in the demand for loans for house purchase, in the first three quarters of 2008, seems to have chiefly

(42) It should be noted that these data also consider as new loan contracts the substitutions of loans due to changes in previous contracts.

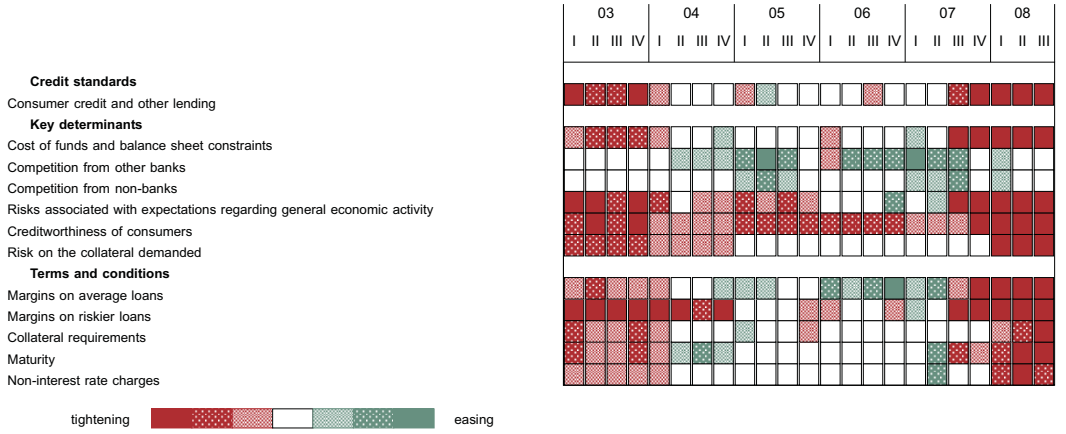
Chart 4.4.4

BANK LENDING SURVEY

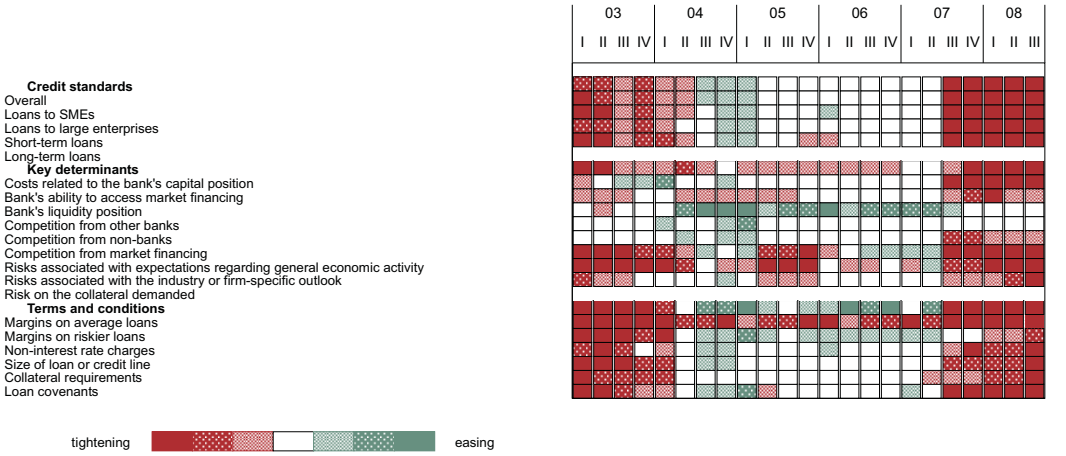
Loans to households – For house purchase



Loans to households – Other lending



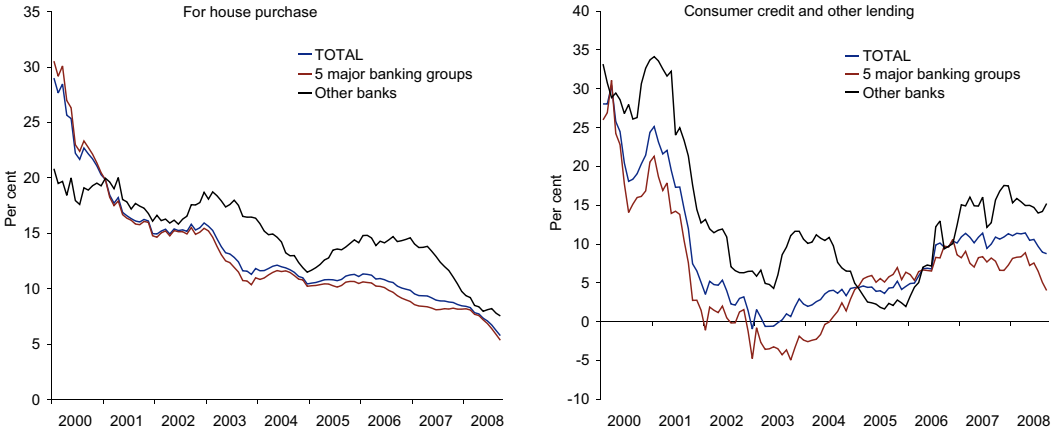
Loans to non-financial corporations



Source: Banco de Portugal.

Chart 4.4.5

ANNUAL RATE OF CHANGE IN LOANS TO HOUSEHOLDS



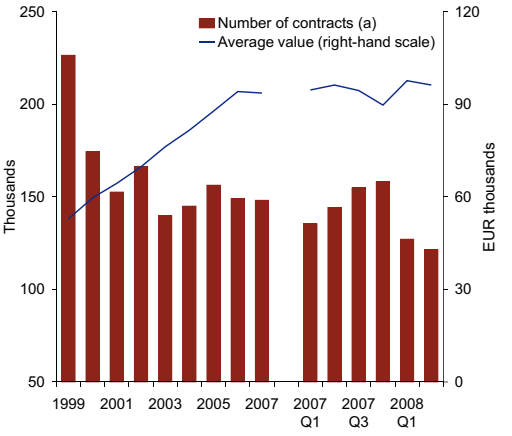
Source: Banco de Portugal. Latest figures: September 2008.

reflected the deterioration of prospects for the housing market and of consumer confidence. The use of savings accumulated in previous periods seems also to be reflecting some deterioration of the financial situation of this sector, in a context of continued rise in interest rates implied in household debt, mainly agreed at a variable rate (see Section 3 *Financial situation of the non-financial private sector*). In fact, the interest rate on housing loans remained broadly on an upward path in the course of the first three quarters of 2008, chiefly reflecting the rise in money market interest rates, generally used as reference (Chart 4.4.7).

With regard to consumer credit and other lending, the deceleration observed in the first half of 2008 was particularly marked in the group of smaller banks, which had made a sizeable contribution to the

Chart 4.4.6

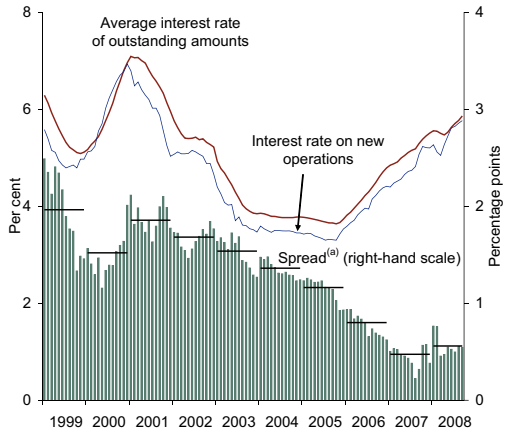
NEW HOUSING LOAN CONTRACTS



Source: *Direcção Geral do Tesouro.*
Note: (a) Annualised quarterly figures.

Chart 4.4.7

INTEREST RATES ON LOANS TO HOUSEHOLDS FOR HOUSE PURCHASE



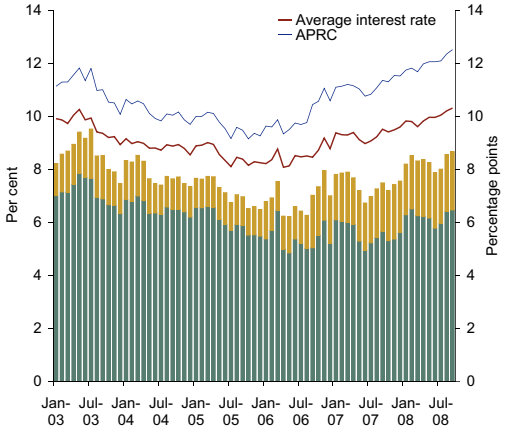
Source: Banco de Portugal.
Note: (a) Spread between the interest rate on new loans for house purchase and the six-month Euribor. Latest figures: September 2008.

change observed in this market segment in the course of 2007. By contrast, loans granted by the five major banking groups accelerated slightly as from the end of 2007 (Chart 4.4.5). This notwithstanding the adoption of tighter credit standards in the approval of this type of loans by these banks, given the perception of higher risks related to the financial situation of households and their capacity to service debt. Data available on the interest rates applied to new consumer loans suggest that actually, over the first half of 2008, there was an increase in both the average interest rate spread and the share of other charges incorporated in the overall effective interest rate (Chart 4.4.8). Likewise, the interest rate on outstanding amounts of consumer loans and other lending to households continued on a rising trend until end-September 2008. As reported by banks participating in the Bank Lending Survey, the demand for loans in this segment seems to have also decreased, albeit less markedly than for housing loans, in a context of strong slowdown in consumption expenditure of durable goods, deterioration of consumer confidence and declining savings[43] (see Section 3 *Financial situation of the non-financial private sector*).

At the end of September 2008, the default ratio on loans to households stood at 2.14 per cent, *i.e.* above those in September and December 2007 (respectively 1.76 and 1.73 per cent) (Chart 4.4.9). This deterioration was particularly marked in the consumer credit and other lending segment, whose credit overdue and other non-performing loans accounted for 4.70 per cent of the total outstanding amount. Similarly, defaults on housing loans increased, reaching 1.47 per cent of the total, at the end of September. Reflecting the deterioration of the financial situation of households and rising burden with debt service, the flow of new credit overdue and other non-performing loans increased to around

Chart 4.4.8

INTEREST RATES ON NEW LOANS OF CONSUMER CREDIT

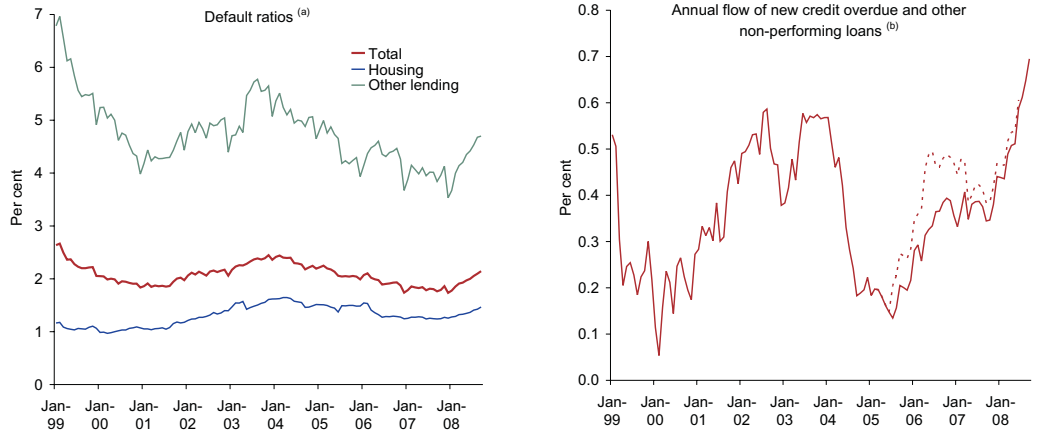


Source: Banco de Portugal.
Notes: APRC: Annual percentage rate of charge. Average interest rate calculated on the basis of rates on new bank loans by initial rate fixation period, weighted by the amounts of new loans in each fixation period. The interest rate differential (lower bar) was calculated using the six-month Euribor, the one-year Euribor and the yield of Portuguese Treasury bonds with a residual maturity of 5 years where the initial rate fixation is of up to 1 year, over 1 and up to 5 years and of over 5 years, respectively. The upper bar corresponds to the differential between the APRC and the average interest rate on new bank loans for consumption. The differentials refer to the right-hand scale. Latest figures: September 2008.

(43) It should be noted that in 2007 consumption of durable goods accelerated significantly due to the car component. These developments seem to have been partly reversed in 2008. The buoyancy of this demand component (influenced by the changes in car taxation) was in part supported by the maintenance of high growth in loans for consumption, which showed a rising trend over the year, notwithstanding the instability in international financial markets. For further details, see "Box 4.1. Private consumption developments in 2007 and the behaviour of durable goods" and "Box 7.1 *Recent developments in the market of consumer credit and other lending to households*", Banco de Portugal, *Annual Report* 2007.

Chart 4.4.9

DEFAULT ON BANK CREDIT TO HOUSEHOLDS



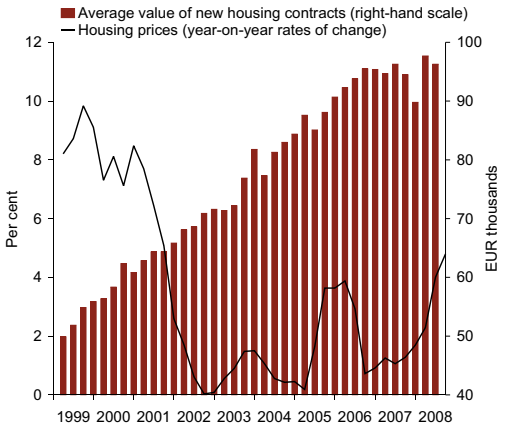
Source: Banco de Portugal.
Notes: (a) Ratio of credit overdue and other non-performing loans to the outstanding amount of loans adjusted for securitisations. (b) Estimate of the annual flow of new credit overdue and other non-performing loans calculated by adjusting the change in the outstanding amount of credit overdue and other non-performing loans for write-offs and for reclassifications of credit overdue, as a percentage of bank loans (adjusted for securitisations). As from January 2005, also adjusted for sales outside the banking system of credit overdue and other non-performing loans not written-off, reported on a quarterly basis in accordance with Instruction of Banco de Portugal No 2/2007 (dashed line). Latest figures: September 2008 (June 2008 for the dashed line in (b)).

0.70 per cent of the average outstanding amount of bank loans to households in September 2008 (corresponding to the highest level of the most recent decade) (Chart 4.4.9).

Throughout the present decade, continued recourse to bank credit enabled to uphold growth in consumption and investment expenditure of Portuguese households, while saving rates were falling. The reassessment of risk *premia*, which translated, in particular into deteriorating conditions in wholesale funding markets, in the context of the financial market turmoil started in the summer of 2007, has been reflected in increasingly higher financing costs of the banking system. Besides, it has been reflected in tighter credit standards in the approval of new loans, reducing banks' capacity to adjust debt service to the households' financial capacity (procedure that seems to have enabled a moderate rise in the default ratio in the recent past). Against this background, delinquencies will tend to increase particularly in the more vulnerable segments of the household sector, such as the youngest and with lower income. It should be noted that according to the results of the latest Survey on Household Wealth and Indebtedness (IPEF), households in these segments record higher effort rates associated with debt service, although, in general, standing at moderate levels. Risks for the stability of the financial system associated with the debt of these households are in general limited. In fact, the share of the total debt of more vulnerable households (such as the youngest and with lower income) or liable of becoming more vulnerable (namely as a result of long unemployment of some members of the household) is reduced in the total debt of this sector. In addition, the value of debt in the more vulnerable segments is mostly covered by the goods to which purchase debt relates. In particular, in the case of loans for house purchase (equivalent to roughly 80 per cent of total household debt), the recovery rate is high, reflecting the real collateral and the existence of some evidence that the price of real estate in Portugal has not been overvalued, in aggregate terms (Chart 4.4.10). It should be noted that according to the results of the latest IPEF, the participation of households in the credit market for purposes other than house purchase, construction or residential reconstruction/remodelling has increased over the present decade, chiefly in the case of households in intermediate income levels and whose household head belongs to intermediate age groups. Most of the value of the loans falling into this category was

Chart 4.4.10

DEVELOPMENTS IN HOUSE PRICES AND IN THE AVERAGE VALUE OF LOAN CONTRACTS



Sources: *Direcção Geral do Tesouro* and *Índice Confidencial Imobiliário*.

intended for the purchase of motor vehicles (around half of the value) and real estate for purposes other than housing. In principle, these loans are collateralised by the assets purchased.

Nevertheless, the deterioration of the financial situation of households in general, in a context of decelerating economic activity, may extend to intermediate segments the difficulty in servicing debt, with potentially visible effects on the profitability of the banking system. It should be noted in this regard that the proposal of State Budget for 2009 includes as measures to support households, the approval of a special regime making it possible for households unable to meet debt commitments related to their main residence to sell that house to a real estate investment fund or company with rental purposes. Thereby, charges burden can be reduced through the replacement of the loan instalments with the payment of a rent for a lower amount, while households retaining the option to buy the same house later on.

Turning to loans to non-financial corporations, the acceleration in the first quarter of the year was partly reversed in the following months and the respective annual rate of change, in September 2008, was higher than both in June and December 2007 (Table 4.4.1). Nevertheless, taking the annualised quarterly rate of change on seasonally adjusted figures, it can be seen that there was a strong slowdown in these loans granted during the first seven months of 2008, which was partly reversed in August and September (this rate stood around 11 per cent) (Chart 4.4.3). It should however be noted that the rising exposure of the banking system to credit risk associated to non-financial corporations was far more significant than that assessed by bank loans. Indeed, considering also loans granted by resident non-monetary financial institutions and debt securities issued by non-financial corporations in banks' portfolios, the acceleration of financing by the banking system to this sector over the first half of the year was considerable, compared with both the same period in 2007 and end-2007 (Table 4.4.1). In fact, in the first half of 2008 net issuance of commercial paper of non-financial corporations reached high amounts, having been subscribed mainly by banks. In 2008, there were sizeable increases in the contributions associated with companies in the sectors of "trade, hotel and restaurants", "electricity, gas and water production and supply" and "construction" to the total change in bank loans to non-financial corporations. The sectors related to "real estate activities" and "other services provided mainly to corporations", whose contributions were among the highest in the past few years, witnessed respec-

Table 4.4.2

CREDIT TO NON-FINANCIAL CORPORATIONS, BROKEN DOWN BY SIZE OF EXPOSURE [a]
Year-on-year rates of change (per cent) [b]

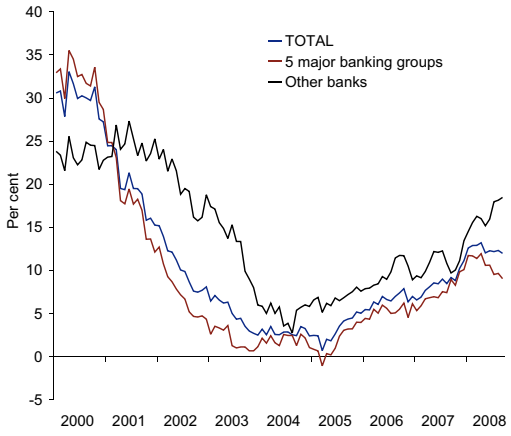
				Memo (June 2008):		
	Jun-07	Dec-07	Jun-08	Lower limit[e]	Average outstanding amounts (10^3€)	Weight of the outstanding amounts in the total (%)
Total	9.9	11.9	11.7			
Large exposures (*percentil 90*) [c]	10.1	11.7	12.0	468	3 741	88
of which: very large exposures (*percentil 99*) [c]	12.7	13.4	13.5	6 176	23 818	56
of which: the largest exposures (percentil 99.5) [c]	14.6	14.6	14.3	11 781	39 202	46
Retail exposures [d]	8.5	12.9	9.6	-	56	12

Source: Banco de Portugal.
Notes: (a) Indicators based on data from the *Central de Responsabilidades de Crédito* (CRC) (Central Credit Register). They correspond to credit granted by banks, savings banks, mutual agricultural credit banks, credit financial institutions, factoring companies, leasing companies, credit card issuing or management companies, credit-purchase financing companies and other resident financial intermediaries. It includes credit granted in securitisation operations. (b) For the calculation of the year-on-year rates of change, the lower limits of each group of exposures were defined by successively applying in each period the rate of change of total credit to June 2008 figures. (c) Percentiles defined on the basis of the number of companies ranked according to their total exposure amount. (d) Exposures whose amounts are below the lower limit of large exposures. They correspond to 90 per cent of companies that borrowed from institutions participating in the CRC. (e) Amount of the lower exposure within exposures considered in the percentile. In EUR millions.

tively some stabilisation and a reduction of these contributions in the first half of 2008. According to data from the Central Credit Register (*Central de Responsabilidades de Crédito*), loans to companies with large exposures (whose outstanding amount represents more than 80 per cent of the total amount of loans granted by resident credit institutions to non-financial corporations) continued to show higher growth rates than the total (Table 4.4.2). Furthermore, it should be noted that the rate of change in loans granted by the five major Portuguese banking groups to resident non-financial corporations, in June 2008, was lower than that for the total banking system, also recording a less marked acceleration than the total since the beginning of the year (Chart 4.4.11). According to the banks participating in the

Chart 4.4.11

BANK LOANS GRANTED TO NON-FINANCIAL CORPORATIONS
Annual rate of change

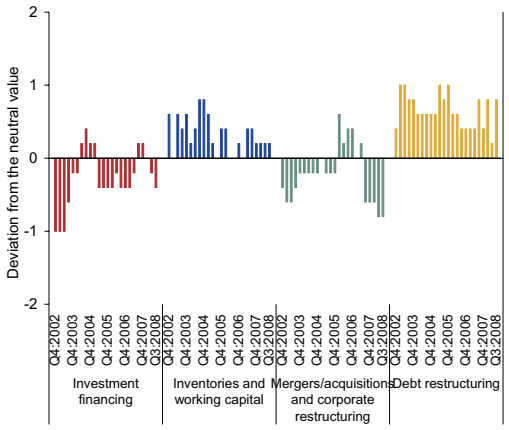


Source: Banco de Portugal. Latest figures: September 2008.

Bank Lending Survey, demand for bank loans and credit lines by non-financial corporations declined slightly over the first half of the year. Debt restructuring and to a lesser extent inventories and working capital financing needs continued to be the main factors contributing to an increase in the demand for loans by non-financial corporations (Chart 4.4.12). The contractual maturity profile of the outstanding amount of bank loans to non-financial corporations continued to move towards loans with an agreed maturity of over five years, whose contribution to the change in the total increased significantly over the first half of the year (Chart 4.4.13). In a context in which the major banks reported the shortening of maturities as a tightening condition in the approval of loans and credit lines to non-financial corporations, regardless of their amount, that move may reflect the lengthening of the maturities of previously agreed loans aimed at adjusting them to the capacity of companies with liquidity constraints at present to service debt. In turn, investment financing continued to be mentioned as having a negative impact on demand, after some signs of picking up shown in the second half of 2007. Financial market instability and the increasing uncertainty about the magnitude of its effects on the real economy are likely to be strongly conditioning investment decisions of non-financial corporations. It should be noted that according to the latest Investment Survey (conducted in April), there was only a slight increase in the percentage of companies that reported financial factors (namely, interest rate level, self-financing capacity and difficulty in obtaining bank financing) as major investment constraints in 2008, as compared to 2007. In this regard, it should also be mentioned that the average interest rate of the outstanding amounts of these loans (including overdrafts) kept a rising trend in the first half of the year. At the end of September, it was 31 basis points above the figure in December 2007 (*i.e.* 2 percentage points higher than the minimum level recorded at the end of the third quarter of 2005). The spread between this rate and the money market rate widened slightly over the first half year (decreasing somewhat afterwards), reflecting the gradual pass-through of the changes in rates on new loans to the rates on outstanding amounts (Chart 4.4.14).

Chart 4.4.12

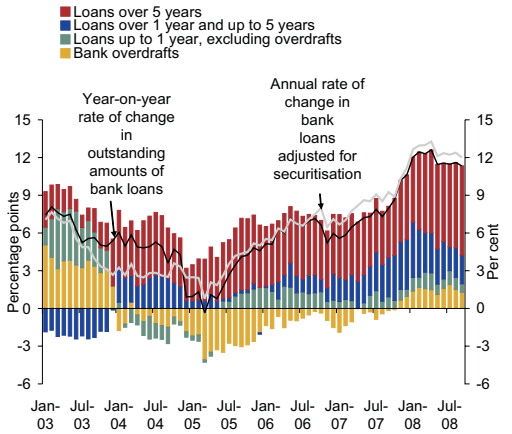
FACTORS AFFECTING DEMAND FOR LOANS BY NON-FINANCIAL CORPORATIONS



Source: Banco de Portugal.
Note: Average responses given by the five Portuguese banking groups participating in the euro area Bank Lending Survey. Figures below 3 (neutral value) correspond to factors contributing to the decline in demand for credit compared to the previous quarter, while figures above 3 represent factors driving an increase in demand for credit.

Chart 4.4.13

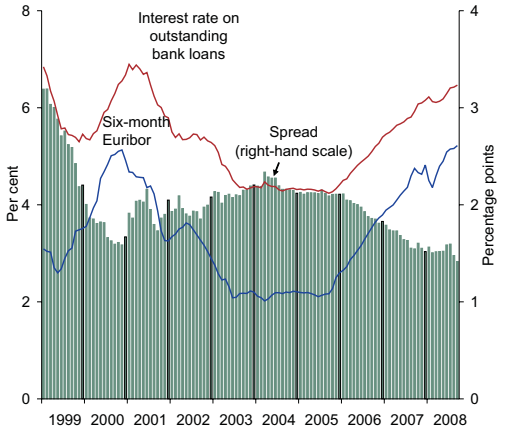
CONTRIBUTIONS FROM CONTRACTUAL MATURITY SEGMENTS TO THE TOTAL RATE OF CHANGE IN OUTSTANDING AMOUNTS OF BANK LOANS GRANTED TO NON-FINANCIAL CORPORATIONS



Source: Banco de Portugal.
Note: Contributions refer to the outstanding amount of bank loans recorded on the assets side of banks' balance sheets (unadjusted). The year-on-year rate of change is calculated on these outstanding amounts. The annual rate of change is calculated on the basis of the ratio of outstanding amounts adjusted for securitisation to monthly transactions derived from outstanding amounts adjusted for reclassifications, write-offs and exchange rate and price revaluations.

Chart 4.4.14

MONEY MARKET INTEREST RATES, INTEREST RATES ON BANK LOANS TO NON-FINANCIAL CORPORATIONS AND RESPECTIVE SPREADS



Source: Banco de Portugal.
Notes: Rates and spreads refer to end-of-period outstanding amounts. The end of each year is highlighted. Up to December 2002, interest rates on outstanding amounts are estimates. Spreads are calculated as the difference between the interest rate on outstanding amounts and the six-month moving average of the six-month Euribor. Latest figures: September 2008.

Amid a background of decelerating global economic activity and greater operational and financial costs, non-financial corporations' saving seem to have continued declining while the number of companies facing increased difficulties to serve debt seems to be rising (see Section 3 *Financial situation of the non-financial private sector*). According to data from the Central Credit Register, at the end of June 2008, the share of non-financial corporations borrowing from resident credit institutions with credit and interest overdue was clearly higher than in both December and June 2007. This development was broadly based across most classes of credit granted[44] (Table 4.4.3). Likewise, the ratio of credit overdue increased in all classes of credit granted. At the end of September 2008, the default ratio on bank loans to non-financial corporations was 2.13 per cent, *i.e.* far higher than a year earlier and moving closer to the figure recorded in 2003. This deterioration reflected an annual amount of new credit overdue and other non-performing loans particularly significant, above that in 2001 (1.07 per cent of the average outstanding amount of bank loans to the sector adjusted for securitisations) (Chart 4.4.15). By branch of activity, there were increases in the contribution of the construction and real estate services sectors (whose loans weight in the total credit granted by the Portuguese banking system reaches 15 per cent[45]) to the change in the default ratio of total non-financial corporations (Chart 4.4.16). These increases seem to reflect the strong sensitivity of these sectors to the current financial crisis and decelerating economic activity. According to data from the Central Credit Register, as a consequence of these developments, the weight of the outstanding amount at risk (*i.e.* the total outstanding amount of loans to debtors in default) in the total credit to non-financial corporations increased from 8.6 per cent in December 2007, to roughly 10.5 per cent at the end of June 2008.

(44) Data supplied by the Central Credit Register includes banks, savings banks, mutual agricultural credit banks, credit financial institutions, factoring companies, financial leasing companies, credit card issuing or management companies, credit purchase financing companies and other resident financial intermediaries.

(45) Corresponding to the weight of loans granted by resident credit institutions to non-financial corporations of these branches in gross credit to customers granted by the banking system on a consolidated basis, at the end of the first half of 2008. The weight of loans to companies in these activity branches on total loans granted by resident credit institutions to non-financial corporations is virtually 40 per cent.

Table 4.4.3

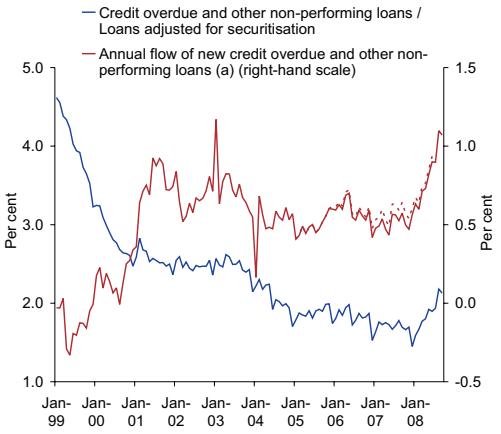
DEFAULT INDICATORS OF CREDIT GRANTED TO NON-FINANCIAL CORPORATIONS, BROKEN DOWN BY SIZE OF EXPOSURE [a]

	Dec-06	Jun-07	Dec-07	Jun-08
Total exposure				
Number of defaulters [b]	11.5	12.8	13.5	14.6
Credit and interest overdue [c]	1.7	1.8	1.8	2.1
Total outstanding amount of credit to defaulters [c]	6.9	7.9	8.6	10.4
Large exposures (*percentil 90*) [d]				
Number of defaulters [e]	9.8	10.8	10.6	13.3
Credit and interest overdue [f]	1.2	1.3	1.3	1.6
Total outstanding amount of credit to defaulters [f]	6.1	7.2	8.1	9.8
of which: very large exposures (*percentil 99*) [d]				
Number of defaulters [e]	6.2	8.0	7.4	10.4
Credit and interest overdue [f]	0.4	0.4	0.4	0.6
Total outstanding amount of credit to defaulters [f]	4.0	5.1	6.5	7.8
of which: the largest exposures (*percentil 99.5*) [d]				
Number of defaulters [e]	5.2	6.7	6.7	9.7
Credit and interest overdue [f]	0.1	0.3	0.3	0.4
Total outstanding amount of credit to defaulters [f]	3.3	4.3	6.2	7.1
Retail exposures [g]				
Number of defaulters [e]	11.7	13.0	13.8	14.7
Credit and interest overdue [f]	5.0	5.3	5.3	5.6
Total outstanding amount of credit to defaulters [f]	11.8	12.9	12.7	14.6

Source: Banco de Portugal.
Notes: (a) Indicators based on data from the *Central de Responsabilidades de Crédito* (CRC) (Central Credit Register). They correspond to credit granted by banks, savings banks, mutual agricultural credit banks, credit financial institutions, factoring companies, leasing companies, credit card card issuing or management companies, credit-purchase financing companies and other resident financial intermediaries. It includes credit granted in securitisation operations. (b) As a percentage of the number of non-financial corporations that borrowed from financial institutions participating in the CRC. (c) As a percentage of total credit granted by financial institutions participating in the CRC to resident non-financial corporations. (d) Percentiles defined on the basis of the number of companies ranked according to their total exposure amount. (e) As a percentage of the number of debtors in this portfolio. (f) As a percentage of total credit in this portfolio. (g) Exposures whose amounts are below the lower limit of large exposures. They correspond to 90 per cent of companies that borrowed from institutions participating in the CRC.

Chart 4.4.15

DEFAULT ON LOANS TO NON-FINANCIAL CORPORATIONS

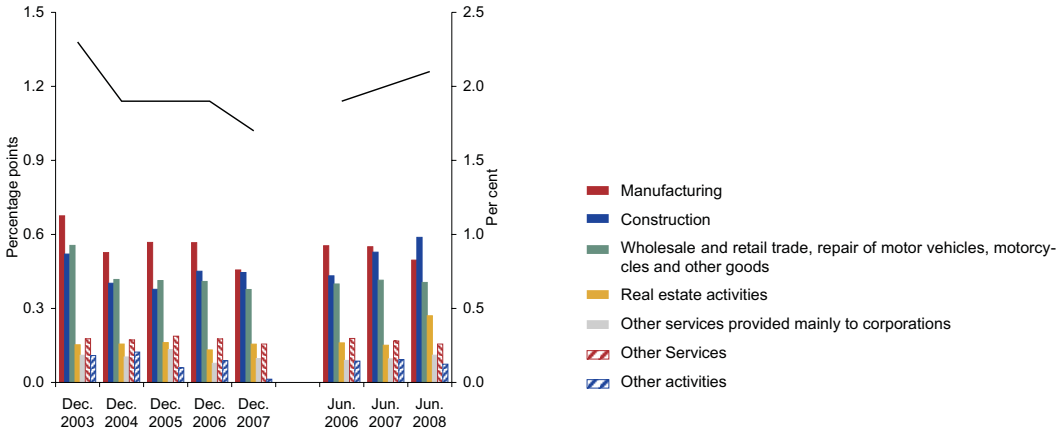


Source: Banco de Portugal.
Note: (a) Estimate of the annual flow of new credit overdue and other non-performing loans calculated by adjusting the change in the outstanding amount of credit overdue and other non-performing loans for write-offs and reclassification of credit overdue as a percentage of bank loans (adjusted for securitisations). As from January 2005, also adjusted for sales outside the banking system of credit overdue and other non-performing loans not written-off, reported on a quarterly basis in accordance with Instruction of Banco de Portugal No 2/2007 (dashed line). Latest figure: September 2008 (June 2008 for the dashed line).

Chart 4.4.16

DEFAULT RATIO OF NON-FINANCIAL CORPORATIONS

By branch of activity



Source: Banco de Portugal.
Note: Corresponding to credit granted by resident credit institutions and including securitisations.

Box 1. Main measures taken by the Portuguese authorities regarding the financial system in the context of the international financial crisis

The major turmoil in the international financial system demanded action at various levels by national and international authorities. The aim was to ensure the stability of the financial system and spur confidence among economic agents. The aim of this box is to sum up the main measures taken by the Portuguese government, above all in the context of the European action plan. Details will also be given of the changes to regulations in the prudential sphere introduced by the Banco de Portugal.[1]

Since the onset of financial turmoil in the summer of 2007, central banks have taken action, in many cases co-ordinated, to ensure access to liquidity in the money markets. The backdrop to this was the wide-ranging problem of accessing financing in the wholesale markets. Mid-September, however, saw the world's financial systems deteriorating sharply. This demanded a range of additional measures designed to bring back the confidence of economic agents as well as contain systemic risk, safeguard deposits in the non-financial private sector and cushion the impact on the real economy. Against this backdrop, various measures were announced by European governments in mid-October, focusing, among other things, on government guarantees to banks in the securitised debt markets, broader guarantees on deposits and the possibility of injecting capital into the banks. This raft of measures resulted from the concerted action plan presented after a summit of the heads of state of the euro area on 12 October. The aims of this plan are (i) to ensure adequate liquidity for financial institutions, (ii) to stimulate access to financing in the securitised debt markets, (iii) to make additional capital available to financial institutions to enable them to ensure financing for the economy, (iv) to ensure efficient recapitalisation of distressed banks, (v) to allow some flexibility in the application of international accounting standards, and lastly, (vi) to enhance the mechanisms available for co-operation between European states. The plan's main guidelines were approved by the European Council on 15 and 16 October, following publication of concrete guidelines by the European Commission on articulation of the governmental measures supporting the financial system and the European rules governing state aid. The aim of this was to prevent these measures from generating distortions in competition between financial institutions in member states. In concrete terms, the Commission stipulated that measures by governments should ensure that there was no barrier to access (for example based on nationality), and the support provided should be temporary. Over and above this, state aid should be clearly defined and limited, excluding any unjustified benefit to shareholders. The private sector should bear some of the costs for the support and rules should be set out preventing the institutions from abusing the state support, for example, to devise strategies to expand their operations. Member states have adopted an array of measures (some of which are outlined in Table 1) based on the principles defined in the 12 October action plan and bearing in mind the recommendations of the European Commission.

Within the scope of this, the Portuguese government announced that guarantees totalling 20,000 million euros would be available to banks for financing requirements in the securitised debt market. [2] *This is a temporary measure, with guarantees available until the end of 2009. They will stand only while justified by market conditions. Request for these guarantees can be made by any credit institution with registered head office in Portugal finding constraints to its liquidity. Banks applying need to comply with minimum regulatory solvency requirements. Guarantees would be provided only for financing contracts and the issue of debt in euros, with maturity between 3 months and 3 years.*[3] *Operations in the interbank money markets and the issuing of subordinated debt are not acceptable. Requests for guarantees will be analysed by the Banco de Portugal and by the Public Credit and Treasury Management Institution (Instituto de Gestão da Tesouraria e do Crédito Público). The bank's contribution to financing the economy will be borne in mind, along with the amount needed and the financing conditions. In order to take advantage of the scheme, credit institutions will have to pay a commission of 50 b.p. for debt with maturity between 3 and 12 months. For longer-term issuance, there is in addition the premium of the bank's own credit default swaps at 5 years or, if they do not exist, those of a representative sample of banks. If the credit institution defaults and the guarantee is activated, the state, as a creditor, has the right to convert the debt into capital (through the issue of*

(1) *Box 2 Authorities responses in the context of the financial crisis: liquidity management measures and intervention in financial systems, in the article "The Portuguese economy in 2008" in this Economic Bulletin looks at the main measures adopted in the euro area, in the United States and in the United Kingdom in the context of the international financial crisis.*

(2) *Guarantees were defined in Law no. 60-A/2008 and specified in Executive Order no 1 219-A/2008, available on www.min-financas.pt.*

(3) *The maximum limit can be extended to 5 years on reasoned proposal from the Banco de Portugal.*

preferential shares) and to intervene directly in the management of the institution. By and large, the specific terms of the state-backed guarantees are similar to those being applied in other European countries.

On 2 November, the government announced additional measures to strengthen financial stability. A recapitalisation plan for credit institutions with head office in Portugal was announced. The point of reference is the series of European Commission recommendations mentioned above, in line with similar plans announced by various countries, among them the United Kingdom, France, Germany and the Netherlands. The aim of this measure is to ensure that institutions have the necessary conditions to shore up their own funds (Tier 1 capital). The Banco de Portugal had already issued recommendations stipulating that the minimum ratio for Tier 1 capital was to be 8 per cent from September 2009. This support will cover all solvent and solid credit institutions in the light of legal requirements and supervisory criteria. It will be financed by a specific sum set aside in the government's annual budget and by the issue of public debt of up to 4 thousand million euros. The basis for the capitalisation can be any financial instrument eligible as own funds, such as the acquisition of the bank's own shares and the issuance of securities representative of capital. The aim of this initiative is to create the legal framework for direct public intervention in the process of financial restructuring and recovery of credit institutions with own funds under the minimum legal requirement. Support for the recapitalisation of the banks is a temporary measure and will be in force until December 2009. It implies a series of requirements relating to the management of the credit institutions that take up the guarantee. State disinvestment should occur within 3 years (with an absolute maximum of 5 years if market conditions so justify).

On 2 November also, the government put forward a proposal to nationalise the Banco Português de Negócios (BPN). The aims were to protect the depositors and defend taxpayers' interests .[4] The bank was facing a series of difficulties stemming from its own management, and as the conditions for liquidity in the international financial markets worsened, the government was forced to intervene. The problems related in part to irregularities which were subject to civil proceedings, and submitted to the Public Prosecutor's office. The management of the bank was transferred to the CGD (the state bank) on a transitional basis. The CGD has 60 days after the nationalisation comes into force to define the management objectives for the bank. Equity holders in the bank will be indemnified, using the market value of their rights as the reference point, based on an evaluation to be carried out by two independent bodies.[5]

As an additional measure, the maximum cover for the Deposit Guarantee Fund (Fundo de Garantia de Depósitos) was raised from 25,000 euros to 100,000 euros per depositor and per institution. The term for reimbursement on deposits was substantially reduced, with the recommendations of the European Commission being used as the reference point.[6] Various changes were also made, the aim being to strengthen the duties of information and transparency of financial institutions and to give added power to co-ordination in the National Council of Financial Supervisors (Conselho Nacional de Supervisores Financeiros).[7] The market watchdog (CMVM) prohibited short selling on shares issued by the financial institutions, on a par with similar actions in other European countries.

The Banco de Portugal also made some specific changes to the supervision regime. The first of these was contained in Notice no. 6/2008. This changed the treatment of unrealised gains and losses on securities held in the portfolio of held-for-sale assets with impact on own funds. This was in line with the possibility set out in 2004 by the Committee of European Banking Supervisors (CEBS). In this way, unrealised gains and losses that do not involve impairment in debt securities can have a neutral effect on own funds. Secondly, an extra three years was allowed for the impact of transition to the International Accounting Standards related to pension funds of bank employees not recognised in retained earnings as at 30 June 2008. This was set out in Notice no. 7/2008. In the context of the process of changing Directive no. 2006/48/CE and Directive no. 2006/49/CE, where there will be new limits on the eligibility of hybrid instruments as positive components of Tier 1 capital, there was a review of the limit acceptable for the recognition of preferential shares with unspecified maturity and without incentives for redemption (from 20 to

(4) *Law no. 62-A/2008 was promulgated on 11 November. This authorises nationalisation of all the shares representing the equity capital of the BPN, and approves the legal framework for public appropriation through nationalisation.*

(5) *This process will be more thoroughly analysed in the Financial Stability Report 2008 of Banco de Portugal.*

(6) *The increase of the maximum cover of the Deposit Guarantee Fund was promulgated by the Decree-Law no. 211-A/2008, where it is defined that a fraction of up to 10,000 euros of all deposits covered should be reimbursed in the seven days following the date at which deposits become unavailable. The remaining part should be reimbursed within one month.*

(7) *These measures were also promulgated in the Decree-Law no. 211-A/2008.*

35 per cent). Finally, as defined in Notice no. 9/2008, all reserves and results corresponding to assets set aside for deferred tax can now be accepted as a positive element of own funds, where before the limit for this heading had been 10 per cent.

Portuguese banks were also affected by changes in accounting norms internationally. Specifically, the International Accounting Standards Board (IASB) introduced changes to the accounting standards for financial instruments at market value. This allowed for greater flexibility in the criteria used in the reclassification of these instruments, with effect from 1 July 2008. The variation in portfolio value for financial assets valued at fair value is recognised in results for the year and these assets are deemed to be a component of own funds, while the variation in value of held-for-sale assets is booked directly under capital accounts. The portfolio of instruments held to maturity are less sensitive to fluctuations in the financial markets, to the extent that they are not recorded at market value, but at amortised cost, a criteria that is also adopted in the loan portfolio. The IASB also made some changes to the criteria for valuing financial assets at fair value, specifically if the markets where these assets are transacted are undergoing severe turbulence.

Only in the medium term will it be possible to get an overall idea of the effectiveness and the results from these measures, in terms of costs and benefits, but in general the European action plans have played their part as a buffer against the escalating tension seen in the financial system in the period between mid-September and mid-October. The announcement of these measures showed that governments are committed to protecting the deposits of the general public and ensuring the stability of the banking system and the financial markets. The reinforcement of deposit guarantees should therefore help to prevent possible runs on deposits. And in tandem the guarantees offered by governments for the financing of banks should bring confidence back and ensure access to financing in the primary debt markets. As a last point, most European countries set up the tools for taking part of financial institution capital if this came to be necessary.

Table 1 (to be continued)

GOVERNMENT MEASURES IN A SELECTION OF EUROPEAN FINANCIAL SYSTEMS

	Deposit guarantee fund	Public guarantees on debt issues	Banks' recapitalisation funds and authorisations	Capital injections into specific banks	Other measures
Portugal	*Maximum cover raised from 25,000 to 100.000 euros per depositor and institution.*	*Up to 20 thousand million euros (excluding the interbank market and subordinated debt).*	*Recapitalisation plan (4 thousand million euros).*	*Nationalisation of the BPN.*	
Belgium		*Financing guarantees for banks.*		*Capital injection into the Dexia group (with France and Luxembourg).* *Capital injection in the Fortis group (with Luxembourg and the Netherlands). Capital injection in the KBC group)*	
Germany	*Political deposit guarantee.*	*Up to 400 thousand million euros.*	*Creation of a fund totalling 80 thousand million euros.*	*Capital injection in Commerzbank and in BayernLB (within the scope of the recapitalisation fund).*	
Ireland	*Guarantee extended to all deposits (around 400 thousand million euros)*	*Guarantee on banks' liabilities between 30/09/2008 and 29/09/2010 (including interbank liabilities).*			
Greece	*Maximum cover raised to 100,000 euros.*	*Creation of a 15 thousand million euro fund.*	*Creation of a fund totalling 5 thousand million euros.*		*Change in the law covering protection for debtors.* *Issue of 8 thousand million euros of public debt available for banks to use as guarantee.*
Spain	*Maximum cover raised to 100.000 euros.*	*To a total of 100 thousand million euros in 2008; the amount for 2009 yet to be defined.*	*The state now has authorisation to put capital in banks.*		*Creation of a 30 thousand million fund (extendable to 50 thousand million). The fund can purchase high quality bank securities.*

Table 1 (continued)

GOVERNMENT MEASURES IN A SELECTION OF EUROPEAN FINANCIAL SYSTEMS

	Deposit guarantee fund	Public guarantees on debt issues	Banks' recapitalisation funds and authorisations	Capital injections into specific banks	Other measures
France		*Up to 320 thousand million euros.*	*Creation of a fund (40 thousand million euros).*	*Capital injection into the Dexia group (with Belgium and Luxembourg). Acquisition of subordinated debt totalling 10.5 thousand million euros from six banking groups within the scope of the fund.*	
Italy	*Possibility of extension of cover of the deposit guarantee funds.*	*All new bond issues by banks guaranteed for 5 years.*	*The state now has authorisation to underwrite or guarantee capital increases by Italian banks.*		*Swap to convert private debt into public debt securities.*
Luxembourg	*Maximum cover raised to 100.000 euros.*	*Financing guarantee for the Dexia group.*		*Capital injection into the Dexia group (with Belgium and France).* *Capital injection into the Fortis group (with the Netherlands and Belgium)*	*Measures to ensure liquidity in the money market.*
Netherlands	*Maximum cover raised to 100.000 euros.*	*Up to 200 thousand million euros.*	*Creation of a fund totalling 20 thousand million euros.*	*Capital injection into the Fortis group (with Luxembourg and Belgium) and in the ING group (the latter within the scope of the fund).*	
Austria	*Total cover of deposits.*	*Up to 85 thousand million euros.*	*The state now has authorisation to inject capital in banks. Creation of a 15 thousand million euro fund.*	*Capital injections into the Raiffeisen Zentralbank (RZB) groups and the Erste Group Bank.*	
Sweden		*Up to 1500 thousand million Swedish kronas.*	*Creation of a 15 thousand million Swedish krona fund.*		
UK	*Maximum cover raised to 50.000 pounds per depositor.*	*To a total of 250 thousand million pounds. Dependent on the solvency of the institutions. Barclays carried out its first issue with guarantee on 22 October (3 thousand million euros).*	*Creation of a fund totalling 50 thousand million pounds for a number of big banks.*	*Nationalization of Northern Rock and the Bradford & Bingley. Capital injection into the Royal Bank of Scotland and into HBOS-Lloyds (within the framework of recapitalisation fund).*	

Sources: CEBS, IMF, Ministries of Finance in various countries and Thomson Reuters.
Note: Some packages of measures are still being put together. The information in the table does not include all the measures taken by the countries concerned, in particular where the information available in the press did not come through the usual government communications channels.

ARTICLES

HETEROGENEITY IN A MONETARY UNION AND ITS IMPACT ON WELFARE*

*Carla Soares***

1. INTRODUCTION

Since 1999, 15 European countries have abandoned their national currency and autonomous monetary policy, and have joined the euro area. According to the Optimal Currency Areas (OCA) theory, it is more advantageous for regions to share the same currency area when there is a minimum level of synchronisation of economic cycles and integration of trade and labour markets. Despite the increased economic integration among euro area countries, these have shown persistent differentials. Benalal *et al.* (2006) show that since the beginning of the euro area the dispersion of economic growth across countries has not changed significantly, and remains at relatively low levels. Given that the level of synchronisation of economic cycles has also increased, these differences suggest the existence of structural differences among countries. A paper by the European Central Bank (ECB, 2003) on inflation differentials has concluded that these are partly caused by convergence processes, but also by other structural factors. Other papers point out of the existence of differences across countries in price- and wage-setting mechanisms (Dhyne *et al.*, 2005; Dickens *et al.*, 2006).[1] Even in the case of common shocks, these structural differences across countries may have implications on monetary policy transmission mechanisms. Since monetary policy in the euro area is defined for the union as a whole, irrespective of country specificities or idiosyncratic shocks, what is the importance of heterogeneity at union level? In particular, what is the impact on welfare of individual economies and of the union as a whole?

This article addresses this matter from a broadly based and theoretical perspective, analysing the impact on welfare when monetary policy responds to the union aggregated variables, given that there is heterogeneity across countries, namely as regards price and wage rigidities. For that purpose, the article develops a simple stochastic economy model with two countries forming a monetary union, where the central bank defines the monetary policy according to a rule that reacts to the union aggregated variables.[2] The model does not include government, given that its objective is related to the evaluation of the impact of different heterogeneity sources on a monetary union, not the interaction between monetary and fiscal policy. However, fiscal policy is acknowledged to alleviate or even eliminate the negative impact of asymmetric shocks or asymmetries across regions in the context of a monetary union (Adão *et al.*, 2006).

The article is in line with recent literature on dynamic general equilibrium stochastic models, applied within a multi-country monetary union operating as a closed economy. In this context, it is worth mentioning the papers by Benigno (2004), Jondeau and Sahuc (2008) and Gomes (2004). Benigno (2004) addresses optimal monetary policy in a monetary union subject to asymmetric shocks, and concludes that an inflation targeting policy in which a higher weight is attached to inflation in the region with higher

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

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(1) In this respect, it is also worth mentioning the working papers developed in the context of the Inflation Persistence Network of the Eurosystem (http://www.ecb.int/home/html/researcher_ipn.en.html).

(2) This article is based on Soares (2008).

nominal rigidity is nearly optimal. In turn, Jondeau and Sahuc (2008) compare two models estimated for the euro area: one for the area as a whole and a multi-country model (Germany, France and Italy). These authors conclude that there are significant welfare losses if the monetary authority does not take into account region specificities when defining monetary policy. In turn, Gomes (2004) investigates, based on an calibrated model, the implications of different price rigidity levels in a monetary union, in the presence of specific and common shocks. She concludes that idiosyncratic shocks and, to a lesser extent, common shocks generate significant growth and inflation differentials across countries. From the comparison of different monetary policy rules, she also concludes that the rules resulting in the best outcome for the union are not equivalent to the best result in individual terms. Rules with interest rate smoothing actually stabilise inflation and output and narrow differentials across countries, but reduce the inflation correlation among countries. Rules seeking to stabilise output actually reduce output volatility to the detriment of inflation volatility and reduce the output correlation among countries.

This article is structured as follows: Section 2 introduces a summarised description of the model. Section 3 presents the calibration for the reference case, which replicates a homogeneous union. In the following sub-sections heterogeneity across countries is introduced, in order to analyse the impact on welfare. The heterogeneity sources analysed are the home bias on consumption goods, and wage and price rigidities. In this regard, it is worth stressing the significant impact of introducing heterogeneity in wage and price nominal rigidities, wherefore this should be analysed in further detail through the assessment of the interaction between both types of rigidities. Section 4 presents the main conclusions.

2. DESCRIPTION OF THE MODEL[3]

The monetary union is formed by two countries: the domestic economy (referred to as D) and the foreign economy (referred to as F). Total population in the area comprises a continuum of identical and infinitely lived agents and is normalised to 1. The relative size of the domestic economy is given by n, wherefore $(1-n)$ is the size of the foreign economy. The economy includes three agents: households, firms and the central bank. Each country's economy operates in a similar manner. Hence, this section describes the model of the economy in one of the countries, considering that the other one would be similar.

Households consume goods produced in both countries, save by investing in financial assets and provide differentiated labour to the firms producing in the country they live in. Households' objective is to maximise the expected utility discounted over time. The representative household's instantaneous utility is separable into consumption and labour, and depends positively on consumption less external habit in consumption,[4] and negatively on working hours. Households are subject to two random shocks: one preference shock that influences preference between households' current and future consumption, and a labour supply shock that affects the availability of households to supply labour to firms.

Consumption of the representative household consists in a basket of goods produced in both economies, according to their preference for domestically or externally produced goods (home bias). It is assumed that $C_{D,t}(j)$ is the consumption by the representative household j, resident in the home economy, of domestically produced goods, $C_{F,t}(j)$ is the consumption by the same household of

(3) For further details on the model, see Soares (2008).

(4) This paper assumes the hypothesis of external habit, i.e. households take into account deviations of their consumption level from the per capita consumption in the country in the previous period. Thus, consumption behaviour in the model seems to be more persistent and to respond gradually to shocks, in line with empirical evidence (Abel, 1990, Fuhrer, 2000, Smets and Wouters, 2003).

goods produced in the foreign economy[5] and ϖ (denominated the home bias parameter) is the share of domestically produced goods in total consumption. Therefore, the basket of goods consumed by household j, resident in the home economy, may be represented by the following expression:

$$C_t^D(j) = \frac{(C_{D,t}(j))^{\varpi}(C_{F,t}(j))^{1-\varpi}}{\varpi^{\varpi}(1-\varpi)^{1-\varpi}} \quad (2.1)$$

When ϖ is equal to 0.5 there is no home bias, i.e. households do not show different preferences about consuming domestic or imported goods. When ϖ is lower than 0.5, households prefer to consume externally produced goods; when it is higher than 0.5 they prefer domestically produced goods.

Households must observe the budget constraint to which they are subject. On the one hand, they receive income from labour and dividends from firms in the home country, given that the latter operate in a monopolist competitive market. On the other hand, they may use their income for consumption and saving. Households may thus trade in area wide riskless bonds and country-specific state-contingent securities. Both financial markets shall be balanced at each moment.

Each household in the model supplies labour services to firms in the home country. Households can only work in firms of their own country, since there is no labour mobility at the union level. Labour is differentiated among households, which operate as labour suppliers under monopolistic competition and set wages on the basis of their market power. In order to introduce friction in the wage-setting mechanism, it is assumed that households cannot set in each period the wage enabling them to reach maximum utility level, taking into account labour demand by firms. Households can only optimise wages occasionally, but do not know in advance when they can do it. In each period, every household will optimise wages with probability $(1-\xi_w^D)$[6]. Thus, the parameter $\xi_w^D \in [0,1]$, which is the same for every household and is constant over time, indicates the degree of wage rigidity of the economy: the closer it is to 1, the greater the wage rigidity, given that the probability of optimising wages in each period is lower. When households cannot optimise wages, they will adjust them partly in line with consumer price inflation in the home country in the previous period. In those periods when households cannot determine their wages, they will take into account the expected time span (given by $1/(1-\xi_w^D)$ quarters, considering quarterly model frequency) up to the subsequent optimisation. Therefore, the optimal wage of the representative household will be defined as a mark-up over the marginal rate of substitution between consumption and labour expected over time. Aggregate wage in every quarter is proxied by an average of optimum wage and adjusted wage, according to the indexing mechanism, weighed by the share of households that have adjusted their wages in that quarter.

Using labour as the single productive factor, firms will produce differentiated goods, and will also be subject to a random productivity shock. They are subject to fixed costs in production, which are common to all firms. Marginal costs are given by nominal wage weighed by the productivity factor. Similarly to wages, the price-setting mechanism also exhibits rigidity. Firms can only optimise prices at moment t when they receive a random "signal" to do so, which occurs with probability $(1-\xi_p^D)$. Therefore, with probability ξ_p^D, they cannot optimise prices at moment *t*, adjusting prices to a share of the producer price index of the respective country in the previous period. Hence, parameter ξ_p^D denotes price rigidity, which will be the greatest, the closer to 1 the parameter is.[7] When firms may optimise prices, they set the optimal price with a mark-up over marginal costs expected over time. Given that at each mo-

(5) $C_{D,t}$ and $C_{F,t}$ represent aggregation in a homogeneous good, due to the existence of product differentiation both among domestically produced goods and among goods produced by the other economy. Households are willing to exchange between differentiated goods of the same country, according to the elasticity of substitution.

(6) The upper *D* index in the parameter means that this refers to the home economy. The *F* index is used for the foreign economy.

(7) Similarly to the degree of wage rigidity, ξ_p^D ranges between zero and one, is equal for all firms and is constant over time.

ment some firms do optimise prices while other firms cannot do it, the price index of goods produced in either economy is proxied by an average of the optimal price level and prices adjusted according to the indexing mechanism, weighed by the degree of price rigidity.

Since households consume goods produced in either country, the consumer price index is given by the average of producer price indices in the home and foreign economies, weighed by the share of domestic goods consumption (ϖ) and imported goods consumption (1-ϖ). The index for the union will be the average of the national indices weighed by the respective size of the country.

Considering that this is a monetary union model, the nominal exchange rate will always be equal to one. As consumption goods are freely traded across countries, prices of the same goods are equal in the home economy and in the foreign economy. The pricing-to-market hypothesis (Obstfeld and Rogoff, 1996; Betts and Devereux, 2000) is therefore not viable in this model.

Given that the model shows a significant degree of nonlinearities, a straightforward solution is not available. Therefore, this paper follows literature and presents an analysis in terms of log-deviations from the steady state.[8] The monetary policy rule is introduced ad-hoc and is not a result of the optimisation programme. Following the extended use of Taylor rules in the literature, the central bank will respond to inflation and output deviations from the steady state, assuming that the central bank target for inflation is the steady state level. The monetary authority also shows a preference for smoothing the interest-rate path. Moreover, the rule is widened so that the central bank may respond to short-term changes in inflation and output (Smets and Wouters, 2003). Finally, the central bank is also subject to a monetary shock that may lead to surprises in the interest rate. Therefore, the monetary policy rule may be expressed as follows:

$$\hat{R} = \gamma_R \hat{R}_{t-1} + (1-\gamma_R)(\gamma_\pi \hat{\pi}_t + \gamma_y \hat{Y}_t) + \gamma_{\Delta\pi}(\hat{\pi}_t - \hat{\pi}_{t-1}) + \gamma_{\Delta y}(\hat{Y}_t - \hat{Y}_{t-1}) + \hat{m}_t \qquad (2.2)$$

where $\hat{R}_t$, $\hat{\pi}_t$ and $\hat{Y}_t$ are, respectively, the interest rate, inflation and output deviations from the steady state in the area, and $\hat{m}_t$ is the monetary policy random shock.

The welfare function in either country is defined from the utility function of the representative household, corresponding to the aggregation of the utility of all households in each country (Benigno and Woodford, 2004).[9]

3. WELFARE ANALYSIS

3.1. Calibration of the model for the reference case of a homogeneous union

At a first stage, the model is calibrated so as to replicate the case of a homogeneous union, i.e. countries have the same size, there is no home bias and the remaining parameters are equal for both countries. Calibration is close to the results of estimated DSGE models for the euro area, e.g. the Smets and Wouters (2003) model.[10]

The intertemporal discount rate of households is calibrated so that the annual steady-state real interest rate is close to 4%. Since it is assumed that there is no home bias in the reference case of a homo-

(8) The log-linearised model equations are presented in appendix, where variables in terms of log-deviations from the steady state are given by ^.

(9) The welfare function is proxied by a second-order Taylor expansion of the household utility aggregation of each country. Welfare depends on the steady-state welfare levels, namely of consumption, and on the dynamics of the economy when responding to shocks. Worthy of mention as factors with a bearing on welfare are price and wage inflation volatility, consumption and output volatility, and the interaction between output dynamics and the shocks affecting the economy (except the monetary policy shock).

(10) Appendix 5.2 presents the values of the calibrated parameters.

geneous union, the parameter ϖ is calibrated to 0.5. The persistence of consumption is calibrated to 0.6, in line with the estimation by Smets and Wouters (2003), but slightly below the value estimated for a smaller euro area model such as in Jondeau and Sahuc (2008).[11] The intertemporal elasticity of substitution of consumption is calibrated to around 0.7, in line with the hypothesis widely spread in real business cycles literature of an elasticity ranging from 0.5 to 1. In turn, labour supply elasticity is calibrated to around 0.4. The degree of wage rigidity is calibrated to 0.7, meaning that, on average, households take 3 to 4 quarters to optimise wages. In those quarters when wages cannot be optimised, these are adjusted by 75% of consumer price inflation in the previous period. In turn, the degree of price rigidity is calibrated to 0.9, hence firms optimise their prices every 10 quarters, on average. Galí *et al.* (2001) have also reached a high value close to 0.9 for price rigidity in the euro area when estimating a Phillips curve with constant returns to scale in the production function.[12] During those quarters when firms do not optimise prices, these are adjusted by 50% of producer price inflation in the previous period. Therefore, according to Smets and Wouters' results (2003), the model presents greater nominal rigidity in prices than in wages. The elasticity of labour demand is calibrated to 3, meaning that wage markup is 1.5. A calibrated value of 6 for price-elasticity of demand implies a price markup of 1.2, which is in line with the 1.1-1.4 range usually acknowledged in literature (Galí *et al.*, 2001, Christiano *et al.*, 2005). The calibration used in the monetary policy rule is also in line with most literature. The interest rate exhibits relatively high persistence, with an autocorrelation coefficient of 0.8. The central bank gives more weight to inflation deviations from target than to output deviations, which is in line with the literature (1.7 weight on the rule for inflation and 0.1 for output). The weights of the differential components of output and inflation on the monetary policy rule are also relatively low (0.15). The monetary policy shock is not assumed to show persistence, given that the interest rate already has a high persistence level. Preference, labour supply and productivity shocks show high persistence, according to literature.

3.2. Monetary policy rules

This section examines the impact on welfare of the different rules that may be followed by the central bank. For this purpose, the following string of rules was considered:

1. Original rule $\hat{R}_t = 0.8\hat{R}_{t-1} + 0.2(1.7\hat{\pi}_t + 0.1\hat{Y}_t) + 0.15(\hat{\pi}_t - \hat{\pi}_{t-1}) + 0.15(\hat{Y}_t - \hat{Y}_{t-1}) + \hat{m}_t$
2. Rule without differential components ($\gamma_{\Delta\pi} = \gamma_{\Delta y} = 0$)
3. Rule without interest rate smoothing ($\gamma_R = 0$)
4. Simple Taylor rule ($\gamma_{\Delta\pi} = \gamma_{\Delta y} = 0 \; e \; \gamma_R = 0$)
5. Low weight on inflation ($\gamma_\pi = 1$)
6. High weight on inflation ($\gamma_\pi = 2$)
7. No weight on the output gap ($\gamma_y = 0$)
8. High weight on the output gap ($\gamma_y = 1$)

The rule originally defined in the model (rule 1) is similar to that estimated in the model for the euro area by Smets and Wouters (2003). In rule 2, the central bank does not react to short-term developments in inflation and output. Rule 3 evaluates the impact of the preference for smoothing the interest rate path. If there is no interest rate persistence, the inflation and output targets may be reached faster. Most liter-

(11) The calibrated value is also close to the value estimated for the USA in Christiano *et al.* (2005)

(12) However, when compared to other estimations, namely for the USA, the assumption implies great price rigidity (Christiano *et al.*, 2005).

ature considers as quite valid the hypothesis of interest rate smoothing, since less interest rate volatility may be deemed important for the welfare of the economies. Moreover, the uncertainty regarding the true model of the economy and the impact of shocks warrant a more cautious approach by central banks (Martins, 2000). A simple Taylor rule is also examined, which only reacts to inflation and output deviations (rule 4).

A second string of rules evaluates the relative importance assigned by the central bank to inflation and output stabilisation around the target (rules 5 to 8). The existence of a short-term trade-off between output and inflation stabilisation justifies the analysis of the impact of this option of the central bank on welfare. If the central bank responds to inflation and as a result the interest rate changes less than inflation, monetary policy may then contribute to generate more volatility in the economy (Clarida *et al.*, 2000). Therefore, 1 is the lowest value that the monetary authority is deemed to place on the inflation weight on the rule. As higher values are placed on the inflation weight, the rule gradually allows for sharper shock adjustment (Clarida *et al.*, 2000). If the monetary authority places more relevance on output stabilisation, then its relative weight on the rule is expected to increase.

The results for the different heterogeneity sources (see Charts 1, 2 and 3) show that the comparison of the different rules is not affected by the rigidity source considered. In any case, rules with a higher relative weight on inflation, compared to their weight on the output gap generate better results in terms of welfare in either country and at the union level. In turn, rules with relative higher weight on the output gap lead to higher losses in terms of welfare, when compared to the other rules. In this model, rules with a relatively higher weight on inflation are those that better stabilise this variable. This suggests that, given the effects of the rules on welfare, inflation volatility is relevant for welfare levels. In effect, the agents are deemed to assign high importance to inflation volatility in the welfare function. Inflation volatility is also expected to affect consumption and production decisions by households and firms.

The comparison of the different rules is in line with most literature. Indeed, it seems to be consensual that the central bank should react more strongly to inflation. Clarida *et al.* (1999) mention that, under commitment, the optimal policy leads the central bank to respond more aggressively to inflation than to output. Gomes (2004) indicates that the policies allowing for greater stabilisation of inflation are not the same inducing greater stabilisation of output around the steady-state level.

In turn, the group of policy rules that compare different rule structures (rules 1 to 4) leads to rather close welfare levels, suggesting that the choice of the central bank among the different formulations is not very relevant. If the central bank opts for smoothing the interest-rate path, welfare declines slightly. However, this result may depend on the type and size of the main shocks in the economy.

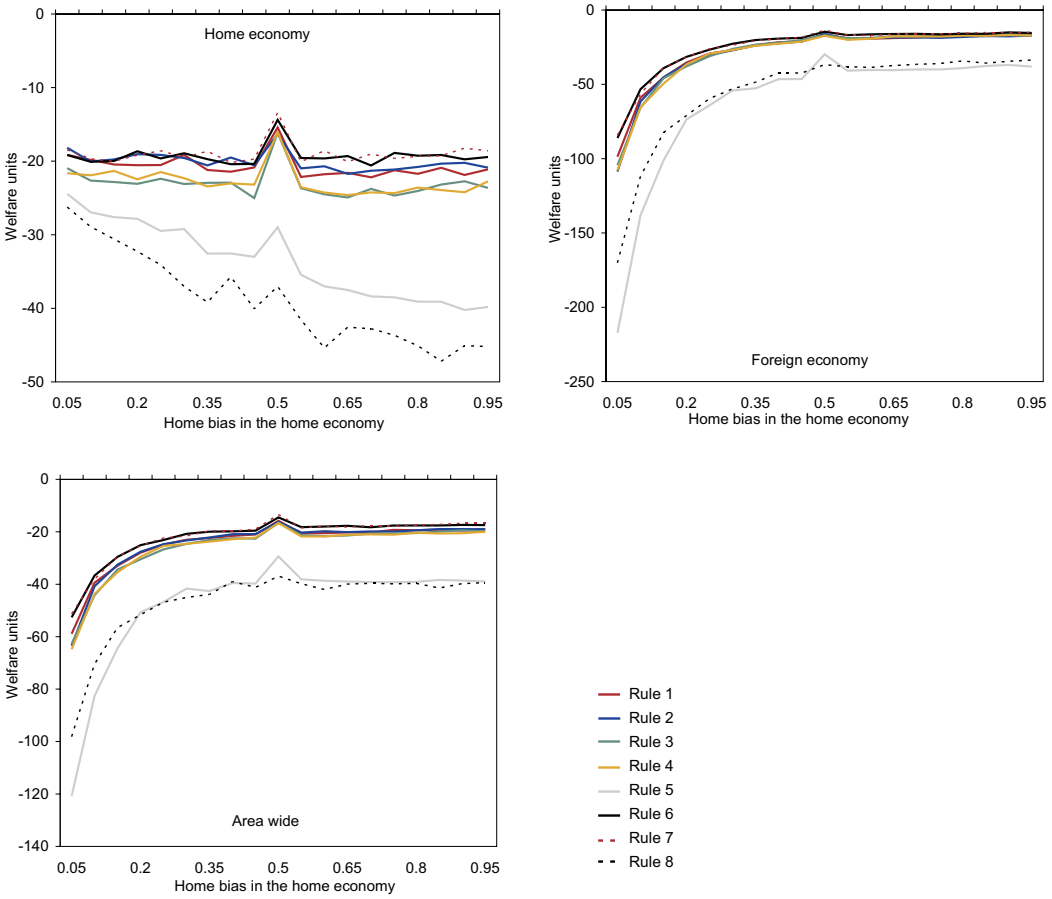
3.3. Heterogeneity as regards the home bias

This sub-section introduces heterogeneity in the monetary union, by changing only one parameter separately in the home economy vis-à-vis the reference calibration (section). The first heterogeneity source to be analysed is the home bias, where the foreign economy remains with no home bias ($\varpi^* = 0.5$). The impact on welfare from changing the home bias in the home economy is analysed, i.e. the scenario when domestic households prefer to consume imported goods ($\varpi < 0.5$) and when they prefer domestically produced goods ($\varpi > 0.5$). Chart 1 presents the main results.

Different levels of home bias across countries has impacts mainly on the steady-state welfare, since the dynamics of the economies remain relatively unchanged. When the home bias is lower in the home economy ($\varpi < 0.5$), preference for domestic goods and, therefore, demand for these goods are lower, as well as their production. Labour utilisation is thus lower in domestic firms. In turn, firms in the foreign

Chart 1

WELFARE LEVELS CONSIDERING DIFFERENT VALUES FOR THE HOME BIAS IN THE HOME ECONOMY



Note: A home bias in the home economy below 0.5 means that households in this country prefer to consume external goods; a value above 0.5 means that households prefer to consume domestic goods.

economy increase production in response to higher demand for their goods and, as a result, the amount of labour used increases. Given that labour elasticity is lower than consumption elasticity in households, sharper changes are observed in consumption than in labour in each country. As a result of the combined effect of the decline (increase) in labour and of the increase (decline) in consumption in the home (foreign) economy in view of these lower levels in home bias in the home country, welfare is slightly higher in the home economy and, in contrast, it is lower in the foreign economy. However, the best result in terms of welfare for the union and for either country is reached when the countries are complementary as regards the home bias, i.e. when the overall preference of the union is similar for goods of either country. This does not mean that the countries must be equal, but if the preference of the home economy for domestic goods is high, then the preference for domestic goods by households in the other country should be low (i.e. $\varpi + \varpi^* = 1$).

3.4. Heterogeneity as regards nominal rigidity

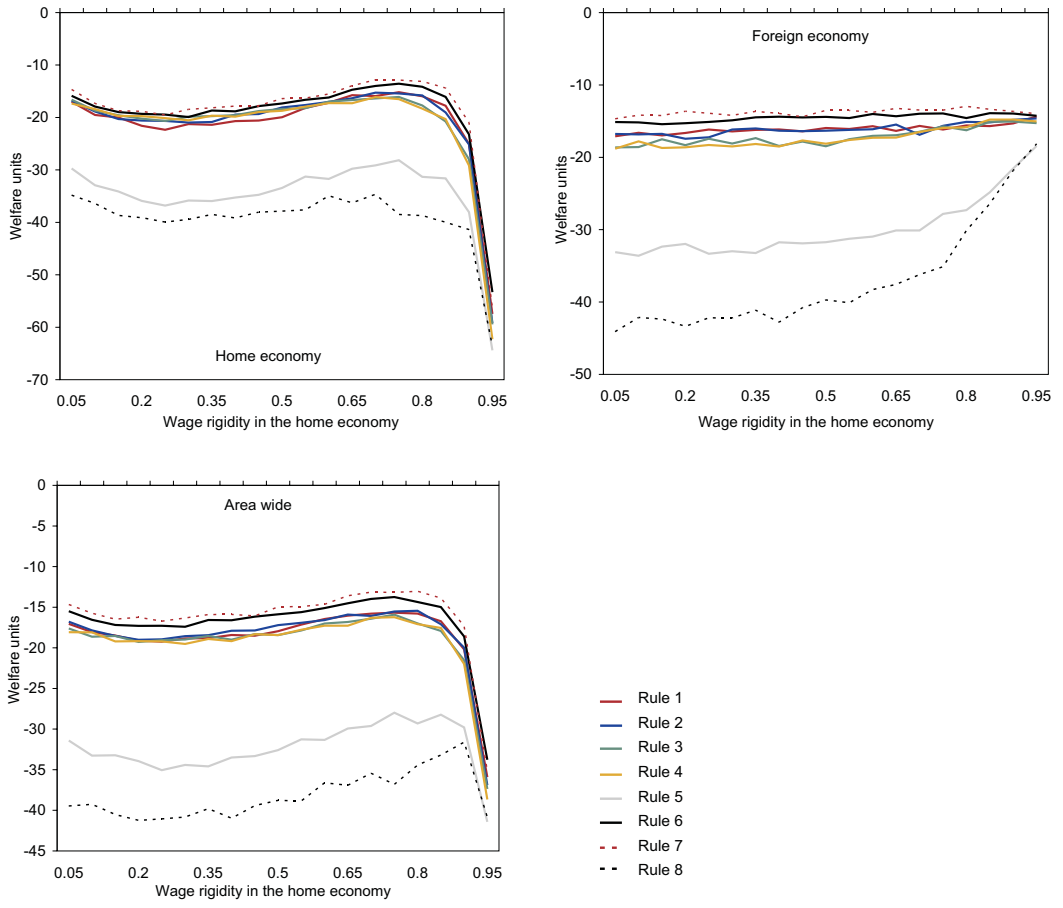
It can be assumed that the economies may differ as regards the degrees of price and wage rigidity. The analysis of the effect of this heterogeneity source requires the parameters reflecting the rigidity degree

on wages ξ_w^D and prices ξ_p^D in the home economy to be changed separately. This type of differences across countries in the union does not change the steady-state welfare, but has significant effects on the dynamics of the economies. Charts 2 and 3 present the results of the impact on welfare of changes in the wage and price stickiness parameters, respectively, of the home economy.

In general, when rigidity is reduced in the home economy while it is high in the foreign economy, this leads to a decline in welfare in either economy. This is chiefly due to the fact that more flexibility generates more volatility, particularly of inflation, which deteriorates welfare. The more flexible country, namely as regards price setting, tends to present a lower welfare level. It is also interesting to stress some results in terms of heterogeneity as regards wage rigidity. On the one hand, whereas wages are more flexible in one of the countries, the impact in terms of welfare is virtually nil. However, when the parameter of wage rigidity is raised in one of the countries, especially above the level of price stickiness, welfare drops significantly. This means that, in addition to heterogeneity at the union level, the interaction between price and wage rigidity also seems to be relevant for welfare. Therefore, this paper also presents a more detailed analysis of these effects.

Chart 2

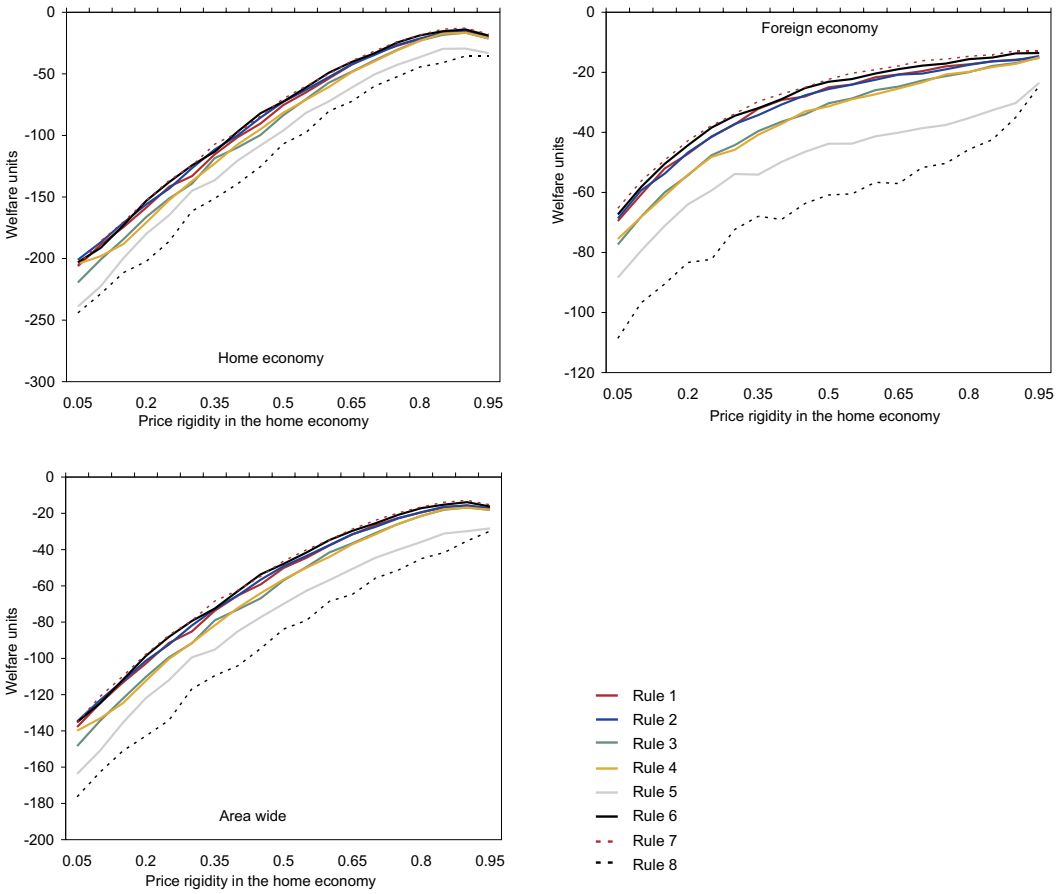
WELFARE LEVELS FOR DIFFERENT DEGREES OF WAGE RIGIDITY IN THE DOMESTIC ECONOMY



Note: The degree of rigidity increases in tandem with its parameter value. In the foreign economy, the wage rigidity parameter stands at 0.7.

Chart 3

WELFARE LEVELS FOR DIFFERENT DEGREES OF PRICE RIGIDITY IN THE HOME ECONOMY



Note: The degree of rigidity increases in tandem with its parameter value. In the foreign economy, the price rigidity parameter stands at 0.9.

3.4.1. Interaction between price and wage rigidity

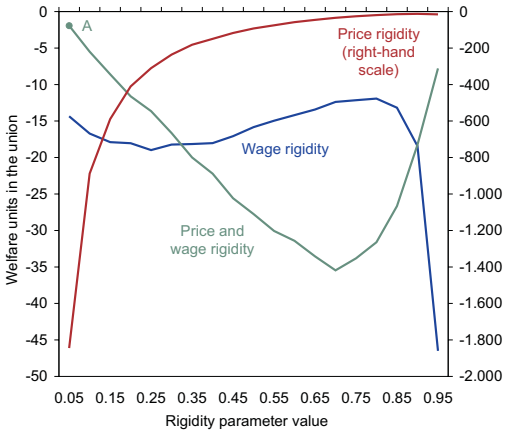
The analysis in this section is presented in two stages: first, considering that countries remain equal at all times, the effects of changing nominal rigidity degrees is evaluated (Chart 4); at the second stage, only the home economy parameters are changed, in order to evaluate the interaction between price and wage rigidity (Chart 5). In either case, the monetary policy rule is maintained (following rule 1 and the central bank keeps on responding to the aggregated variables, and the other countries' parameters are kept unchanged. In addition, this analysis refers only to the effects on short-run dynamics of the economies in response to shocks, given that, as previously mentioned, changes in the nominal rigidity parameters would not change the steady state.

Chart 4 shows that flexible wages and prices actually generate the best situation in terms of welfare (point A in the Chart). When countries start from the scenario of the most flexible prices and wages as possible (panel (b) of Chart 4), increasing stickiness leads to a decline in welfare (moving from the left- to the right-hand side of the Chart), which is all the more significant when only wage rigidity increases while prices remain flexible. In turn, when countries start from the baseline scenario of a high degree of nominal rigidity (panel (a) of Chart 4), raising the overall degree of flexibility of the economies improves welfare, but decreasing only price rigidity while maintaining wages sticky deteriorates welfare. In this

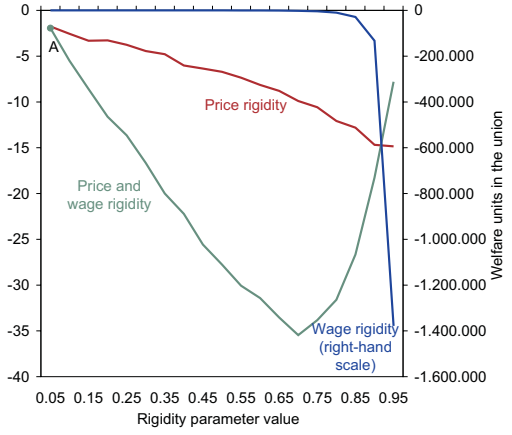
Chart 4

WELFARE LEVELS FOR DIFFERENT DEGREES OF NOMINAL RIGIDITY, MAINTAINING COUNTRIES EQUAL AT ALL TIMES

(a) Countries are rigid at the start



(b) Countries are flexible at the start



Note: Each line corresponds to the union's welfare according to the nominal rigidity parameter being changed in both economies at the same time. Chart (a) illustrates the case where, when only one rigidity source changes, the other source maintains the baseline calibration according to which economies are sticky. Chart (b) illustrates the case where, when only one rigidity source changes, the other source maintains the calibration closer to the flexible price/wage scenario.

case, prices accommodate more the effect of shocks, and therefore inflation becomes more volatile, given that adjustments via wages, which remain sticky, are more time-consuming. This is the worst situation for households and firms. Hence, the main conclusions to be drawn from the interaction among rigidity types with similar countries are the following: (i) more flexibility allows for higher welfare, (ii) price flexibility has an impact on welfare more significant, but (iii) a very high degree of price and wage rigidity also translates into one of the best results in terms of welfare. In this case, prices and wages react little to shocks and, as a result, they show very low volatility, which largely explains this result.

In an economy with sticky wages and flexible prices, firms may easily adjust prices to marginal costs. However, households cannot optimise wages, but may update it to a quite high share (75%) of consumer price inflation in the previous period. Ultimately, price developments are being determined by past inflation, which is also the main determining factor of the central bank response. In turn, wages take much longer to resume their optimal level, and monetary policy does not take into account their development. Therefore, inflation volatility is rather high and, as a result, the welfare level is considerably lower.

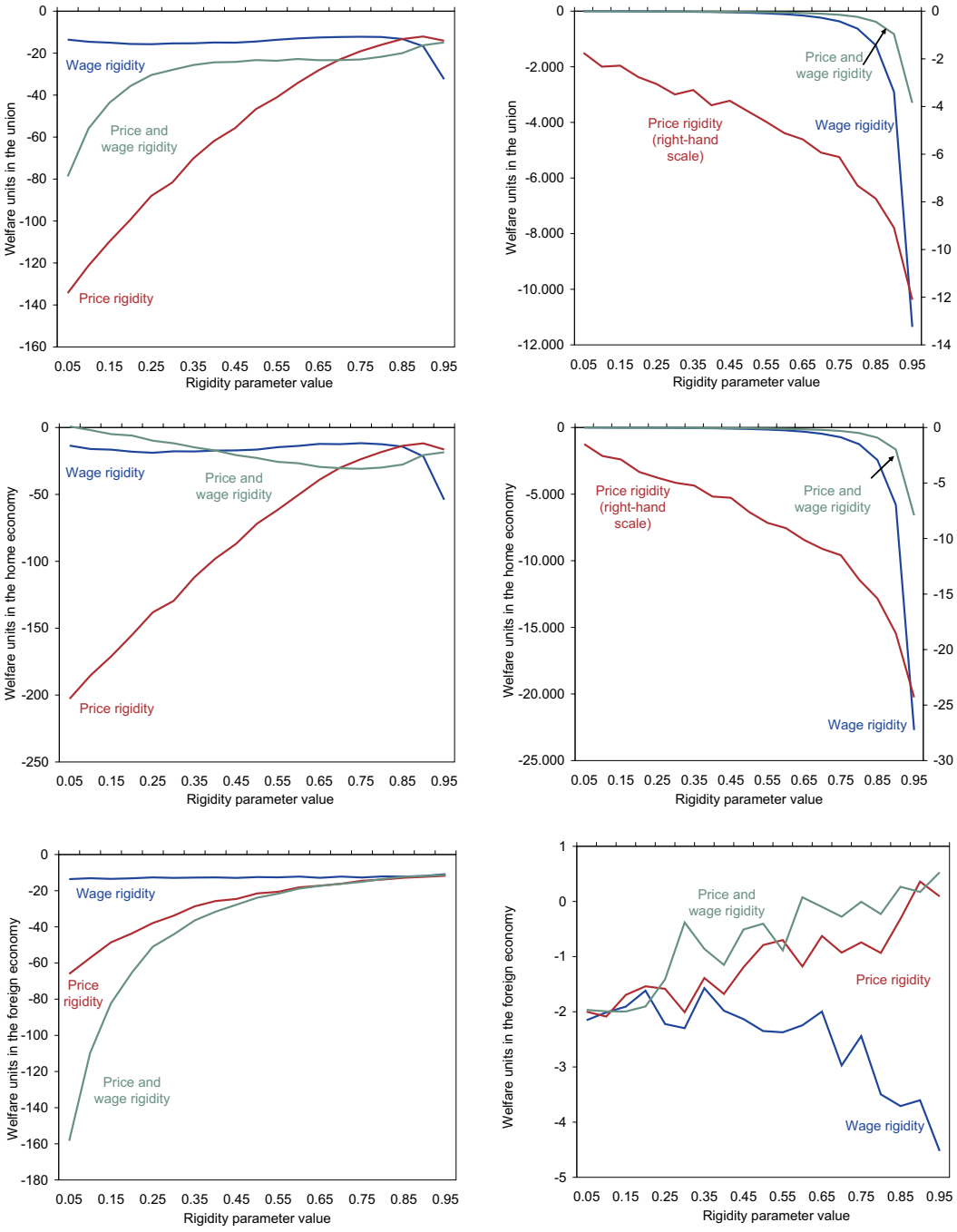
When heterogeneity is introduced across countries as regards the parameters reflecting nominal rigidity, conclusions change slightly. Whereas in Chart 4 countries remain equal at all times, Chart 5 presents the results when nominal rigidity parameters in the home economy are changed, while in the foreign economy the degree of nominal rigidity remains high (panel (a)) or very low (panel (b)). More flexible economies continue to be the preferable situation in terms of welfare, but only when countries are similar. If countries start from a situation of great flexibility and the rigidity degree increases in the home economy (panel (b) of Chart 5), it can be seen that welfare in the foreign economy remains virtually unchanged, but welfare in the home economy drops considerably, more so when only wage stickiness is raised. In turn, if the starting situation is the baseline scenario (section), in which both countries show high nominal rigidity, and if nominal rigidity parameters are changed in the home economy (panel (a) of Chart 5), then there are welfare losses for the union, although this does not imply that the situation deteriorates in both countries. In effect, if the home economy reduces overall rigidity, it may im-

Chart 5

WELFARE LEVELS FOR DIFFERENT DEGREES OF NOMINAL RIGIDITY ON THE HOME ECONOMY

(a) Foreign economy is sticky and home economy rigidity degrees change

(b) Both countries are flexible at the start and increase rigidity in the home economy



Note: Each line corresponds to the welfare according to the nominal rigidity parameter being changed in the home economy. The charts in column (a) illustrate the case where, when only one rigidity source in the home economy is changed, the other source maintains the baseline calibration according to which economies are sticky, as well as the foreign economy calibration. That charts in column (b) illustrate the case where, when only one rigidity source in the home economy is changed, the other source maintains the calibration closer to the flexible price/wage scenario, as well as the foreign economy calibration.

prove welfare, but the situation deteriorates considerably in the foreign economy. The home economy is able to adjust more quickly to shocks and the policy response will be more contained than if both countries were very rigid. This situation would have a negative impact in the most rigid country. In turn, when only one source of nominal rigidity is flexible, there are welfare losses, given that the economy adjustment to shocks occurs via prices or wages, depending on which is more flexible, and via its impact on activity. When the home economy only raises wage flexibility, the decline in the welfare level is relatively low and similar across countries. However, when the home economy only reduces price stickiness while wages remain rigid, then the welfare level drops in both countries, although more markedly in the home economy. In this case, inflation volatility of the home economy is higher because prices adjust more quickly to shocks, thus contributing to a substantial fall in welfare in this country. The abovementioned strong impact on welfare elapsing from the existence of price flexibility with wage rigidity is again confirmed.

From the model analysis, it is possible to conclude that there is an incentive for coordinated policies among the union member regions, which would foster price and wage flexibilisation.

3.5. Countries' weight on the monetary policy rule

There is in literature some papers that seek to evaluate central bank optimal policy in a monetary union with heterogeneity across regions. Benigno (2004) suggests that the central bank should respond more aggressively to inflation in the country with greater rigidity. Jondeau and Sahuc (2008) advance arguments suggesting that central banks should take into account the specificities of the member countries when defining monetary policy.

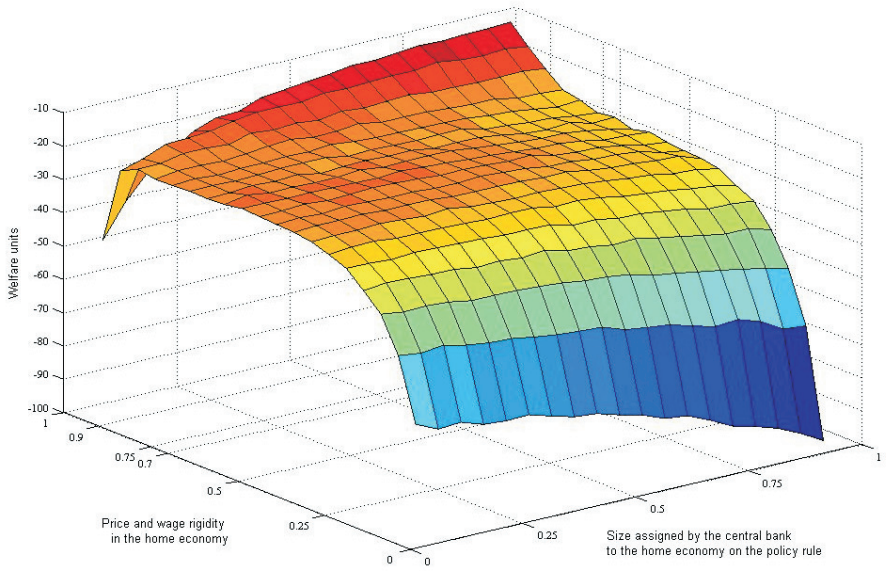
In this context, and evaluating only the impact of simple rules,[13] one can inquire whether, in the context of this model, the central bank should consider the economic behaviour of each country instead of examining only the aggregate. It is assumed that the central bank follows the above rule 2 (Taylor rule with interest rate smoothing), but instead of responding to the aggregated variables calculated from the average of the individual variables weighed by country size, it may weigh inflation and output of each country based on a different share, other than size. In this way, it would be interesting to know which weight the central bank shall assign to each country, considering that these may be different in terms of their nominal rigidity degrees.

The results of the model are in line with the main conclusions found in literature. When there is heterogeneity regarding the degree of nominal rigidity between the union members, and considering that the central bank can observe each country stickiness levels, then the central bank should respond more strongly, relatively to countries' size, to the macroeconomic variables of the more rigid country, since that leads to a higher welfare level. For instance, Chart 6 shows that, in the case of low overall degree of nominal rigidity in the home economy, the welfare of the union would be higher if the central bank would weigh inflation and output in this economy with a weight below the real size of the country. In this case, the adjustment to shocks in the home economy occurs more quickly, wherefore the central bank may seek to contribute more to the stabilisation of the other economy, where this process is slower. The central bank should follow this strategy when countries are different in just one of the two types of rigidity or in both simultaneously. In most cases, this strategy has better results in terms of welfare for the union and for individual countries. It should be mentioned that when countries are more similar, the weight of each country on the rule is closer to the country size and welfare gains due to a change in weight are minimal.

(13) This article does not present an analysis of optimal policy. Galí (2002) mentions that simple rules are a good proxy to optimal rules and, in addition, are better understood by economic agents.

Chart 6

AREA WIDE WELFARE IN CASE OF CHANGES IN THE DEGREE OF OVERALL RIGIDITY IN THE HOME ECONOMY AND IN THE WEIGHT OF THE HOME ECONOMY ON THE MONETARY POLICY RULE



4. CONCLUSION

This articles presents an analysis of the effects on welfare from considering heterogeneity across member countries in a monetary union, based on a two-country simple dynamic stochastic model. Heterogeneity sources considered are the home bias, i.e. the preference of households for consuming domestically produced goods, and the price and wage rigidity degrees.

Some findings on the importance of heterogeneity in a monetary union are presented. As regards the home bias, countries should preferably complement each other, since this would permit them to reach a higher welfare level. The analysis of heterogeneity as regards nominal rigidity degrees leads to the following main conclusions:[14]

- More flexible economies lead to higher welfare for the union, as long as countries are identical, especially as regards nominal rigidity levels;
- Price flexibility with wage rigidity has a strong negative effect on welfare;
- Introducing heterogeneity in nominal rigidity degrees across countries in a monetary union may have negative effects on welfare, justifying coordination among countries;
- If the central bank can observe country specificities, it should respond more aggressively to deviations from target of the most rigid country.

(14) It should be recalled that these conclusions derive from the analysis of short-term dynamics of the economies in response to shocks considered in the model, since different nominal rigidity levels do not change the steady state in this model.

Nevertheless, it is important to recall that these findings are taken from simulations carried out in a simple model, not including capital or government. Therefore, with a view to enrich the study and understanding the robustness of the results, a future research line could incorporate capital and government in the model, since the interaction between monetary policy and fiscal policy may ease or even eliminate the negative effects of asymmetries or idiosyncratic shocks in a monetary union (Adão *et al.*, 2006).

Given the importance of wage rigidity when prices are sticky, there is a possibility that labour mobility at the union level could alleviate such negative effects, given that firms may better adjust production according to the specific shocks affecting the economies.

Finally, bringing the model closer to statistical data, another possible line of future research could be the estimation of the model. Following Pytlarczyk (2005),[15] one could assume that one of the countries would be Portugal and the other would be the rest of the euro area. This would make it possible to investigate the possible structural differences and the effects of monetary union in Portugal.

5. APPENDIX

5.1. The model defined in terms of log-deviations from the steady state

Consumption: $\hat{C}_t^D = \frac{h}{1+h}\hat{C}_{t-1}^D + \frac{1}{1+h}E_t\hat{C}_{t+1}^D + \frac{1-h}{\sigma_c(1+h)}(\hat{\varepsilon}_t^b - E_t\hat{\varepsilon}_{t+1}^b) - \frac{1-h}{\sigma_c(1+h)}(\hat{R}_t - E_t\hat{\pi}_{t+1}^{cD})$

Real wage: $\hat{w}_{D,t} = \frac{\beta}{1+\beta}E_t\hat{w}_{D,t+1} + \frac{1}{1+\beta}\hat{w}_{D,t-1} + \frac{\beta}{1+\beta}E_t\hat{\pi}_{t+1}^{cD} - \frac{1+\beta\gamma_w}{1+\beta}\hat{\pi}_t^{cD} +$

$$+\frac{\gamma_w}{1+\beta}\hat{\pi}_{t-1}^{cD} - \frac{1}{1+\beta}\frac{(1-\beta\xi_w^D)(1-\xi_w^D)}{(1+\varphi\sigma_L)\xi_w^D}\left[\hat{w}_{D,t} - \sigma_L\hat{L}_t^D - \frac{\sigma_c}{1-h}(\hat{C}_t^D - h\hat{C}_{t-1}^D) - \hat{\varepsilon}_t^{LD}\right]$$

Producer price inflation:

$$\hat{\pi}_{D,t} = \frac{\beta}{1+\beta\gamma_p}E_t\hat{\pi}_{D,t+1} + \frac{\gamma_p}{1+\beta\gamma_p}\hat{\pi}_{D,t-1} + \frac{1}{1+\beta\gamma_p}\frac{(1-\beta\xi_p^D)(1-\xi_p^D)}{\xi_p^D}(\hat{w}_{D,t} - \hat{A}_t^D)$$

Consumer price inflation: $\hat{\pi}_t^{cD} = \varpi\hat{\pi}_{D,t} + (1-\varpi)\hat{\pi}_{F,t}$

Production function: $\hat{Y}_t^D = \phi^D(\hat{A}_t^D + \hat{L}_t^D)$

Market equilibrium: $\hat{Y}_t^D = \varpi T^{1-\varpi}\frac{C^D}{Y^D}\left[(1-\varpi)\hat{T}_t + \hat{C}_t^D\right] + \varpi^*\frac{1-n}{n}T^{1-\varpi}\frac{C^f}{Y^D}\left[(1-\varpi^*)\hat{T}_t + \hat{C}_t^F\right]$

Aggregate variables for the area: $\hat{\pi}_t = n\hat{\pi}_t^{cD} + (1-n)\hat{\pi}_t^{cF}$

$$\hat{Y}_t = \hat{C}_t$$

$$n\hat{Y}_t^D + (1-n)\hat{Y}_t^F = n\hat{C}_t^D + (1-n)\hat{C}_t^F$$

Monetary policy rule: $\hat{R} = \gamma_R\hat{R}_{t-1} + (1-\gamma_R)(\gamma_\pi\hat{\pi}_t + \gamma_y\hat{Y}_t) + \gamma_{\Delta\pi}(\hat{\pi}_t - \hat{\pi}_{t-1}) + \gamma_{\Delta y}(\hat{Y}_t - \hat{Y}_{t-1}) + \hat{m}_t$

Welfare function:

(15) Pytlarczyk (2005) presents an estimated model for Germany and the rest of the euro area.

$$W_t^D = \overline{U}^D(C^D) + \overline{U}_{C^D}(C^D)C^D \left[\begin{array}{l} (\hat{C}_t^D - h\hat{C}_{t-1}^D) + \frac{1}{2}((\hat{C}_t^D)^2 - h^2(\hat{C}_{t-1}^D)^2) - \\ -\frac{\sigma_c}{2(1-h)}(\hat{C}_t^D - h^2\hat{C}_{t-1}^D)^2 + \frac{1-h}{2(1-\sigma_c)}(\hat{\varepsilon}_t^{bD})^2 + \\ +\hat{\varepsilon}_t^b(\hat{C}_t^D - h^2\hat{C}_{t-1}^D) - u_1(\hat{\pi}_{w,t}^D - \gamma_w\hat{\pi}_{D,t-1})^2 - \\ -u_2(\hat{\pi}_{D,t} - \gamma_P\hat{\pi}_{D,t-1})^2 - u_3(\hat{Y}_t^D)^2 + u_4\hat{Y}_t^D\hat{A}_t^D - \\ -u_5\hat{Y}_t^D(1+\hat{\varepsilon}_t^{bD} + \hat{\varepsilon}_t^{LD}) \end{array} \right]$$

5.2. Model calibration

Table 1

PARAMETER VALUES USED IN THE CALIBRATION AND SIMULATION OF THE MODEL IN HOMOGENEOUS COUNTRIES (EQUAL PARAMETERS IN BOTH ECONOMIES)

Parameter	Description	Value
β	Intertemporal discount factor	0.99
h	Consumer persistence	0.6
σ_c	Relative risk aversion coefficient on consumption	1.4
ϖ	Home bias	0.5
σ_L	Relative risk aversion coefficient on labour supply	2.4
γ_w	Wage indexation	0.75
ξ_w	Probability of not optimizing wages	0.7
φ	Labour demand elasticity	3
γ_p	Price indexation	0.5
ξ_p	Probability of not optimizing prices	0.9
θ	Price elasticity	6
n	Size of the home economy	0.5
γ_R	Interest rate smoothing	0.8
γ_π	Weight of inflation on the monetary policy rule	1.7
γ_y	Weight of the output gap	0.1
$\gamma_{\Delta\pi}$	Weight of the inflation differential	0.15
$\gamma_{\Delta y}$	Weight of the output differential	0.15
ρ_b	Persistence of the preference shock	0.85
ρ_L	Persistence of the labour supply shock	0.89
ρ_a	Persistence of the productivity shock	0.82
ρ_m	Persistence of the monetary policy shock	0
	Size of the preference shock	0.4
	Size of the labour supply shock	3
	Size of the productivity shock	0.6
	Size of the monetary policy shock	0.1

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EQUITY RISK *PREMIA* ACROSS MAJOR INTERNATIONAL MARKETS*

*Isabel Marques Gameiro***

An important element in interpreting financial market prices is the identification of the risk *premia* they contain. Risk premium is defined as the additional compensation required by investors for holding a risky security. The analysis is, however, complicated due to the fact that neither the premium nor their main drivers are directly observable. In addition, the risk premium may vary over time according to the investors' perception of the underlying risk of the asset and their attitude towards risk. This means that the equity premium moves as uncertainty regarding corporate earnings prospects changes but also as investors change their risk appetite. In this article we analyse movements in equity risk *premia* in several major international stock markets, try to identify common influences across international markets and their association with a general shift in investors risk appetite. Once the common factor has been isolated we estimate country-specific influences on the equity risk *premia*. Finally, we assess the relative importance of the common and the country-specific components in explaining the behaviour of the equity risk *premia* since 1995, with a special focus on the current crisis.

The article is organised in four sections. The first section briefly describes the methodology used to estimate the equity risk *premia*, the data used and shows the derived indicators of the risk *premia*. In the second section, in the context of the Arbitrage Pricing Theory we try to evaluate the existence of a common influence on the risk *premia* across countries, using the principal component analysis. In section 3 we present estimates for the market-specific influences on the equity risk premium of each country. In section 4 we conclude.

1. THE EQUITY RISK PREMIUM

Modern asset pricing models are based on the assumption that people engage in asset transactions with the aim of optimally distributing consumption over time. People seek to equate the marginal benefit of consuming one more unit today to the marginal benefit of investing this unit in an asset and eventually selling it in order to consume the profits in the future. This gives rise to an arbitrage condition between the risk-adjusted expected rate of return of the asset and a risk-free interest rate so that the market value of a given asset is given by the present risk-adjusted discounted value of its expected income stream. We use a present value model, where the price of equity is related to expected future cash flows to derive the equity risk *premia*. Specifically we subtract the real risk-free interest from the real required return on equity implied in the model. Thus our measure of equity risk premium corresponds to what is called in the financial literature "excess return". Variables have been converted to real figures by subtracting inflation expectations for each economy. We used the three-stage dividend discount model developed by Fuller and Hsia (1984), which assumes three distinct phases of dividend growth[1]. In the initial phase (the first four years), and adopting a constant payout ratio, we assume that the dividend growth rate is equal to market analysts' earnings growth projections. In the second stage,

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(1) Panigirtzolou and Scammel (2002) show that the three-stage dividend discount model tracks relatively well the level of equity prices in the UK and in the USA from early 90s to 2001

which is an interim period (assuming to last for eight years[2]) the dividend growth rate is assumed to linearly converge to the long term growth rate which is reached in the third stage and extends into the indefinite future. The long-term growth rate of real corporate earnings is assumed to be in line with estimates for trend potential growth. In this model the equilibrium price of a stock market index can be expressed as:

$$P_t = \frac{D_t \left[(1+g) + 8(g_t^a - g) \right]}{d_t - g} \quad (1)$$

Where P_t is the equity price index, D_t the current level of dividends, g is the expected long-run dividend growth rate, g_t^a is the market analysts' expected dividend growth rate over the next four years and d_t the discount rate which is calculated as a residual term. The equity risk premium is obtained by subtracting a real risk-free interest rate from the discount factor.

This approach has the advantages of being market driven and of providing an ex-ante measure of risk premium. Indeed, most of the available estimates of risk premium use historical data on equity and thus are ex-post measures. However, when interpreting the results it should be born in mind that this approach implies the assumption that market analysts' earnings forecasts are reasonable estimates and that the indexes are correctly priced.

1.1. Data

We use MSCI equity indices for the following markets in the period from January 1995 to October 2008: Australia, Austria, Belgium, Canada, China, Finland, France, Germany, Hong Kong, India, Ireland, Italy, Netherlands, Portugal, Singapore, Spain, Sweden, Switzerland, UK and USA. We use Institutional Broker's Estimate System (IBES) estimates for current dividend yields and IBES market analysts' earnings growth projections as proxies for dividend growth rates over the next four years. All these data are obtained from Thomson Reuters.

The risk-free interest rate is approximated by the 10-year government bond yield, whenever available. For China we take as reference a 5-year saving deposit rate and for Hong Kong and Singapore a three-month Treasury bill rate. These data are obtained from Thomson Reuters.

For inflation expectations we construct averages of consumer inflation monthly forecasts reported by Consensus Economics for all countries except Australia, China, Hong Kong, India and Singapore. For month m of a given year t, the inflation expectations $\Pi_{m,t}^e$ are defined as:

$$\Pi_{m,t}^e = \frac{(13-m)}{12} * \Pi_t^e + \frac{(m-1)}{12} * \Pi_{t+1}^e$$

For Australia, China, Hong Kong, India and Singapore we proxy inflation expectations by the observed year-on-year rate of change of consumer prices.

As regards estimates for growth in potential output for all countries but China, Hong Kong, India, Portugal and Singapore we use OECD estimates. For Portugal potential GDP growth rate is based on the results of Almeida and Felix (2006). For China and Hong Kong we use estimates by the World Bank, and for Singapore we use IMF estimates. Potential GDP growth rate estimates for India are based on the results of Ranjan *et al* (2007).

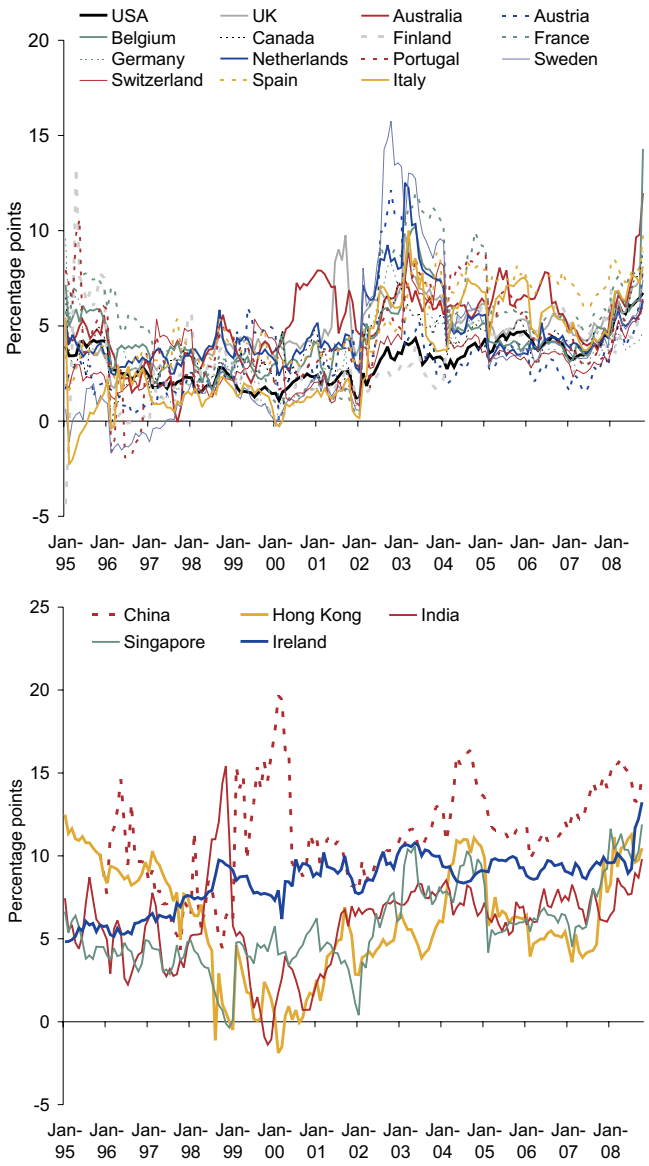
(2) The length of the transitions period is subjective. A eight years period is widely used in empirical applications (see for example Panigirtzolou and Scammel (2002) and ECB (2005)).

1.2. Results

Chart 1 plots the estimated measures of equity risk premium for twenty markets in the period from January 1995 to October 2008. A number of observations are worth making. First, there has been considerable variation over time in equity risk *premia* across markets. Second, there seems to be a co-movement of international equity risk *premia*, in the sense that markets tend to move up or down together. This is also evident from bivariate correlation coefficients for the equity risk premium across the twenty markets (see annex).

Chart 1

EQUITY RISK *PREMIA*



Source: Banco de Portugal calculations.

Table 1 shows the average equity risk premium for each country in the period under review. China and Ireland have the highest average equity risk premium (11 and 8 per cent, respectively), while the USA, Austria, Finland and Switzerland registered the lowest levels (close to 3 per cent). The equity risk premium in the other countries averaged around 3.5 to 6 per cent (4.3 per cent in the case of Portugal).

Table 1

EQUITY RISK PREMIUM: AVERAGE JANUARY 1995 TO OCTOBER 2008

(p.p.)

	1995-2008		1995-2008
Australia	5.1	Ireland	8.4
Austria	3.2	Italy	3.5
Belgium	4.4	Netherlands	4.6
Canada	3.9	Portugal	4.3
China	11.3	Singapore	5.7
Finland	3.3	Spain	5.2
France	5.2	Sweden	3.5
Germany	3.5	Switzerland	3.3
Hong Kong	6.0	United Kingdom	4.8
India	5.9	USA	3.1

Source: Banco de Portugal calculations.

2. COMMON FACTORS DRIVING EQUITY RISK *PREMIA*

We now try to understand the movements in equity excess returns across countries on the basis of the effect of common (international) factors and country-specific factors. To do this we resort to the Arbitrage Pricing Theory (APT),[3] which predicts that the rate of return of any security is a linear function of *K* factors. For the system of *N* assets:

$$\mu = \lambda_o + B\,\lambda_K \qquad (2)$$

Where μ is the (N×1) vector of expected returns, λ_o is the risk-free return, λ_K is a (K×1) vector of factor risk *premia* and *B* is a (N×K) matrix of factor sensitivities of the returns. The APT specifies neither the number of factors nor the identification of factors. We assume that the equity risk premium for each country can be decomposed into two components: a common factor which is driven by international forces that are common to the twenty markets considered and a country (market) specific factor:

$$\rho_{it} = a_i + \beta_i C_t + \alpha_i S_{it} + \varepsilon_{it} \qquad (3)$$

Where ρ_{it} refers to the equity risk premium of country *i* in period *t* (estimated in the section above); C_t is a set of common influences on the equity risk premium; S_{it} are specific factors; β_i and α_i are parameters that measure the sensitivity of country *i* equity risk premium to the common and country-specific influences factors respectively and ε_{it} are errors that cannot be accounted for in the model.

To identify the factors two type of approaches are typically used: statistical and theoretical (see Campbell *et al*, 1997). We follow a statistical approach namely the principal component analysis (PCA). The principal components are summary measures capturing the co-movements of a variety of indicators. Accordingly, PCA allows detecting common influences that might be driving equity risk *premia* across markets. If the series taken into consideration follow a common pattern, the first principal component should be able to explain most of their joint variation. Indeed, applying the PCA approach it is found

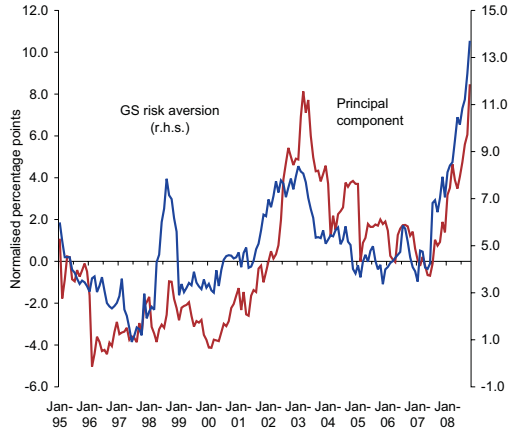
(3) The APT is an equilibrium model of asset pricing derived under the usual assumption of perfectly competitive and frictionless capital markets, see Ross (1976).

that there is one significant common factor that captures slightly more than 50 percent of the total variance of the equity risk premium across markets.[4] There can be different interpretations of the first principal component. Theory suggests that one of the factors that affect the risk premium is the change in risk appetite.[5] A low appetite for risk results in a higher cost of capital. Thus the first principal component of the equity premium might capture systemic changes in international investors risk appetite (like the Asian financial crisis in 1997, the bust of the dotcom bubble in 2002-2003 and the more recent subprime mortgage crisis). This would be in line with empirical results that find that the risk attitude from different equity markets has a significant common component, indicating that investors' sentiment transcends national boundaries (see, for example, Tarashev *et al* (2003) and Cappiello *et al* (2008)).

Chart 2 shows that there seems to be an association between the first principal component of equity risk premium and a risk aversion index calculated by Goldman Sachs.[6] They tend to move broadly together and the contemporaneous correlation is 0.7. Equity markets seemed to have weathered well the financial turbulence in August 1998 in the context of the LTCM and Russian crisis. In particular, while risk aversion measured by the GS index increased significantly, the rise in the international equity risk premium (proxied by the first principal component) was rather limited. However, in the period of high risk aversion that goes from end-2001 until March 2003 and which corresponds to the bust of the dotcom bubble and WorldCom accounting scandals, a significant increase in the international equity risk premium took place. Since the summer of 2007 risk aversion increased again to a very high level. Equity markets initially appear remarkably resilient.[7] However, the persistence of strains in the finan-

Chart 2

PRINCIPAL COMPONENT AND RISK AVERSION INDEX



Sources: Goldman Sachs and Banco de Portugal calculations.
Nota: The GS risk aversion index measures investors willingness to invest in risky assets as opposed to risk-free securities, building on the premises of a consumption capital asset pricing model. A higher value of the index implies higher risk aversion and, other things being equal, less willingness to allocate investments towards risky assets.

(4) The factor loadings on the first principal component are positive and similar in terms of magnitudes for all countries, except for the case of China and Hong Kong that have lower factor loadings.

(5) Risk appetite encompasses the notion of risk aversion, i.e, the subjective attitude of investors with regard to uncertainty, but is also influenced by the overall level of uncertainty about the fundamental factors that drive asset prices (see Gai and Vause, 2005).

(6) The Goldman Sacks risk aversion index is based on a standard consumption model of capital-asset pricing. The index is constructed using US data only: real per-capita consumption, yields on 3-month t-bills and returns on the S&P500 index (for details see Goldman Sachs, 2003 and European Central Bank, 2007).

(7) This could reflect the fact that non-financial firms entered the turmoil from a relatively strong financial position and also a lagged perception of the impact of the propagation shocks to an increasing number of financial markets segments, sectors of activity and countries.

cial system in combination with high commodity prices up to mid-2008 gave rise to perceptions of a worsening outlook for economic growth globally and for near-term prospects of corporate earnings, which fuelled an increase in the international equity risk premium for maximum levels. Presently, both indicators show a significant upward revision of risk to levels above the ones reached in the period following the bust of the dotcom bubble in 2002-2003.

The analysis above suggest that the first principal component of the equity risk *premia* is likely to capture changes in risk appetite in equity markets across the globe and therefore could be used as an additional measure of global change in risk appetite. This measure can be updated daily and has also the advantage of including data for several countries while most measures of investor's risk appetite, including the GS index, are based on US data only. [8]

3. MARKET-SPECIFIC FACTORS

After having identified a common component it is possible to isolate other factors in order to try to capture the potential country-specific influences on the equity risk premium. With this aim, we took the residuals of an OLS regression of each country equity risk premium in the first principal component (i.e. the international risk premium). Table 2 shows these results. The first principal component is statistically significant in explaining the equity risk premium for all countries, except Hong Kong and China, and the coefficients have the expected sign. In addition, the results indicate that the sensitivity of the equity risk premium to the international driving force is about 1 for Sweden and above 0.7 for France and Italy. On the other hand, the sensitivity of the equity risk premium to the international component is lower in the USA, Finland and Ireland (the coefficient associated with the first principal component is around 0.3). In Portugal, the sensitivity of the equity risk premium to the international risk premium is similar to the one observed in Germany and Spain (about 0.5). The R-square of the regressions sug-

Table 2

OLS REGRESSIONS OF THE EQUITY RISK PREMIUM IN THE PRINCIPAL COMPONENT

Regressions	Constant			Principal component			R-squared
	Coefficient	HACSE [(a)]	t- HACSE	Coefficient	HACSE [(a)]	t- HACSE	
(1) Australia	5.11	0.22	22.90	0.39	0.07	5.70	0.44
(2) Austria	3.24	0.25	12.90	0.38	0.10	3.82	0.34
(3) Belgium	4.43	0.15	28.60	0.45	0.06	7.75	0.64
(4) Canada	3.88	0.10	40.50	0.40	0.04	10.60	0.70
(5) China	11.27	0.46	24.50	0.27	0.14	1.86**	0.09
(6) Finland	3.27	0.28	11.70	0.32	0.09	3.76	0.21
(7) France	5.24	0.26	20.20	0.72	0.08	8.64	0.68
(8) Germany	3.53	0.17	20.70	0.47	0.06	7.84	0.64
(9) Hong Kong	5.99	0.53	11.30	0.31	0.17	1.86 **	0.09
(10) India	5.92	0.34	17.30	0.42	0.09	4.76	0.27
(11) Ireland	8.44	0.19	43.60	0.34	0.04	7.82	0.45
(12) Italy	3.47	0.22	16.00	0.71	0.05	14.90	0.72
(13) Netherlands	4.59	0.17	26.20	0.45	0.08	5.82	0.64
(14) Portugal	4.31	0.22	19.40	0.52	0.07	7.24	0.54
(15) Singapore	5.65	0.22	25.70	0.62	0.06	9.89	0.66
(16) Spain	5.16	0.20	26.10	0.49	0.06	8.04	0.62
(17) Sweden	3.46	0.29	12.00	1.00	0.12	8.51	0.75
(18) Switzerland	3.36	0.18	19.20	0.35	0.06	5.66	0.50
(19) United Kingdom	4.81	0.14	34.30	0.38	0.03	12.70	0.63
(20) USA	3.15	0.13	24.00	0.29	0.05	6.02	0.58

Notes: (a) Heteroscedasticity and autocorrelation-consistent standard errors. ** Not different from zero at 5% significance level.

(8) For other measures of investors' risk appetite see for example European Central Bank (2007), Diebold (2008) and González-Hermosillo (2008).

gest that the international equity risk premium can account for a sizable part – between 50 and 75 per cent - of the variation of the risk premium in most of the countries considered. In the regressions, the constant captures the mean of the risk premium. Differences between the constants among the countries considered are likely to be related to country-level factors such as corporate governance, accounting standards, legal environments and enforcement and sector composition of the stock market indices/equity market depth (Witmer, 2008).

Charts 3 to 22 plot the equity risk premium (minus the constant, in equation) for each country and the country-specific influence (which include the errors, ε_{it} from equation (3)),[9] that allows the examination of the relative importance of the common and market specific factors for the movements in the deviations from mean of the equity risk *premia*.

In Hong Kong and China and, to a lesser extent, in Austria, Finland and India the equity risk premium developments in the period under review seem to have been mainly driven by country-specific influences. While it is not the purpose of this article to investigate the reasons behind this outcome, the results for China and India might reflect the fact that, at least for part of the sample, these stock markets are less internationally integrated. In the case of Finland, it should be mentioned that Nokia accounts for about a third of the market capitalization of the Helsinki Stock Exchange (OMX Helsinki) as of 2007.

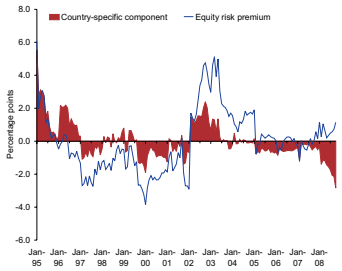
In the period from 1996 to the end of 2001, the common/international component seems to have had a negative contribution to the equity risk *premia* across the globe. It is worth noting that this period was characterised by a high "appetite for risk" by investors, the so-called "Irrational Exuberance" period (see Shiller, 2000). In contrast, the significant rise in equity risk *premia* in 2002 and 2003 was in general determined by the international component.

Focusing on the more recent period of financial turmoil (since June 2007), there has been a global rise in equity risk *premia*, which in the case of the USA, Australia, Belgium, Canada, Ireland, Singapore and Spain jumped to maximums for the period considered. For the USA the results suggest that the country-specific factor was the dominant influence explaining the increase in the equity risk premium until recently (Chart 5). This is not too surprising since the current financial turmoil was originated in the USA subprime mortgage market which quickly spread to other segments of financial markets and in parallel with the housing market correction depressed the growth outlook in the USA. It is interesting to note that the country-specific component started to have a positive contribution to the equity risk premium in the USA in 2005, when the housing correction started. As the time as passed and the negative macroeconomic impact of the crisis spread to a wider number of sectors of activity and countries, the influence of the international component in the US equity risk premium became more significant. Indeed, the international component might be capturing the global decline in risk appetite but also other common effects like downward revisions of growth expectations across the globe. Country-specific factors have also had a significant positive contribution to the recent rise in the equity risk *premia* in Australia, Canada and Singapore, countries that have also experienced significant increases in house prices over the past decade[10](Charts 7, 10 and 17). As for the US, the influence of the international component in the equity risk premium of these countries turned relatively more significant in the last few months. In contrast, in all Western European countries the rise in the equity risk *premia* was mainly determined by the international component. In several of these countries – like Germany, Portugal, France, the Netherlands and Sweden – the country-specific component has been having a negative contribution to the risk premium. In fact, in these countries the equity risk *premia* are still significantly below the peaks reached in 2002-2003. In the other European countries considered, in particular in the UK, Austria, Belgium, Finland, Ireland, Italy, Spain and Switzerland, the country-specific component

(9) $\alpha_i S_{it} + \varepsilon_{it}$.
(10) See IMF (2008a) and IMF (2008b).

Chart 3

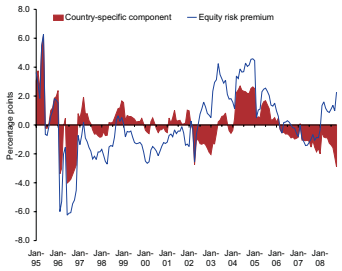
GERMANY



Source: Banco de Portugal calculations.

Chart 4

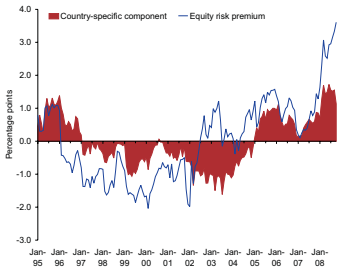
PORTUGAL



Source: Banco de Portugal calculations.

Chart 5

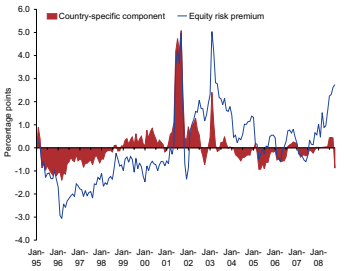
USA



Source: Banco de Portugal calculations.

Chart 6

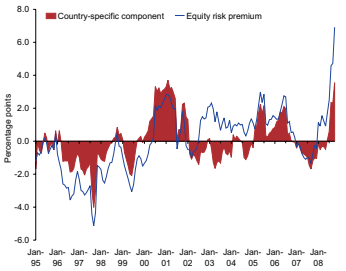
UNITED KINGDOM



Source: Banco de Portugal calculations.

Chart 7

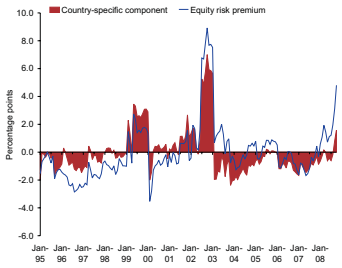
AUSTRALIA



Source: Banco de Portugal calculations.

Chart 8

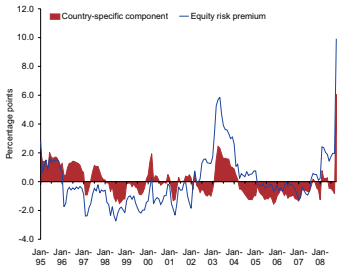
AUSTRIA



Source: Banco de Portugal calculations.

Chart 9

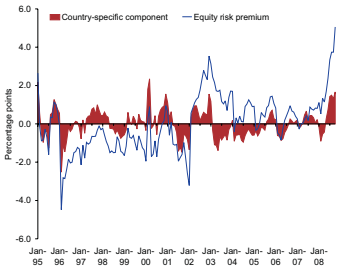
BELGIUM



Source: Banco de Portugal calculations.

Chart 10

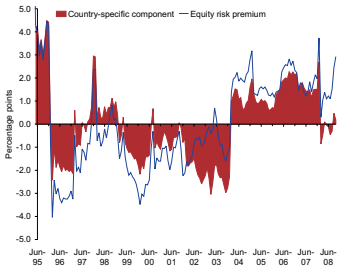
CANADA



Source: Banco de Portugal calculations.

Chart 11

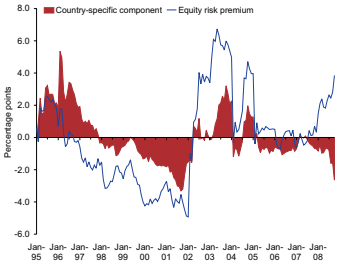
FINLAND



Source: Banco de Portugal calculations.

Chart 12

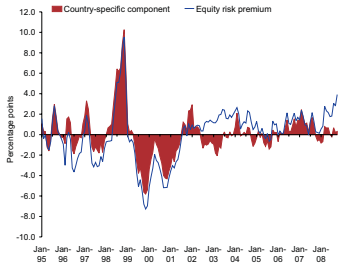
FRANCE



Source: Banco de Portugal calculations.

Chart 13

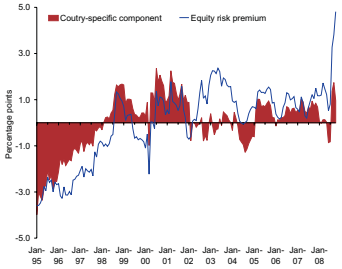
INDIA



Source: Banco de Portugal calculations.

Chart 14

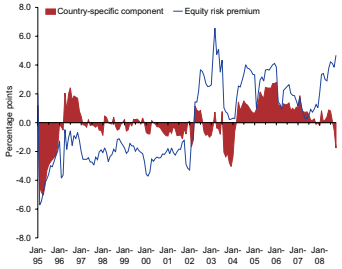
IRELAND



Source: Banco de Portugal calculations.

Chart 15

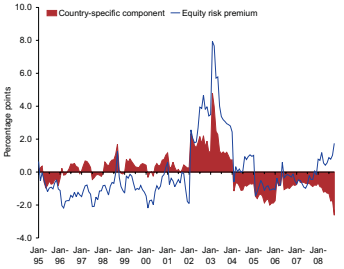
ITALY



Source: Banco de Portugal calculations.

Chart 16

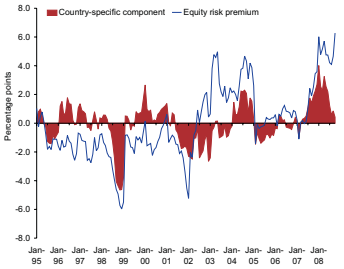
NETHERLANDS



Source: Banco de Portugal calculations.

Chart 17

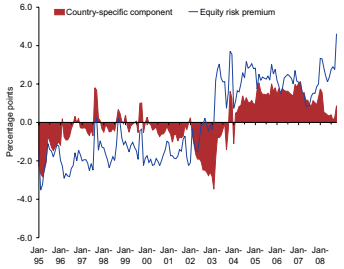
SINGAPORE



Source: Banco de Portugal calculations.

Chart 18

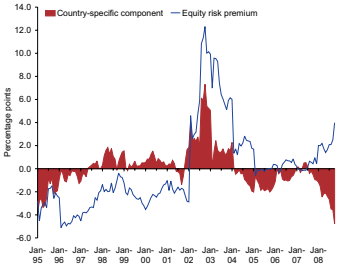
SPAIN



Source: Banco de Portugal calculations.

Chart 19

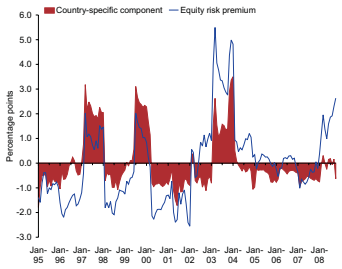
SWEDEN



Source: Banco de Portugal calculations.

Chart 20

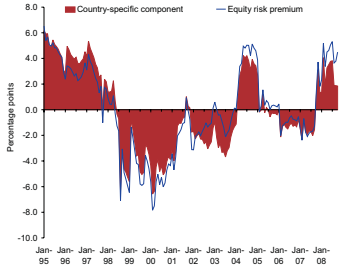
SWITZERLAND



Source: Banco de Portugal calculations.

Chart 21

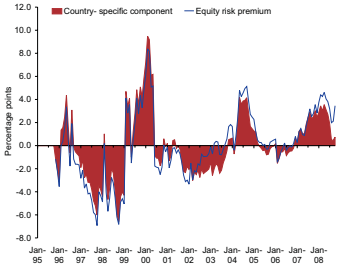
HONG KONG



Source: Banco de Portugal calculations.

Chart 22

CHINA



Source: Banco de Portugal calculations.

has had a minor positive contribution to the increase in equity risk *premia*. However, it should be noted that in the last few months the country-specific component contributed significantly to the abrupt rise in the equity risk premium in Belgium and Ireland.

4. CONCLUSIONS

This article presents estimates of the equity risk premium for major international markets in the period from January 1995 to October 2008. Equity risk *premia* vary significantly over time and appear positively correlated across countries. This suggests the presence of a common influence. However, the equity risk premium also appears to have an important country-specific component that varies across countries.

In the context of an Arbitrage Pricing Theory model and using a statistical approach, we find that one significant common factor captures slightly more than 50 percent of the total variance of the equity risk premium across markets. There seems to be an association between this principal component and a widely used risk aversion index calculated by Goldman Sachs, suggesting that our measure might capture systemic changes in international investors risk appetite. Our measure can be updated daily and includes data for several countries while most measures of investor's risk appetite, like the GS index, are based on USA data only. The principal component is statistically significant in explaining the equity risk premium for all countries, except Hong Kong and China. The sensitivity of the equity risk premium to the common/international driving force is higher in Sweden, and to a lesser extent, in France and Italy and lower in USA, Finland and Ireland.

In the more recent period of financial turmoil, although equity markets first appeared remarkably resilient, as the credit turmoil intensified and it became apparent that was starting to hurt the real economy, the equity premium across markets jumped reaching peaks in some countries, such as the USA, Australia, Belgium, Canada, Ireland, Singapore and Spain. Until recently the country-specific factor was the dominant influence in the rise in the US equity risk premium. This should be related to the fact the current financial turmoil was triggered by problems in the US which eventually turned into a credit crisis. However, more recently, in the context of the propagation of shocks to a wider number of sectors of activity and countries, the influence of the international component to the rise in the US equity risk premium became more significant. Country-specific factors have also had a significant positive contribution to the recent rise in the equity risk premium in Australia, Canada and Singapore but like in the US the influence of the international component in the equity risk premium of these countries turned relatively more significant in the last few months. In most Western European countries the rise in equity risk *premia* was almost totally determined by the international component. In Germany, Portugal, France, the Netherlands and Sweden the country-specific component has been having a negative contribution to the risk premium. In these countries the equity risk *premia* are still significantly below the peaks reached in 2002-2003.

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Annex

BIVARIATE CORRELATIONS BETWEEN EQUITY RISK *PREMIA*

	Australia	Austria	Belgium	Canada	China	Finland	France	Germany	Hong Kong	India	Ireland	Italy	Nether lands	Portugal	Singapore	Spain	Sweden	Switzerland	United Kingdom	USA
Australia	1.00																			
Austria	0.42	1.00																		
Belgium	0.48	0.41	1.00																	
Canada	0.59	0.59	0.72	1.00																
China	0.24	0.12**	0.26	0.27	1.00															
Finland	0.47	0.10**	0.27	0.51	0.12**	1.00														
France	0.32	0.39	0.79	0.68	0.22	0.37	1.00													
Germany	0.41	0.57	0.72	0.68	0.14**	0.34	0.87	1.00												
Hong Kong	0.00**	-0.04**	0.33	0.22	0.11*	0.35	0.49	0.30	1.00											
India	0.28	0.14**	0.33	0.34	-0.13**	0.52	0.46	0.50	0.25	1.00										
Ireland	0.78	0.52	0.50	0.66	0.19	0.49	0.37	0.50	-0.16	0.43	1.00									
Italy	0.58	0.46	0.64	0.75	0.32	0.62	0.77	0.78	0.41	0.49	0.63	1.00								
Netherlands	0.42	0.62	0.73	0.68	0.06**	0.14**	0.73	0.85	0.06**	0.37	0.57	0.60	1.00							
Portugal	0.57	0.39	0.54	0.60	0.22	0.59	0.60	0.61	0.25	0.49	0.61	0.70	0.56	1.00						
Singapore	0.50	0.34	0.71	0.72	0.58	0.50	0.72	0.62	0.50	0.21	0.50	0.76	0.55	0.57	1.00					
Spain	0.56	0.24	0.56	0.66	0.38	0.74	0.65	0.55	0.36	0.49	0.65	0.85	0.39	0.71	0.74	1.00				
Sweden	0.52	0.72	0.72	0.79	0.14*	0.31	0.76	0.88	0.08**	0.45	0.67	0.72	0.91	0.65	0.60	0.56	1.00			
Switzerland	0.24	0.37	0.70	0.63	0.24	0.21	0.70	0.55	0.22	0.18	0.41	0.54	0.67	0.56	0.62	0.55	0.65	1.00		
United Kingdom	0.62	0.55	0.65	0.66	0.23	0.34	0.52	0.67	0.07**	0.39	0.77	0.65	0.74	0.63	0.57	0.55	0.74	0.52	1.00	
USA	0.62	0.29	0.61	0.71	0.31	0.70	0.66	0.56	0.51	0.47	0.54	0.82	0.35	0.54	0.74	0.81	0.48	0.40	0.50	1.00

** Correlation coefficients not different from zero at 5% significance level.
Source: Banco de Portugal calculations.

A SECTORAL PERSPECTIVE ON NOMINAL AND REAL WAGE RIGIDITY IN PORTUGAL*

*Cláudia Duarte***

> *The world economy today is vastly different from the 1930's (…). Economics is very different, too. Both the science and its subject have changed, and for the better, since World War II. But there are some notable constants. Unemployment and inflation still preoccupy and perplex economists, statesmen, journalist, housewives, and everyone else.*
>
> *Inflation and Unemployment*
>
> J. Tobin (1972)

1. INTRODUCTION

Wage rigidity (nominal and real) is associated with labour market frictions that prevent the normal adjustment of wages to labour demand. Firms' ability to accommodate to disturbances in the demand for their products is limited by wage rigidity. As opposed to wage flexibility, a rigid wage framework may lead to an adjustment that generates unemployment. Wage rigidity in the labour market is often pointed out, with varying emphasis, as one of the reasons that contribute to explain the higher level of unemployment in the European Union *vis-à-vis* the Unites States (Solow, 2000).

In the context of nominal wage rigidity (resistance to nominal wage decline) and low productivity growth, a low inflation regime, as recently experienced by developed economies, contributes to reduce firms' wage accommodation ability, in real terms, being associated with wages and unemployment higher than in the flexible wage situation (Akerlof *et al.* 1996). Real wage rigidity (resistance to a wage growth below the inflation rate or the bargaining reference value) has also been attracting increasing attention. In New Keynesian literature, the presence of real rigidity helped to a better understanding of both the dynamics behind the traditional trade-off between inflation and unemployment, and inflation persistence or inertia (Blanchard and Galí, 2007). At the microeconomic level, one of the stylised facts of firms' behaviour, as regards price setting, identified within the scope of the Inflation Persistence Network (IPN),[1] is the lower frequency of price adjustments – more persistent prices – in more labour-intensive firms and thus in firms potentially more exposed to wage rigidity constraints (Álvarez *et al.* 2005).

In addition to the important consequences for price setting and for inflation and unemployment dynamics, the growing attention paid to the wage rigidity issue is also associated with significant improvements in data collection techniques, both at the firm and individual level. The existence of longitudinal

* The author thanks *Instituto de Informática* da Segurança Social for making available the database and N. Alves, M. Centeno, A. C. Leal and P. Portugal for their comments and suggestions. Lucena Vieira's excellent computational support is gratefully acknowledged. The opinions expressed in this article are the responsibility of the author and do not necessarily coincide with those of Banco de Portugal. The usual disclaimer applies.

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(1) The Inflation Persistence Network (IPN) consists of a team of Eurosystem economists undertaking joint research on inflation persistence in the euro area and in its member countries.

databases containing information on wages and on different characteristics of workers and firms propelled the development of a new strand of the literature on wage rigidity, based on microeconomic data, which includes the works associated with the International Wage Flexibility Project (IWFP) (Dickens *et al.* 2007 and Du Caju *et al.* 2007, for instance).

The use of disaggregated data for the analysis of wage rigidity allows avoiding some of the caveats of macroeconomic approaches. In particular, when considering aggregate information for analysing the cyclical developments of wages, the evidence from these approaches is contaminated by the difficulties associated with aggregating the behaviour of heterogeneous agents. An example of these aggregation problems is the decrease in the weight of workers receiving lower wages (possibly less skilled workers), in the cyclical downturns, inducing a positive bias in aggregate wages (Abraham and Haltiwanger, 1995).

The microeconomic approach allows not only the analysis of the composition effects of the labour force, but also the construction of indicators of nominal and real wage rigidity based on the distribution of wages and wage changes. The methodology developed by the IWFP for calculating the rigidity measures is precisely based on the distributions of wage changes. In this case, nominal wage rigidity is associated with the share of workers with nil wage change, who would experience a wage cut, in the absence of rigidity. In turn, real wage rigidity refers to the share of workers with wage changes close to the expected inflation rate (or the bargaining reference value) who would experience a lower wage growth, in the absence of rigidity.

This article aims to describe and assess nominal and real wage rigidity in the Portuguese economy, by using the methodology developed within the scope of the IWFP. Extending the analysis of Portugal (2006)[2], this article also evaluates the impact of the breakdown by activity sector and firm size on rigidity measures, as in Messina *et al.* (2008). Though bearing in mind the sectoral heterogeneity, some emphasis is laid on the textile sector, in order to illustrate the importance of the composition effects in the labour force. The longitudinal database used was made available by *Instituto de Informática* (II) (Portuguese social security data-processing office) and covers the period from 2001 to 2007.

This article proceeds as follows. Section 2 describes the database and presents an analysis of wage developments in the different activity sectors over the period considered. Then, after a brief presentation of the IWFP methodology for the calculation of the rigidity measures, the results obtained for the total economy (Section 3.1) and for the different activity sectors (Section 3.2) are reported. In particular, the case of the textile sector is looked at in more detail (Section 3.2.1). Finally, Section 4 concludes.

2. DATA

In this article it was used a longitudinal database made available by Instituto de Informática (Portuguese social security data processing office), which includes all workers who paid contributions to the social security general regime, covering the period from 2001 to 2007. One of the advantages of using this database is related to its administrative nature (in this case, registers of social security contributions). Usually, the information in administrative databases is seen as more reliable, being less prone to measurement errors in wages (such as reporting or rounding errors) (Du Caju *et al.* 2007).

In addition to wages, which refer to the values reported each year in October, this database also contains other variables, namely the number of days worked in a month, job tenure, and variables referring to some characteristics of workers (such as gender, age, worker status – employees, self-employed or

(2) In Portugal (2006) the nominal and real rigidity measures are calculated only for the total economy.

other) and firms (for instance, region and size), covering all activity sectors. Monthly wage data may fall into four categories: permanent, variable, vacation and Christmas bonuses and other pay.

To increase comparability, the initial database was restricted to the employees that reported permanent wages not inferior to the minimum wage and worked a full month.[3] These workers are, on average, approximately 1.8 million and are mostly concentrated in the services sector, a fact that illustrates the tertiarisation process of the Portuguese economy (Table 1). In line with the gradual population ageing, the employees considered show a slightly positive trend in both age and job tenure. The wages of this group of workers (*i.e.* the permanent compensation per worker) had relatively stable developments, particularly in the last four years of the sample (Chart 1).

However, the apparent stability at the aggregate level masks relatively differentiated developments at the sectoral level. Except for the services sector, which follows more closely the total economy, the wage developments in the other sectors were more volatile. In terms of contributions to the wage change, the services sector contributed the most to the annual rate of change of wages over the period 2002-2007 (Chart 2). This reflects not only the evolution of wages in this sector but also its weight on total employment, in the sample used, which has been increasing, being approximately 46 per cent, on average, over the period analysed. At a more disaggregated level, the sectors which contribute the most to wage developments in services are the "Wholesale and retail trade" and the "Real-estate activities, renting and leasing, and business services" (Chart 3).

The contribution to the wage developments of the aggregate "Other" is also associated with an increase in the weight, in terms of total employment, of sectors such as "Public administration", "Health" and "Education".[4] Conversely, the manufacturing sector has been loosing weight, accounting for about 24 per cent, on average, of total employment. This is reflected in the small contribution of this sector to the annual rate of change of wages in the total economy over the period considered. It is worth stressing that "Textiles and textile products; leather, leather products and footwear" sector had a positive contribution to the annual rate of change of wages in manufacturing over the last two years of the sample, in spite of gradually loosing weight in terms of employment – which is probably one of the most visi-

Table 1

DESCRIPTIVE STATISTICS

	2001	2002	2003	2004	2005	2006	2007
Number of workers	1 689 213	1 692 594	1 822 972	1 858 169	1 895 943	1 926 282	1 988 824
Weight (per cent)							
Manufacturing industry [(a)]	27.6	26.5	24.9	24.0	23.1	22.5	21.7
Construction	10.5	10.6	10.0	9.9	9.9	9.7	9.9
Services	45.1	45.7	46.1	46.6	46.8	46.9	47.1
Other [(b)]	16.8	17.2	19.0	19.5	20.2	20.9	21.3
Average age (years)	36.5	36.7	37.1	37.3	37.6	37.8	38.1
Average tenure (months)	61	63	65	67	69	71	71

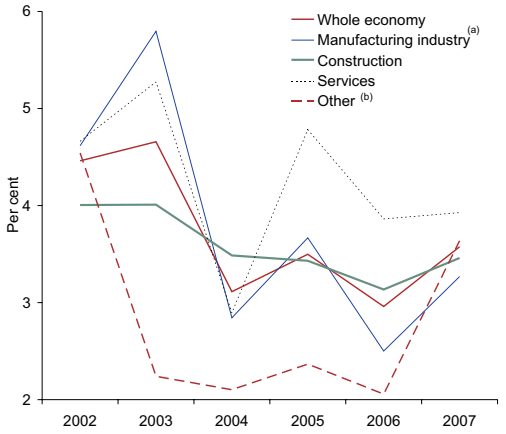
Sources: Il and own calculations.
Notes: Data refer to employees with a declared permanent wage not below the minimum wage, who worked a full month and for whom there is information for the several variables considered. (a) Includes "Electricity, gas and water supply". (b) Includes the following activity sectors: "Agriculture"; "Fishing"; "Mining and quarrying"; "Manufacture of coke and refined petroleum products"; "Manufacture of chemicals and chemical products, rubber and plastic products"; "Financial and insurance activities"; "Public administration"; "Human health"; "Education"; and "Other".

(3) Additionally, the analysis was restricted to individuals for whom there was information available for different variables, such as gender, age, type of wage, activity sector and job tenure.

(4) It is worth noting that these sectors only include individuals not belonging to the *Caixa Geral de Aposentações* (Portuguese public pension scheme).

Chart 1

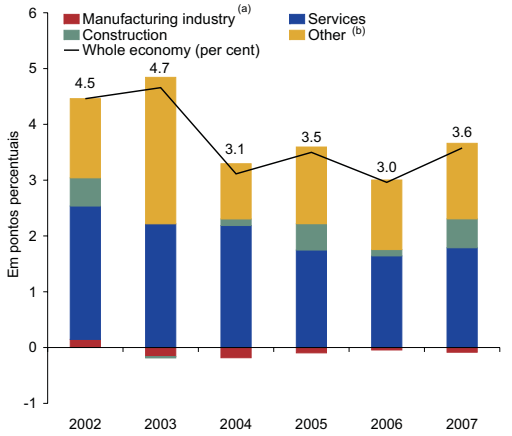
DEVELOPMENTS OF THE ANNUAL RATE OF CHANGE OF WAGES



Sources: Il and own calculations.
Notes: (a) Includes "Electricity, gas and water supply". (b) Includes the following activity sectors: "Agriculture"; "Fishing"; "Mining and quarrying"; "Manufacture of coke and refined petroleum products"; "Manufacture of chemicals and chemical products, rubber and plastic products"; "Financial and insurance activities"; "Public administration"; "Human health"; "Education"; and "Other".

Chart 2

CONTRIBUTIONS FOR THE ANNUAL RATE OF CHANGE OF WAGES IN THE WHOLE ECONOMY



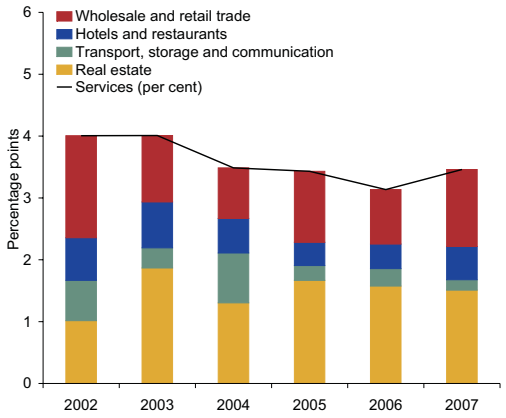
Sources: Il and own calculations.
Notes: (a) Includes "Electricity, gas and water supply" (b) Includes the following activity sectors: "Agriculture"; "Fishing"; "Mining and quarrying"; "Manufacture of coke and refined petroleum products"; "Manufacture of chemicals and chemical products, rubber and plastic products"; "Financial and insurance activities"; "Public administration"; "Human health"; "Education"; and "Other".

ble signs of the important change in the structure of sectoral employment undergone by the Portuguese economy in the recent years (Chart 4).

From the database obtained after imposing the above-mentioned restrictions, for calculating the rigidity measures a 10 per cent random sample of the employees who have at least one register over the

Chart 3

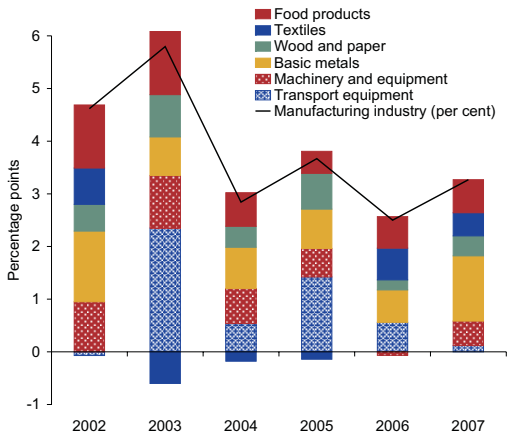
CONTRIBUTIONS FOR THE ANNUAL RATE OF CHANGE OF WAGES IN THE SERVICES



Sources: Il and own calculations.
Note: The "Wholesale and retail trade" sector includes repairs. The "Real estate" sector includes renting and business activities.

Chart 4

CONTRIBUTIONS FOR THE ANNUAL RATE OF CHANGE OF WAGES IN THE MANUFACTURING INDUSTRY



Sources: Il and own calculations.
Note: Detailed description of the sectors: Food products - Food products, beverages and tobacco; Textiles - Textiles and textile products; leather, leather products and footwear; Wood and paper - Wood and products of wood and cork; pulp, paper, paper products, printing and publishing; Basic metals - Other non-metallic mineral products; basic metals and fabricated metal products; Machinery and equipment - Machinery and equipment, nec; equipment; and Transport equipment - Transport equipment; manufacturing nec; recycling; electricity, gas and water supply.

period 2001-2007 was selected. Following the IWFP methodology, which analyses wage changes that are not influenced by worker mobility (Dickens *et al.* 2007), this sample was restricted so as to only include the individuals who worked for at least two consecutive years in the same firm. Comparing wage changes of workers who stayed in the same firm for at least two consecutive years (for instance 2006 and 2007) with new recruitments, it seems that mobility leads, on average, to higher wage increases (0.083 compared to 0.046). However, wage changes of new recruitments are much more volatile (standard deviation of 0.286 *vis-à-vis* 0.119), which is in line with the results obtained by Du Caju *et al.* (2007) for Belgium.[5]

3. WAGE RIGIDITY MEASURES

The IWFP methodology for calculating the wage rigidity measures is based on the analysis of wage change distributions, obtained from databases with information broken down by individual. According to this methodology, the nominal rigidity concept is associated with the share of workers who have nil wage change and would see their wages fall in the absence of rigidity. In turn, real rigidity reflects the share of workers whose wage change is close to expected inflation (or to the bargaining reference value), but would be lower in the absence of rigidity.

In a nutshell, the rigidity measures result from comparing the actual distribution of wage changes with a theoretical distribution that tries to reflect a flexible wage scenario (assumed to be a symmetric Weibull distribution). The higher the concentration in the nil wage change of the actual distribution *vis-à-vis* the theoretical distribution, the greater the evidence in favour of nominal rigidity and, hence, the higher the measure of nominal rigidity calculated according to the IWFP methodology. Similarly, the higher the concentration of the actual distribution, *vis-à-vis* the theoretical distribution, in a wage change close to the expected inflation (or the bargaining reference value), the greater the evidence in favour of real rigidity, and the higher the value of the measure.[6]

The calculation procedure of these rigidity measures makes it possible to obtain simultaneously nominal and real rigidity measures, as well as the reference value for the real rigidity.[7] However, in the years for which this reference value is relatively low, close to zero, the best identification conditions for the two types of rigidity cease to occur, making it more difficult to distinguish between nominal and real rigidity.

Moreover, in case any measurement errors are detected, the procedure for calculating the rigidity measures, developed by the IWFP, tries to purge these errors from the wage change distribution, by computing a new distribution, known as the "true distribution", which takes the place of the empirical distribution in the comparison with the theoretical distribution.[8]

3.1. Total economy

In Portugal, the wage-setting procedure is mainly determined by three thresholds: first, the lower limit is defined, at the national level, through the legal mechanism of the minimum wage; second, since the 1950s, the impossibility of cutting nominal wages is enshrined in the law; finally, in the context of wage bargaining, the vast majority of the lower limits of wages for each professional group are defined by

(5) Results remain qualitatively unchanged in the other years of the sample.

(6) For a more detailed description of the IWFP methodology, see Dickens *et al.* (2007).

(7) It should be noted that the reference value for calculating the real wage rigidity may not coincide with the expected inflation rate.

(8) The detection of measurement errors is based on the analysis of the wage change autocorrelation. Positive changes followed by negative changes are assumed to be a sign of the existence of measurement errors (for further details, see Dickens *et al.* 2007).

sectoral agreements (firm agreements are the exception). Hence, there is not an automatic wage indexation mechanism.

As expected, the distributions of both wages and wage changes reflect these thresholds.[9] On the one hand, in 2007 the distribution of wages in the total economy shows a mode in wages equal to, or very close to, the minimum wage. In this year, approximately 7 per cent of workers reported wages equal to the minimum wage (€ 403), which corresponds to about 45 per cent of the average wage (Chart 5).

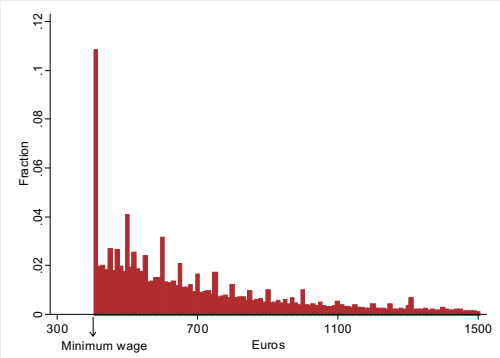
On the other hand, the empirical distribution of wage changes shows only a small fraction of negative nominal changes and a very high concentration on the nil change, confirming the resistance to nominal wage declines (nominal rigidity) (Chart 6). Furthermore, the existence of a second mode in the expected inflation rate and a smaller concentration in rates immediately below are evidence in favour of real wage rigidity.[10]

Comparing the empirical distribution with the "true" distribution, it can also be concluded that the differences between both distributions are virtually nil, thus confirming that measurement errors are more limited in administrative databases.

The indications given by the histograms are confirmed by the results of the nominal and real wage rigidity measures (Chart 7).[11] As expected, the nominal rigidity indicator is high throughout the period analysed. On average, about 63 per cent of the individuals who would have a nominal wage cut, in the absence of rigidity, have instead nil wage changes. This result not only is influenced by the legal framework associated with the existing barriers to nominal wage cuts, but is also related to the fact that, even in the absence of legal constraints, firms tend to avoid nominal wage cuts for motivation reasons (Bewley, 2002).

Chart 5

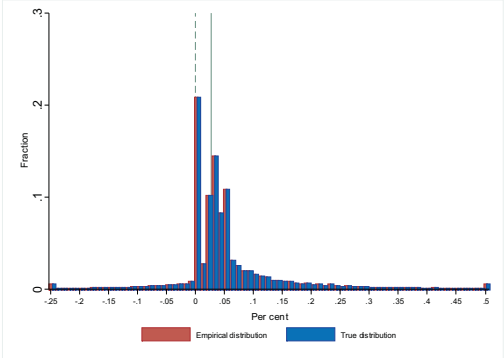
WAGE DISTRIBUTION: 2007



Sources: Il and own calculations.
Note: About 7 per cent of employees declared a wage equal to the minimum wage (403 euros) and approximately 11 per cent of employees declared a wage lying in the interval between the minimum wage and up to more 10 euros.

Chart 6

WAGE CHANGE DISTRIBUTION: 2007



Sources: Il and own calculations.
Note: The dotted line denotes the zero change and the straight line denotes the expected inflation.

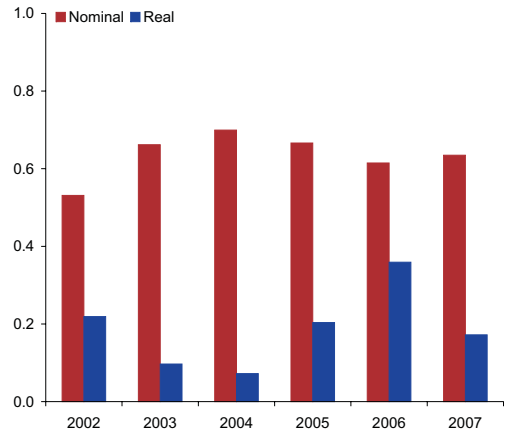
(9) The information used for calculating the distributions refers to workers who reported permanent wages not inferior to the minimum wage, worked a full month and stayed for at least two consecutive years in the same firm.

(10) The results do not significantly change in the other years of the sample.

(11) For calculating the (nominal and real) rigidity measures it was used the most recent version available of the IWFP procedure, which is not fully comparable with the versions used in previous publications of these indicators by Banco de Portugal.

Chart 7

WAGE RIGIDITY MEASURES



Sources: Il and own calculations.

The real wage rigidity measure shows more irregular developments. Given its own definition, and taking into account the low inflation in Portugal in recent years, calculating and interpreting this measure is naturally more challenging. After a decline from 2002 to 2004, in 2005 and 2006 the real rigidity measure increased, and in this latter year it was approximately 30 percentage points above the 2004 value. In 2007 it decreased again to a value close to the one observed in 2005. On average, about 20 per cent of the workers who would face a decline in their real wages, in a context of wage flexibility, see their wages increase in line with the expected inflation rate. Comparing across countries, this figure is relatively high (Dickens *et al.* 2007).

These results are qualitatively similar to those previously reported in Portugal (2006). Even though obtained from an alternative database,[12] the latter results also point to high nominal wage rigidity. Regarding real rigidity, evidence in Portugal (2006) also suggests a more irregular evolution of this measure.

When introducing firm size in the analysis of the rigidity measures, the results obtained suggest that nominal wage rigidity is lower in larger firms (Table 2). Greater wage flexibility in large companies, which is also found in Du Caju *et al.* (2007) for Belgium, may reflect a higher incidence of firm agreements, and a higher ability to implement broader compensation schemes.

By analysing job flows broken down by firm size, Centeno *et al.* (2007) conclude that the rates of job creation and destruction fall as firm size increases. Combining this piece of information with the results for the wage rigidity measures, it is possible to conclude that in the larger firms there are less job creation/destruction flows and less wage rigidity, while the contrary applies to smaller firms. Therefore, after taking into account firm size, the evidence on both job flows and wage rigidity seems to suggest the existence of a positive relationship between wage rigidity, in particular nominal rigidity, and job creation/destruction flows. In a way, wage rigidity in smaller firms seems to be offset by a more noticeable external exposure of the workers, *i.e.* larger job creation/destruction flows.

The constraining effect of high nominal rigidity is particularly stringent in the context of a low inflation regime, such as the one Portugal is currently experiencing, and maintenance of low productivity

(12) In Portugal (2006) it was used information from *Quadros de Pessoal* of the *Ministério do Trabalho e da Solidariedade Social* (Ministry of Labour and Social Solidarity).

Table 2

IMPACT OF FIRM DIMENSION ON THE WAGE RIGIDITY MEASURES

	Wage rigidity measures Average 2002-2007	
	Nominal	**Real**
Whole economy	0.63	0.19
By firm dimension: (number of workers)		
up to 25	0.85	0.27
from 26 to 50	0.66	0.16
from 51 to 250	0.49	0.27
more than 250	0.44	0.28

Sources: Il and own calculations.

growth. Given wage rigidity constraints, when confronted with the need to adjust to disruptions in the markets for their products, firms will tend to resort to job creation/destruction flows, generating important composition effects, namely at the sectoral level.

3.2. Sectoral heterogeneity

In the same way as the evolution of the aggregate rate of change of wages masks relatively differentiated developments in the different activity sectors, wage rigidity measures for the total economy also conceal noticeable differences in terms of sectoral wage rigidity (Table 3 and Chart 8).

The results of the rigidity measures for the different sectors suggest a negative relationship between the nominal and the real rigidity measures.[13] Moreover, both nominal rigidity and real rigidity seem to be higher in services than in manufacturing industry.[14] The higher wage rigidity in the services sector, which is a more labour-intensive sector, is probably related to the higher rigidity in prices in this sector, as reported in Martins (2005).

When examining the evidence on job creation/destruction flows for the different activity sector, as reported in Centeno *et al.* (2007), job reallocation rates are higher in services and construction than in manufacturing.[15] Additionally, according to Centeno *et al.* (2008), the services sector also shows higher excess worker rotation, in terms of job creation/destruction flows, than manufacturing.[16] Therefore, by taking into account sectoral heterogeneity, a positive relationship between the different job (creation/destruction) and worker (rotation) flows and the wage rigidity can again be identified.

At a more disaggregated level, the sectors with the highest nominal rigidity, on average, over the period 2002-2007, are the "Wholesale and retail trade" and "Construction". According to Centeno *et al.*

(13) Wage rigidity measures were not calculated for the following sectors: "Agriculture"; "Fishing"; "Mining and quarrying"; "Manufacture of coke and refined petroleum products"; "Manufacture of chemicals and chemical products, rubber and plastic products"; "Financial and insurance activities"; "Public administration"; "Health"; "Education"; and "Other". This choice was due to the high representativity of specific contribution schemes in these sectors (namely in "Public administration", "Health", "Education" and "Financial activities"), and also to their small weight in terms of employment (other sectors).

(14) International comparisons suggest that the differences across countries are more significant than across sectors. For instance, evidence in Messina et al. (2008) points to the fact that any sectoral comparison between Portugal and Belgium is dominated by institutional differences in the wage-setting process. In Portugal the nominal rigidity is predominant, whereas in the case of Belgium real rigidity prevails, as a result of the automatic wage-indexing mechanism.

(15) Job reallocation refers to the sum of all employment gains and losses that occur between time t and t-1.

(16) Excess worker rotation refers to the difference between the total number of hires and separations and net job creation, at each moment in time.

Table 3

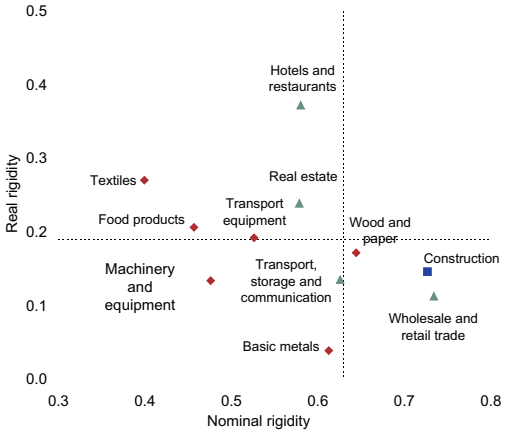
IMPACT OF ACTIVITY SECTOR ON THE WAGE RIGIDITY MEASURES

	Wage rigidity measures Average 2002-2007	
	Nominal	Real
Total economy	0.63	0.19
By activity sector:		
Manufacturing industry	0.57	0.16
Construction	0.73	0.15
Services	0.67	0.18
Food products, beverages and tobacco	0.46	0.21
Textiles and textile products; leather, leather products and footwear	0.40	0.27
Wood and products of wood and cork; pulp, paper, paper products, printing and publishing	0.64	0.17
Other non-metallic mineral products; basic metals and fabricated metal products	0.61	0.04
Machinery and equipment, nec; equipment	0.48	0.13
Transport equipment; manufacturing nec; recycling; electricity, gas and water supply	0.53	0.19
Wholesale and retail trade; repairs	0.73	0.11
Hotels and restaurants	0.58	0.37
Transport, storage and communication	0.63	0.14
Real estate, renting and business activities	0.58	0.24

Sources: Il and own calculations.

Chart 8

NOMINAL AND REAL RIGIDITY
Average 2002-2007



Sources: Il and own calculations.
Notes: The dotted lines denote the whole economy. The lozenges denote the manufacturing industry sectors and the triangles denote the services. Detailed description of the sectors: Food products - Food products, beverages and tobacco; Textiles - Textiles and textile products; leather, leather products and footwear; Wood and paper - Wood and products of wood and cork; pulp, paper, paper products, printing and publishing; Basic metals - Other non-metallic mineral products; basic metals and fabricated metal products; Machinery and equipment - Machinery and equipment, nec; equipment; Transport equipment - Transport equipment; manufacturing nec; recycling; electricity, gas and water supply; Wholesale and retail trade - Wholesale and retail trade; repairs; and Real estate - Real estate, renting and business activities.

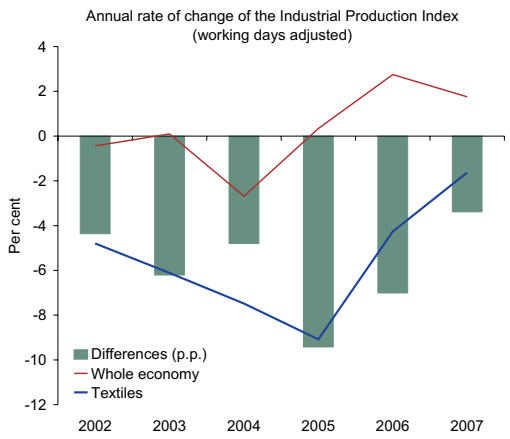
(2007), these two sectors have rather high job reallocation rates, with the construction sector recording the maximum value. At the other end, the sector with the lowest nominal rigidity is the textile sector, also recording a relatively high real rigidity level, when compared to other sectors, namely other manufacturing industry sectors. Recalling the results in Centeno *et al.* (2007), the textile sector shows a high job reallocation rate, when compared to the other manufacturing sectors, chiefly reflecting the job destruction rate, which is the highest across all sectors considered.

3.2.1. The textile sector

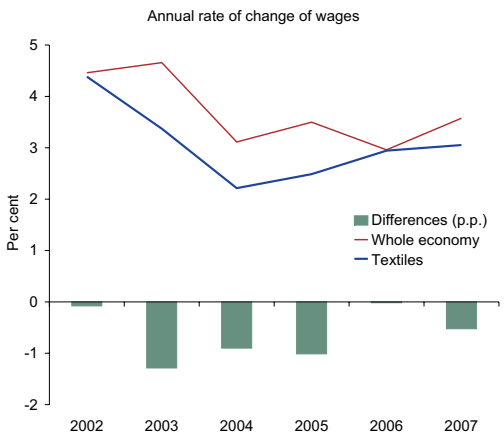
In recent years, activity in the textile sector has had unfavourable developments (Chart 9). In terms of employment, the weight of this sector has also fallen continuously. In turn, in the same period, wage rates remained relatively close to the average for the total economy, which is reflected in the above-mentioned positive contribution to the manufacturing wage change, in 2006 and 2007. Moreover, the results of the rigidity measures indicate that the textile sector has relatively high real wage ri-

Chart 9

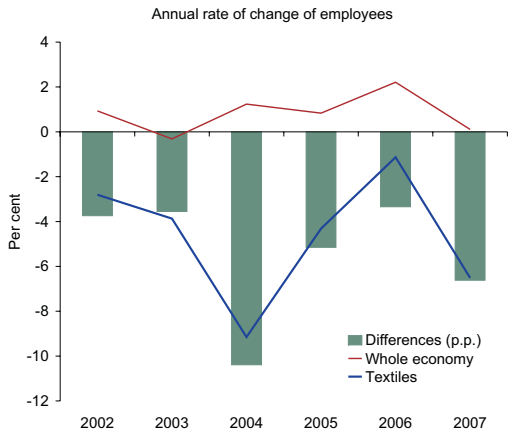
DEVELOPMENTS IN THE TEXTILE SECTOR



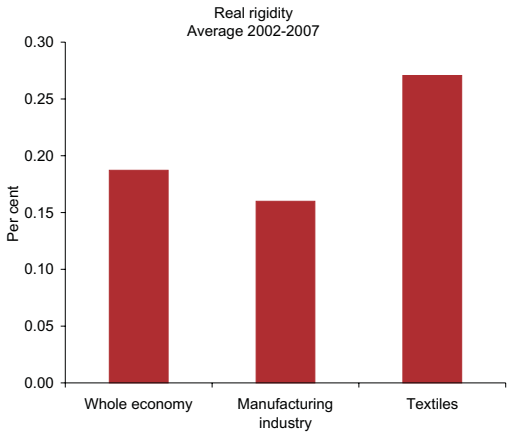
Source: *INE*.



Sources: Il and own calculations.



Source: *INE* – Employment survey.



Sources: Il and own calculations.

gidity, above the average for the total economy, and the third highest value among all sectors considered (Table 3).

Important gross job flows (hire and separation of workers), which are not reflected in the aggregation of information at sectoral level, are associated with these developments. For example, consider 2006 and 2007. In these years, there were significant changes in the composition of employment in the textile sector, when measured in terms of the worker/firm pairs. During these two years, creation and destruction of worker/firm pairs affected about one third of the number of employees working for the same firm, but the job destruction flow was approximately 5 per cent higher than the job creation one.

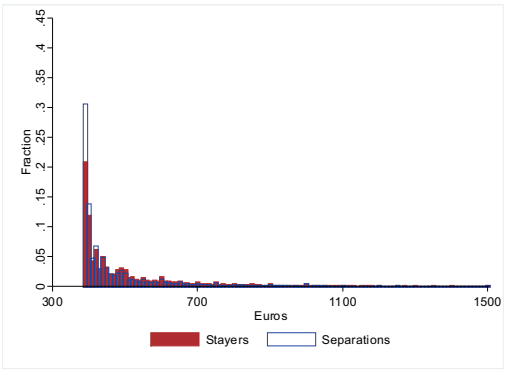
By comparing the wage distribution, in 2006, of workers in the textile sector who stayed in the same firm in 2006 and 2007 with the wage distribution of workers whose jobs were destructed between these two years, there seems to be a higher concentration on the left-hand tail of the wage distribution of the separations (Chart 10). Similarly, wage distribution, in 2007, of new recruitments exhibits the same type of bias *vis-à-vis* the wage distribution of workers who stayed in the same firm for the two consecutive years (Chart 11). Given the smaller size of job creation flows, the combination of the net job flows with the information on wages results in a positive effect on the average wage in the textile sector.

As previously mentioned, wage changes of new recruitments show more volatility than the wage changes of the workers who stay in the same firm. The apparent greater wage rigidity among stayers is in line with indications of the insider-outsider theory (Lindbeck and Snower, 2001). Also Carneiro and Portugal (2004) conclude that wages of new recruitments are more sensitive to the cycle than of workers staying in the same firm. Hence, given that the calculation of the rigidity measures here presented is based on the group of workers who stay in the same firm for at least two consecutive years, their values may be seen as an upper limit for wage rigidity.

In line with the real rigidity measure, the distribution of wage changes of the workers in the textile sector who stayed in the same firm in 2006 and 2007 has a greater concentration on lower wage changes than the distribution for the total economy, except in changes equal or close to zero (Chart 12). This fact, together with the effects associated with job creation and destruction flows, contributed, in net terms, to maintain the wage changes in a sector under restructuring and with a downward trend in size (both in terms of employment and activity level) rather close to the average for the total economy.

Chart 10

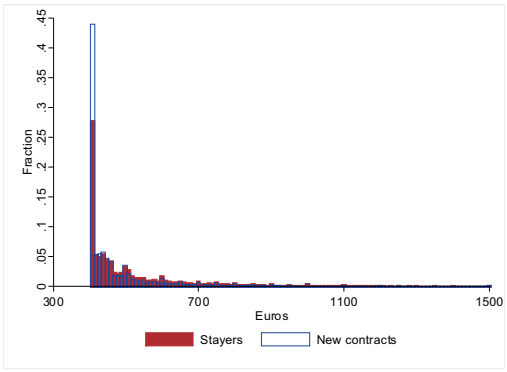
WAGE DISTRIBUTION – TEXTILES: 2006



Sources: II and own calculations.

Chart 11

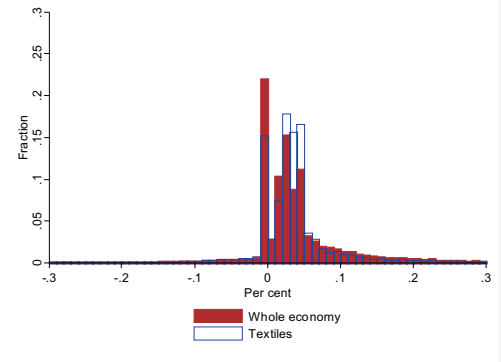
WAGE DISTRIBUTION – TEXTILES: 2007



Sources: II and own calculations.

Chart 12

WAGE CHANGE DISTRIBUTION: 2007



Sources: II and own calculations.

4. CONCLUSIONS

Nominal wages are typically among the stickiest prices in the economy, a fact that is due both to economic reasons and legal constraints. In particular, in the Portuguese case, specific legislation leads to the existence of nominal rigidity. This notion is confirmed when using a longitudinal database, broken down by individual, to calculate wage rigidity measures according to the methodology developed within the scope of the IWFP. The results obtained suggest high nominal wage rigidity and, in spite of more irregular developments, the real rigidity is also relatively high, when compared across countries. In the context of a low inflation system, the combination of nominal wage rigidity and weak productivity growth constrains firms' adjustment ability to disturbances in the market for their products. In the presence of wage-setting restrictions, firms will tend to adjust employment to the detriment of wages.

Given this potential accommodation in terms of employment, using a microeconomic database is twice as relevant, since it also allows analysing the composition effects of the labour force.

Moreover, firm heterogeneity seems to have an impact on the wage rigidity in the different sectors and in the total economy. Considering the firm size, the results obtained point to lower nominal wage rigidity in larger firms. Regarding sectoral heterogeneity, the services sector seems to have greater nominal and real wage rigidity than manufacturing.

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THE PORTUGUESE EXPORT PERFORMANCE IN PERSPECTIVE: A CONSTANT MARKET SHARE ANALYSIS*

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*Sónia Cabral***

1. INTRODUCTION

Changes of a country's market share in world exports result from many interrelated factors. Firstly, domestic and external macroeconomic developments influence the relative price/cost competitiveness of exports. Secondly, long term structural factors like the endowment of productive factors, technology and institutional background affect overall competitiveness and the sectoral specialization of exports. Thirdly, geography and cultural linkages condition the performance of exports and its distribution among different trade partners. Fourthly, the dynamics of international trade flows determined, in part, by the entrance of new players, mechanically affects individual countries' market shares. Therefore, the analysis of the export performance of a country should be put in perspective by analysing long periods in order to identify trends and comparing with a set of benchmark countries.

This discussion is relevant for the Portuguese economy because export market shares have been showing a disappointing path over the last decade. In a small open economy like the Portuguese, deteriorations in export performance tend to hinder economic growth and thus contribute to the real *per capita* income divergence against the euro area observed in the last years.

This article analyses the evolution of Portuguese market shares in world exports over the 1968-2006 period, in comparison with other Southern European countries and Ireland and taking into account the impact of product and geographical composition on the aggregate results. For this purpose, we use a constant market share methodology as proposed by Nyssens and Poullet (1990). The total change in the market share of Portuguese nominal exports is decomposed into three main additive and analytically interpretable terms: a market share effect, taking into account the effective changes of share in each product/geographical market, and two additional terms that analyse how the geographical and product composition of Portuguese exports affected developments in the overall market share. Other applications of the constant market share methodology to Portuguese exports can be found in Abreu and Manteu (1993), Cabral (2004) and Cabral and Esteves (2006). In ECB (2005) an analysis of this type for euro area exports is included.

The main contribution of this article comes from the very long time span selected, which provides a good picture of Portuguese export market shares during periods of structural reform, over the diverse stages of European economic integration and under different macroeconomic regimes. In addition, a comparative perspective of the main results of the constant market share analysis is provided, as the methodology is applied to a set of benchmark countries, namely Spain, Greece, Ireland and Italy. Moreover, the analysis focuses on the path of the share of Portuguese exports in world markets as a whole, and not just in a selected reference group comprising a sample of products or geographical destinations. We use also a detailed product (118 items) and geographical breakdown (79 countries or

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country groups). Nevertheless, such detailed data is only available in nominal terms, imposing some caution in the interpretation of the results.

The article is organized as follows. Section 2 reviews the methodology for decomposing the changes of export market shares and describes the database used. Section 3 presents the results of the constant market share analysis and starts by comparing the main results for Portugal with those obtained for Spain, Greece, Ireland and Italy over the last forty years. The remaining of this section details the results obtained for Portugal. Subsection 3.3 examines the product and geographical dimensions of the market share effect and Subsection 3.4 focuses on the combined structure effect. Section 4 presents some concluding remarks.

2. CONSTANT MARKET SHARE ANALYSIS: METHODOLOGY AND DATA

The constant market share analysis is an accounting method that enables the *ex-post* breakdown of the changes in total market shares of a certain country over time. This method is particularly useful to separate and quantify the contribution of the trade pattern of the country (in terms of products and geographical destinations) from the contribution of other factors. The interest of this method, which is used for descriptive rather than explanatory purposes, results mainly from its simplicity and easiness to use, as well as from its ability to identify key features of the differentiated behaviour of a given variable. This technique was initially used in studies of variables such as employment or labour productivity within the scope of regional economics, where it is best-known as shift-share analysis. Subsequently, it was applied to studies of international trade flows, where it was used for the first time by Tyszynski (1951).[1] The main idea underlying the constant market share analysis is that the export structure of a given country affects its global export performance, despite changes in other factors, such as those associated with competitiveness. As stated by Magee (1975), even if a country maintains its share of every product in every geographical destination, it can still have a decrease in its aggregate market share if it exports to individual markets that grow more slowly than the world average.

According to the formulation suggested by Nyssens and Poullet (1990), the total change in the share of Portuguese exports in the world market, the Total Effect (TE), is proxied by the difference between the growth of total Portuguese exports of manufactured goods (g) and the growth of total exports of manufactured goods of the rest of the world (g^*), that is:

$$TE = g - g^* = \sum_i \sum_j \theta_{ij} g_{ij} - \sum_i \sum_j \theta^*_{ij} g^*_{ij} \quad (1)$$

where $g_{ij} = \frac{X_{ij,t} - X_{ij,t-1}}{X_{ij,t-1}}$ is the percentage change of Portuguese exports of product i to country j in period t, $\theta_{ij} = \frac{X_{ij,t-1}}{\sum_i \sum_j X_{ij,t-1}}$ is the share of product i to destination country j in total Portuguese exports in period $t-1$, and g^*_{ij} and θ^*_{ij} are the equivalent notions for world exports (excluding the reporting country).

If the growth of Portuguese exports is higher (lower) than that of world exports, the TE will be positive (negative), corresponding to a total market share gain (loss) of Portugal. This TE can be broken down into two terms: one resulting from effective changes in market shares in individual markets, the Market Share Effect (MSE); and another resulting from the influence of the relative specialization of the coun-

(1) For a detailed description of the constant market share methodology, its different formulations and applications in studies of regional economics, see Loveridge and Selting (1998). For an influential study of the application of this methodology to exports, see Leamer and Stern (1970).

try, the Combined Structure Effect (CSE). The notion of individual market used here refers to each *ij* market measured as exports of product *i* to destination country *j*.

$$TE = MSE + CSE \tag{2}$$

Market Share Effect (MSE) – The difference between the growth rate of Portuguese and world exports in each period, excluding the influence of differences in relative specialization. Taking as given the product/geographical structure of Portuguese exports, a comparison is made between the growth rates of Portuguese and world exports for each product *i* to each destination country *j*. The MSE for a specific product *i* (destination country *j*) can be taken as the sum over *j* (*i*) of this effect.

$$MSE = \sum_i \sum_j \theta_{ij} \, (g_{ij} - g^*_{ij}) \tag{3}$$

Combined Structure Effect (CSE) – The relative evolution of each individual destination market (defined as the difference between its growth and the growth of total world exports) weighted by the relative importance of that market for Portugal (defined as the difference between its share in total Portuguese and in total world exports). The relative specialization term ($\theta_{ij} - \theta^*_{ij}$) compares export structures and, hence, gives information equivalent to the traditional Balassa (1965) index of revealed comparative advantage. The CSE determines which part of the total change of market share results from the influence of the relative product/geographical specialization of the country. In each period, the CSE will be positive if Portugal is relatively more (less) specialized in individual markets that grow above (below) the average; the CSE will be negative if Portugal is relatively less (more) specialized in individual markets that grow above (below) the average.

$$CSE = \sum_i \sum_j (\theta_{ij} - \theta^*_{ij})(g^*_{ij} - g^*) \tag{4}$$

The CSE takes into account both the product and geographical specialization of exports as a whole, but it can be further decomposed into three terms to separately account for the effects of the product and geographical compositions.

$$CSE = PSE + GSE + MIX \tag{5}$$

Product Structure Effect (PSE) – it determines which part of the total change in the market share resulted from the relative product specialization of Portuguese exports.

$$PSE = \sum_i (\theta_i - \theta^*_i)(g^*_i - g^*) \tag{6}$$

where $g^*_i = \dfrac{\sum_j \theta^*_{ij} g^*_{ij}}{\theta^*_i}$ is the percentage change of world exports of product *i* in period *t*, $\theta_i = \sum_j \theta_{ij}$ is the share of product *i* in total Portuguese exports in period $t-1$, and θ^*_i is the equivalent notion for world exports.

Geographical Structure Effect (GSE) – it represents the impact of the relative geographical specialization of Portuguese exports.

$$GSE = \sum_j (\theta_j - \theta^*_j)(g^*_j - g^*) \tag{7}$$

where $g_j^* = \frac{\sum_i \theta_{ij}^* g_{ij}^*}{\theta_j^*}$ is the percentage change of world exports to country *j* in period *t*, $\theta_j = \sum_i \theta_{ij}$ is the share of country *j* in total Portuguese exports in period $t-1$, and θ_j^* is the equivalent notion for world exports.

Mixed Structure Effect (MIX) – it is a residual term that results from the fact that the product and geographical structures are not independent and thus the sum of the product and geographical effects does not match the combined structure effect. The option here was to calculate and display this interaction effect separately, hence controlling for its magnitude.

$$MIX = \sum_i \sum_j \left[(\theta_{ij} - \theta_{ij}^*) - (\theta_i - \theta_i^*) \frac{\theta_{ij}^*}{\theta_i^*} - (\theta_j - \theta_j^*) \frac{\theta_{ij}^*}{\theta_j^*} \right] g_{ij}^* \quad (8)$$

The constant market share analysis became popular in the literature of applied international economics despite continued criticism both for the lack of theoretical basis and for several shortcomings associated with its empirical application. Richardson (1971a, b) discusses the main shortcomings of this technique and gives an important contribution to the understanding of its accounting nature. The method has been progressively refined and Milana (1988) proposed satisfactory solutions to some of the major problems of the traditional constant market share decomposition. Some recent studies of constant market share that consider most of the empirical improvements suggested in the literature include the works of Simonis (2000), Foresti (2004) and ECB (2005).[2] However, several shortcomings regarding the empirical implementation of the constant market share analysis still remain. The most relevant and long standing criticism is that the various effects of the constant market share decomposition vary with the level of breakdown considered (by products and by countries). In fact, the analysis can be applied at several product/destination market breakdown levels and the results are not independent from this choice. The discretionary decision on the level of disaggregation to be used is generally determined by the availability of information.

The formulation used in this work includes some of the refinements suggested in the literature. Firstly, we use the structure of the initial year in the computation of the structural effects as in the traditional formulations, but the calculations are performed annually and the effects are added up over time to have multi-year effects.[3] Secondly, in the traditional formulation the product and geographical structure effects are calculated in an asymmetric way and, depending on the sequence of calculation, one of them will include the mixed structure effect. The solution adopted here was to consider this interaction effect explicitly and, hence, the structural effect is decomposed into three blocks (product, geographical and mixed) that are insensitive to the order of decomposition. Thirdly, in order to prevent distortions, the value of Portuguese exports was excluded from the aggregate of world exports at the most detailed level. Given the relatively small dimension of the Portuguese economy, this correction has a small influence on the results, but it can be very influential when the country considered has large market shares.

The international trade data used in this article comes from the CEPII - CHELEM database, which reports bilateral trade flows for goods in value terms (the unit being the US dollar).[4] The sample period starts in 1967 and ends in 2006. All bilateral computations are done in nominal terms given the lack of

(2) Cheptea *et al.* (2005) use an alternative formulation in a recent shift-share analysis of trade competitiveness.

(3) The constant market share analysis is applied over discrete time periods even though the export structure of any country changes continuously. Different aggregation weights can be chosen to translate the continuous-time into a discrete-time formulation, *i.e.*, the index number problem stated by Milana (1988) that suggests the use of average weights.

(4) See De Saint-Vaulry (2008) for a detailed description of this database.

information on external trade flows in volume with the suitable product and geographical detail over such a long time span. As a result, it is not possible to distinguish between the volume and the price components in the evolution of the market shares. Additionally, as all exports are denominated in US dollars, the developments in market shares are mechanically influenced by changes in the US dollar exchange rate.[5] Therefore, the interpretation of the results should be made with caution, as changing exchange rates and prices have an impact on the evolution of market shares that is not accounted for in this analysis. Our bilateral database comprises 79 countries or country groups (counting with Portugal, which is then excluded from the world aggregate), and 121 manufacturing products, with a product breakdown at the 4-digit level of the International Standard Industrial Classification (ISIC), rev.3. Data on energy-related items as coke, refined oil products and nuclear fuel were excluded from the analysis to avoid distortions coming from highly volatile oil prices, resulting in 118 active products.[6] All constant market share computations were performed at the detailed product breakdown level and the results for the 118 manufactured goods were afterwards grouped in accordance with their technological intensity, following the OECD classification of R&D intensities. This widely used technological classification includes four main sectors: high-technology, medium-high-technology, medium-low-technology and low-technology; and at a second breakdown level contains nineteen sub-sectors, excluding energy.[7] Appendix A displays the list of countries and country groups included in our sample and Appendix B reports the product technological breakdown with the respective ISIC code.

3. MAIN RESULTS

3.1. Portugal versus the benchmark countries

This subsection presents a comparative analysis of the constant market share decomposition for Portugal and four benchmark countries - Spain, Greece, Ireland and Italy. Throughout the nineties, the first three benchmark countries, together with Portugal, were commonly designated the “cohesion countries", as *per capita* income stood clearly below the European Union (EU) average.[8] As for the Italian economy, its sectoral export structure holds some similarities with the Portuguese one and, in the last decades, serious competitiveness problems with negative consequences on economic growth and export performance have been reported.

The methodology presented in the previous section was applied to data for the five countries and Chart 1 displays the annual results in cumulative terms. Starting with the total effect, sharp differences exist between these countries. Portuguese exports show a cumulative increase of total market shares over the 1968-2006 period of 14.5 per cent. This increase is higher than the one observed in Italy, where total export shares declined by 16.4 per cent in cumulative terms over the same period, but worse than in Greece (cumulative market share growth of 55.7 per cent). In contrast, the export shares of Ireland and Spain in world markets increased sharply over this period, by around 150 per cent in cumulative terms. In the recent years, there is a decrease in the market share of these countries (Greece being

(5) Using the example included in ECB (2005), if the share of trade denominated in US dollars is smaller in the Portuguese than in world exports, an appreciation of the US dollar will result, *ceteris paribus*, in a decline in the Portuguese market share.

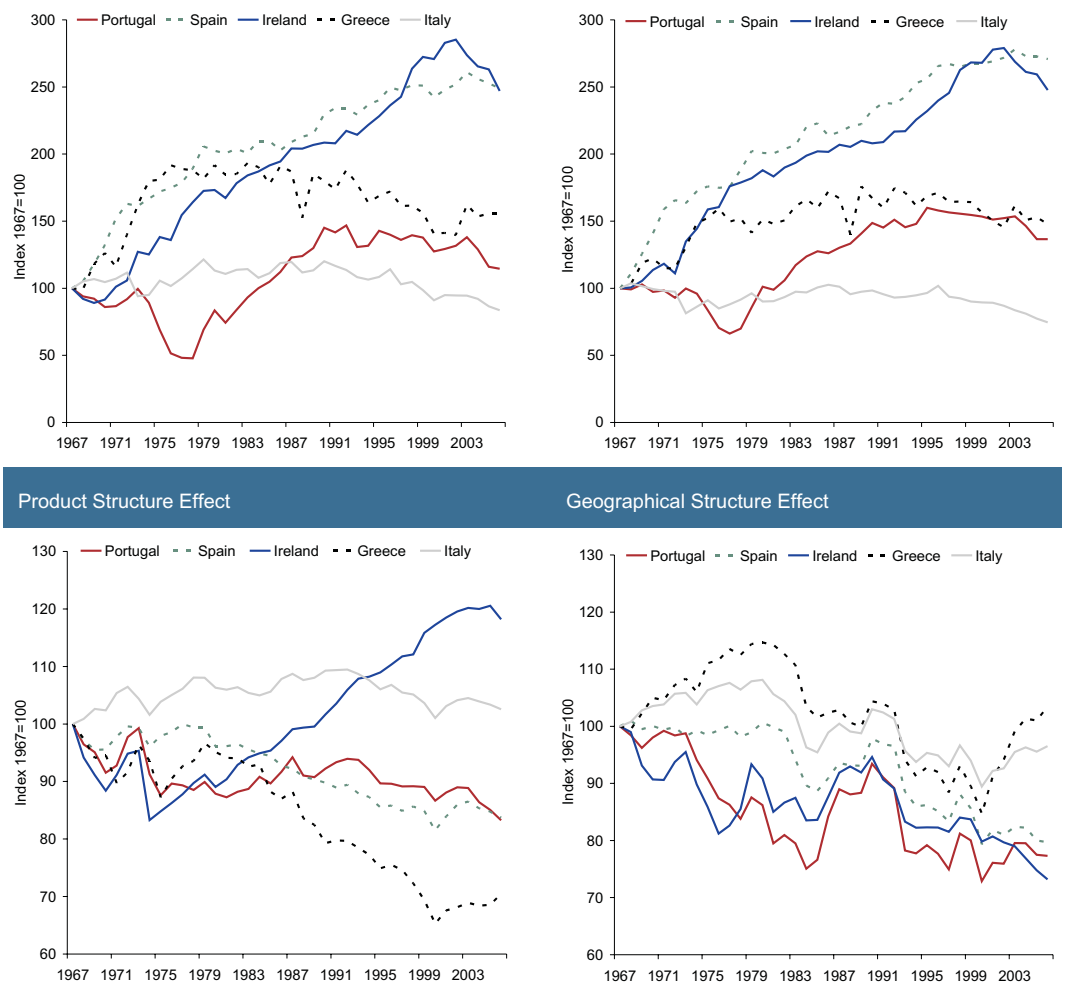
(6) Given the detailed breakdown used, several observations have a zero value, making it impossible to compute the growth rate for the following year. In order not to exclude these observations, the zero values were replaced by a very small number as 0.0000001, not affecting the overall rate of change of exports.

(7) As stated previously, the results can change significantly with the product classifications used. Nevertheless, we replicated all computations using this second breakdown level of the OECD classification of R&D intensities and, in the countries considered, the main results remain broadly unchanged. However, this outcome should not be seen as a general result for all countries.

(8) The Cohesion Fund, which started in 1994, is a structural instrument that helps European Union (EU) Member States to reduce economic and social disparities and to stabilize their economies. Eligible Member States of the Union are those whose gross national product (GNP) *per capita* is below 90 % of the EU-average. Four Member States, Spain, Greece, Portugal and Ireland, were eligible under the Cohesion Fund until the end of 2003. The European Commission's mid-term review of 2003 deemed Ireland (GNP equal to 101 % of EU average) as ineligible under the Cohesion Fund as of 1 January 2004.

Chart 1

MAIN RESULTS OF THE CONSTANT MARKET SHARE ANALYSIS OF MANUFACTURING EXPORTS
(excluding energy, cumulative results in nominal terms)



Sources: CHELEM database and own calculations.

the exception), partly related with the progressive entrance of new players in world trade. These additional competitive pressures are posed by emerging market economies located in Central and Eastern Europe and, mainly, in East Asia, in particular China. Nevertheless, it should be noted that in the cases of Ireland and Spain the strong losses of share observed since 2003 and 2004, respectively, follow substantial cumulative gains recorded earlier. This is not the case in Portugal or Italy, which have been lagging behind. Greece has been able to broadly maintain its overall market share in recent years, though declining relatively to the mid-eighties.

In the five countries selected, the breakdown of the total effect over the whole period indicates that the market share effect is the major driving force behind the overall evolution of market shares, thus mimicking the results described above. One interesting point is the markedly different behaviour of the Portuguese market share effect in the period 1974-77, when compared with the benchmark economies. The cumulative 33.6 per cent effective loss of market share in this period coincides with three shocks that hit the Portuguese economy and substantially reduced its external competitiveness. Firstly, the oil shock of 1973 directly affected price/cost indicators in the following years, though it was not idiosyn-

cratic. Secondly, the 1974 revolution disrupted part of the economic activity and subsequent real wage increases severely deteriorated relative unit labour costs. Thirdly, the decolonization process reduced trade flows with a set of African preferential markets. Competitiveness rebounded after 1977 following packages of expenditure-switching and expenditure-reducing policies, partly associated with a stabilization agreement with the IMF. Portuguese effective market shares recovered until mid-nineties, but lost momentum after that. The recent decline of Portuguese export shares should partly reflect the deterioration of relative cost competitiveness indicators, in a context of increased competition in world markets associated with the entrance of new players.[9]

There are also differences between the countries considered in terms of the combined influence of product and geographical structure of exports, even if this is not the dominant effect underlying the evolution of total market shares. In the cases of Portugal and Spain, the impact of the export structure is negative, both in terms of geographical distribution and product composition. In contrast, the combined structure effect is slightly positive in the cases of Greece and Italy. In Greece, it benefits from a small positive impact of the geographical distribution of exports and in Italy there is a very small positive contribution of the product specialization. In the case of Ireland, the combined impact of the product and geographical composition of exports over this period is null. On the one hand, there is a very positive influence of the product composition of Irish exports, which reinforces the effective gains of market share obtained. On the other hand, the geographical orientation of Irish exports has been mainly towards markets with a lower than average growth rate, leading to a negative geographical structure effect over this period.

The comparison of Portugal with the benchmark countries in terms of the product and geographical structure effects offers some insights. The contrast between the path of the cumulative effect of the product structure in Portugal and Ireland is striking. Both countries recorded a strong negative evolution in the mid-seventies, meaning that their sectoral export structure did not correspond to the products where world export growth was more dynamic. Nevertheless, in the subsequent decades developments were very different. Ireland successfully changed the sectoral export structure towards more dynamic products, contributing to the increase of its total market share, while Portugal did not. This is consistent with the information available on the dynamics of the Irish specialization pattern during the last decades (see Amador *et al.* (2007)). As for Spain and, mostly, Greece, the product structure effect was also unfavourable, while Italy seems to have recorded a positive, though small, effect.

In what concerns the evolution of the geographical structure effect, the interesting result is the similarity observed between these countries over the eighties and nineties. Such evolution reflects the increased importance of European markets for these countries, translated by a higher share of intra-European trade and a share of trade with the US below that of the world average. In fact, as long as the progress of the European integration makes the geographical export structure of Member States more uniform, it drives similar paths for the geographical structure effect. However, some distinct developments are visible in the most recent period. The geographical structure effect is more favourable in the case of Greece and, to a lesser extent, Italy than in the other three countries selected. In the Greek case, this evolution reflects a positive contribution from the non-specialization in the US market, which grew below world average in this period, and from the higher specialization of Greek exports on the recently opened and dynamic Bulgarian and Romanian markets. The positive contribution of the US for the geographical structure effect in the last period is evident in all of these countries with the exception of Ireland, where the share of exports to the US surpassed the world average since 2002. However, the main contribution to the negative geographical structure effect observed in Ireland

(9) See Esteves and Reis (2005) for a discussion on the deterioration of Portuguese effective exchange rates considering a large number of competitor countries and accounting for differences in product specialisation.

in the 2002-06 period resulted from the strong specialization of Irish exports in the UK market. Finally, the non-specialization of these five countries in the dynamic Chinese market contributed negatively to the evolution of their export shares since the nineties.[10]

3.2. Overall results for Portugal

In this subsection we turn to a more detailed analysis of the results obtained for Portugal. Table 1 and Chart 2 decompose the total change in Portuguese export market shares using the constant market share methodology described in Section 2. In order to facilitate the analysis, the data was organized in five-year periods by averaging the respective annual results (the results for each year are presented in Appendix C).

The total share of Portugal in world exports had an average annual increase of 0.4 per cent over the 1968-2006 period. Nevertheless, the results differ substantially over time. The first two periods considered, from the late sixties to the mid-seventies, are characterized by a substantial overall reduction of market share. In the next three periods, from the late seventies to the beginning of the nineties, the growth of Portuguese exports was higher than the growth of total world exports, leading to a positive total effect. This situation was reversed in the last three periods considered, which show an increasingly negative evolution of total Portuguese export shares.

The market share effect, with an average effective gain of 0.9 per cent per year in the 1968-2006 period, was the dominant factor behind the total change in market shares in most periods. The main exception is the 1992-96 period, where there is a positive market share effect, but a total loss of share, reflecting a very negative geographical structure effect. Additionally, the market share effect was only marginally negative in the first period, with the relative product composition of Portuguese exports influencing negatively the developments in total market share.

Table 1

MAIN RESULTS OF THE CONSTANT MARKET SHARE ANALYSIS OF PORTUGUESE MANUFACTURING EXPORTS

(excluding energy, average results in nominal terms)

	Growth of Portuguese exports	Growth of world exports	Total Effect	Market Share Effect	Combined Structure Effect	of which:		
						Product Structure Effect	Geographical Structure Effect	Mixed Structure Effect
1968-71	10.7	14.0	-3.3	-0.4	-2.9	-1.8	-0.2	-0.9
1972-76	14.2	21.3	-7.0	-5.6	-1.5	-0.6	-2.4	1.5
1977-81	18.7	14.1	4.6	5.7	-1.1	-0.5	-1.6	0.9
1982-86	12.9	5.4	7.6	5.5	2.1	0.9	0.9	0.3
1987-91	18.2	12.3	5.9	3.8	2.1	0.3	1.4	0.4
1992-96	8.9	9.2	-0.4	2.5	-2.9	-0.7	-2.7	0.5
1997-01	0.9	3.0	-2.1	-1.4	-0.7	-0.3	-0.3	-0.1
2002-06	9.9	12.9	-3.0	-2.9	0.0	-1.0	0.2	0.7
1997-06	5.4	8.0	-2.5	-2.1	-0.4	-0.6	0.0	0.3
1968-06	11.8	11.5	0.4	0.9	-0.6	-0.4	-0.6	0.4

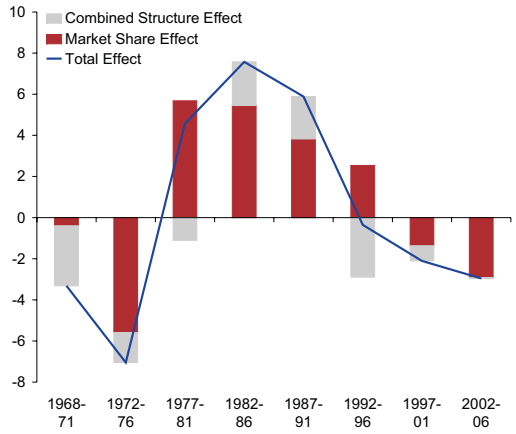
Sources: CHELEM database and own calculations.
Note: The results of each period are computed as the average of the individual results obtained for each year.

(10) ECB (2005) also found a significant negative contribution to the geographical structure effect coming from the under-specialisation of euro area exports in the Chinese market.

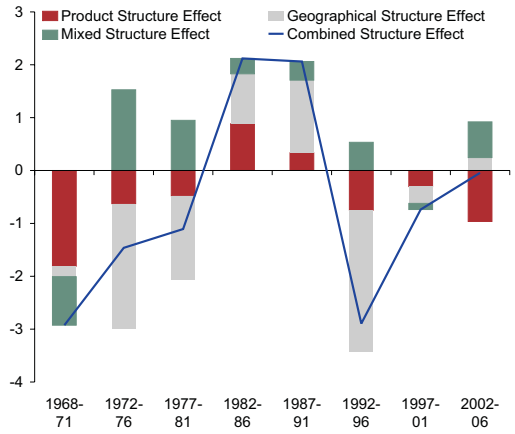
Chart 2

MAIN RESULTS OF THE CONSTANT MARKET SHARE ANALYSIS OF PORTUGUESE MANUFACTURING EXPORTS
(excluding energy, average results in nominal terms)

Breakdown of the Total Effect



Breakdown of the Combined Structure Effect



Sources: CHELEM database and own calculations.

The contribution of the combined structure was negative on average over the 1968-2006 period, reflecting both the product and the geographical specialization of Portuguese exports. In fact, the impact of the product and geographical composition of Portuguese exports was negative in most subperiods. The exceptions are 1982-86 and 1987-91 where a significant positive effect of the combined structure is evident, both by products and, mainly, by geographical markets. In the last two periods examined, the influence of the combined structure of Portuguese exports is less relevant than in previous periods, though a significant negative impact of the product composition is detected in 2002-2006.

The next two subsections break down the market share and the combined structure effects for Portugal. As for the latter effect, the contributions of sectoral and geographic structures of exports are detailed separately, *i.e.*, identifying the individual products/destinations that contributed more to the results. However, the division between the product and geographical effects is not exact, since the structures are not independent and there is a residual term of interaction. This mixed structure effect, which is not analysed individually here, includes impacts of both the product structure and the geographical structure of exports. As for the market share effect, recall that it can be detailed either for a specific product *i* (by summing the individual *ij* effects over the *j* countries) or for a specific country *j* (by summing the individual *ij* effects over the *i* sectors), *i.e.*, for this effect the contributions of geographical markets and products can not be added.

3.3. Market share effect in Portugal

3.3.1. Product breakdown

In the first two periods considered in the analysis, the results point to a considerable loss of effective export market share, especially concentrated in the years 1975-76. This fact mostly results from the disruption of production in several sectors, the increase in unit labour costs and the loss of preferential African markets, following the 1974 revolution and the decolonization. Table 2 shows the contribution

Table 2

PRODUCT BREAKDOWN OF THE MARKET SHARE EFFECT OF PORTUGUESE MANUFACTURING EXPORTS
(excluding energy, average results in nominal terms, contributions in percentage points)

	1968-71	1972-76	1977-81	1982-86	1987-91	1992-96	1997-01	2002-06
High-technology products	**0,6**	**-0.5**	**0.3**	**-0.3**	**0.0**	**0.5**	**0.5**	**0.1**
Aircraft and spacecraft	0,0	0.0	0.1	0.0	0.0	0.0	0.1	-0.1
Pharmaceuticals	0,0	-0.1	0.1	0.0	0.0	0.0	0.0	-0.1
Office, accounting and computing machinery	0,1	0.0	0.0	-0.2	-0.1	-0.1	0.2	0.1
Radio, TV and communications equipment	0,4	-0.4	0.0	0.0	0.0	0.5	0.2	0.2
Medical, precision and optical instruments	0,1	0.0	0.1	0.0	0.0	0.1	-0.1	0.0
Medium-high-technology products	**0,4**	**-0.8**	**1.2**	**0.9**	**1.9**	**2.2**	**-0.4**	**-0.7**
Other electrical machinery and apparatus	0,2	0.0	-0.1	0.2	0.5	0.5	-0.4	-0.5
Motor vehicles, trailers and semi-trailers	0,1	-0.1	0.4	0.6	0.8	1.6	0.0	-0.6
Chemicals excl. pharmaceuticals	0,0	-0.9	0.2	0.6	0.1	-0.1	-0.1	0.3
Railroad equipment and other transport equip.	0,0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Other machinery and equipment	0,0	0.2	0.6	-0.5	0.4	0.1	0.2	0.1
Medium-low-technology products	**-0,5**	**-0.3**	**0.6**	**0.9**	**0.1**	**0.3**	**0.1**	**0.5**
Rubber and plastics products	-0,1	-0.2	0.0	0.1	0.2	0.1	0.1	0.2
Other non-metallic mineral products	-0,1	-0.2	0.4	0.2	0.4	0.1	-0.1	0.1
Building and repairing of ships and boats	-0,1	0.1	-0.2	0.2	-0.3	0.0	-0.1	0.0
Basic metals	-0,3	0.2	0.1	0.4	-0.1	0.0	0.2	0.2
Fabricated metal products, excl. machinery	0,0	-0.2	0.4	0.0	0.1	0.1	0.0	0.1
Low-technology products	**-0,8**	**-4.0**	**3.6**	**4.0**	**1.9**	**-0.5**	**-1.6**	**-2.9**
Other manufacturing and recycling	-0,8	-1.2	0.6	-0.2	-0.1	0.0	0.0	-0.1
Wood, pulp, paper and printed products	0,8	0.0	0.6	0.5	0.0	-0.1	-0.1	-0.5
Food products, beverages and tobacco	-1,6	-2.1	-0.5	0.0	0.1	0.1	-0.1	0.2
Textiles, textile products, leather and footwear	0,7	-0.8	3.0	3.6	1.9	-0.4	-1.3	-2.4
Total	**-0,4**	**-5.6**	**5.7**	**5.5**	**3.8**	**2.5**	**-1.4**	**-2.9**

Sources: CHELEM database and own calculations.
Note: The results of each period are computed as the average of the individual results obtained for each year.

of each product to the market share effect, using a breakdown by technological intensity. The referred effective decreases in market share are mostly observable in low-technology products. This fact reflects mainly the negative contributions from the "jewellery and related articles" item, included in the "other manufacturing and recycling" sector, and from the sector of "food products, beverages and tobacco". Considering the detailed ISIC 4-digit product breakdown level, the losses of market share in this latter sector were mostly concentrated in the items of "preserved fish and fish products", "vegetable and animal oils and fats", "manufactured grain mill products" and "wines".

In the following four periods, comprising the years from 1977 to 1996, there were effective gains of export share in specific markets, pointing to an improvement of Portuguese external competitiveness. It should be recalled that the Portuguese economy in this period was marked by the current account crisis and the stabilization agreements with the IMF in 1978 and 1983. In fact, most of the stabilization in macroeconomic conditions and the significant improvement in competitiveness observed in the late seventies was based on a mix of higher interest rates, domestic credit ceilings, cuts in government spending, real wage declines and currency depreciations under a crawling-peg regime.[11] In 1981, the international crisis that followed the 1979 oil shock, together with the revaluation of the escudo and the decrease in its monthly depreciation rate in 1980, reduced export market shares in many important sectors, thus contributing to ignite the second current account crisis.[12] Nevertheless, the reintroduc-

(11) It should be recalled that our analysis is nominal and conducted in dollar terms. Therefore, depreciations of the domestic currency have an immediate negative effect in the nominal export market shares but a net positive effect tends to follow as quantities exported increase due to improved price competitiveness.

(12) Abreu and Manteu (1993) also found a substantial effective loss of market share of Portuguese exports in 1981, in both volume and value terms.

tion and intensification of stabilization policies contributed to the recovery of effective market shares in the following years (see Appendix C for the annual results).

The main contribution to the effective increase of market share in the three periods from 1977 to 1991 came from the low-technology sector of "textiles, textile products, leather and footwear". At the product level, the most relevant gains of market share occurred in "wearing apparel, except fur", "footwear" and "knitted fabrics and articles". This positive performance benefited from the 1986 accession to the European Economic Community, as larger markets opened to sectors where Portugal held a comparative advantage. This path was reversed in the period 1992-96, with Portuguese exports losing share in the sector of "textiles, textile products, leather and footwear". Such evolution mainly reflected the reductions of share in "wearing apparel, except fur", while significant gains were still observable in "footwear". In the 1992-96 period, the most significant contribution to the effective gain of market share resulted from the medium-high-technology sector, more specifically from "motor vehicles, trailers and semi-trailers". These increases of market share were especially strong between 1995 and 1997 and coincide with the location in Portugal of large foreign direct investment projects in the automobile sector, but they also existed in the previous three periods. In the 1992-96 period, there were also some important gains of market share in the high-technology item of "TV and radio receivers and recorders".

As illustrated in Table 2, the declines of market share of the low-technology sector of "textiles, textile products, leather and footwear" made a significant contribution to the negative market share effect observed in the periods between 1997 and 2006. The liberalization of the EU textiles market with the phase-out of the Agreement on Textiles and Clothing certainly contributed to this evolution.[13] In fact, the growing participation in the international market of new countries with low production costs and heavily specialized in this sector increases the competition faced by Portuguese exporters.[14] At the more detailed breakdown level, the major losses of share occurred in "wearing apparel, except fur", but the items of "footwear", "made-up textile articles, excluding apparel" and "knitted fabrics and articles" contributed also negatively. In the 2002-06 period, there was also a reduction of market share of Portuguese exports of the low-technology sector of "wood, pulp, paper and printed products", reflecting mainly the losses in the items of "pulp, paper and paperboard" and "other products of wood, cork, straw". In addition, Portuguese exports of "motor vehicles, trailers and semi-trailers" also lost share in world markets in the 2002-06 period.

3.3.2. Geographical breakdown

Following what was done in the previous subsection, we now turn to the analysis of the geographical destinations contributing more to the market share effect. To facilitate the analysis, we aggregated the previous five-year periods in blocks of effective gains (1977-96) and losses (1968-76 and 1997-06) of market share. Table 3 displays the main five positive and negative geographical contributions to the effective changes in share of Portuguese exports in each of the three blocks selected.

The losses of share of Portuguese exports in the United Kingdom and in the group of African Less Developed Countries (LDCs), which includes the five Portuguese-speaking African countries, were the main geographical contributions to the market share effect in the 1968-79 period. Significant reductions of share of Portuguese exports were also observed in the United States and Canada.[15]

(13) In 1993, the Uruguay Round agreement defined a 10-year phase-out of trade barriers existing in the Multifibre Arrangement and in the Agreement on Textiles and Clothing (ATC). As for the ATC, the liberalization would occur in 1995 (16 per cent), 1998 (17 per cent), 2002 (18 per cent) and 2005 (49 per cent). For more details, see Francois *et al.* (2007).

(14) See Cardoso and Esteves (2008) for an analysis of the impact of low-cost producers on international prices.

(15) The result of Bangladesh in this period reflects mainly a statistical problem in 1972: Portuguese exports to Bangladesh are almost nil and world exports to Bangladesh have an abnormally high rate of change in 1972. The combination of these two facts resulted in a very high negative contribution of Bangladesh.

Table 3

GEOGRAPHICAL BREAKDOWN OF THE MARKET SHARE EFFECT OF PORTUGUESE MANUFACTURING EXPORTS

(excluding energy, average results in nominal terms, contributions in percentage points)

Five main positive contributions	1968-76		1977-96		1997-06	
	Former USSR	0.28	Germany	1,20	Spain	0,17
	Sweden	0.21	France	1,00	Singapore	0,08
	Norway	0.18	Spain	0,58	Poland	0,03
	Germany	0.16	Netherlands	0,35	African LDCs	0,03
	Italy	0.10	African LDCs	0,26	Malaysia	0,02
Five main negative contributions	**1968-76**		**1977-96**		**1997-06**	
	Canada	-0,13	Thailand	-0,01	Netherlands	-0,13
	United States	-0,30	Japan	-0,02	BLEU	-0,18
	Bangladesh	-0,86	Brazil	-0,04	United Kingdom	-0,22
	United Kingdom	-0,92	Former USSR	-0,05	France	-0,29
	African LDCs	-1,72	Gulf nes	-0,13	Germany	-0,90
Total Market Share Effect	**1968-76**		**1977-96**		**1997-06**	
		-3.3		4.4		-2.1

Sources: CHELEM database and own calculations.
Note: The results of each period are computed as the average of the individual results obtained for each year. BLEU includes Belgium and Luxembourg. For more detail on the countries included in each geographical area, see Appendix A.

In the period of 1977-1996, the increases of export share in the German and French markets were the major explanation for the observed positive market share effect. Other EU destination markets gave positive contributions to the market share evolution in this period, especially Spain and the Netherlands. In addition, there were export share gains in the group of African LDCs.

In the period from 1997 to 2006, the major losses of share of Portuguese exports were concentrated in the EU market. The reductions of share in the markets of Germany, France, United Kingdom, Netherlands and Belgium/Luxembourg gave a significant contribution to the market share effect. This evolution reflects the increased competition that Portuguese firms face in the EU market, as new players enter the rapidly expanding world market. The major exception is the Spanish market, where Portuguese exports continued to gain shares, though at a slower pace than in previous periods. Portuguese exports also continued to increase slightly its share in the group of African LDCs. Singapore, Poland and Malaysia appear as new geographical destinations where some small market share gains were obtained in this period.

3.4. Combined structure effect in Portugal

3.4.1. The product structure effect

This subsection identifies the individual products that contributed the most to the evolution of the product structure effect, using the previously referred breakdown by technological intensity (Table 4). In the average of the 1968-2006 period, the relative product specialization of Portuguese exports did not

Table 4

BREAKDOWN OF THE PRODUCT STRUCTURE EFFECT OF PORTUGUESE MANUFACTURING EXPORTS
(excluding energy, average results in nominal terms, contributions in percentage points)

	1968-71	1972-76	1977-81	1982-86	1987-91	1992-96	1997-01	2002-06
High-technology products	**-0.2**	**0.2**	**-0.1**	**-0.2**	**-0.4**	**-0.4**	**-0.8**	**0.2**
Aircraft and spacecraft	0.0	0.1	-0.1	0.1	-0.2	0.2	-0.1	0.2
Pharmaceuticals	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
Office, accounting and computing machinery	-0.1	0.0	-0.1	-0.2	-0.1	-0.2	-0.2	0.2
Radio, TV and communications equipment	-0.1	0.1	0.2	0.0	-0.1	-0.4	-0.3	0.0
Medical, precision and optical instruments	0.0	0.0	-0.1	-0.1	0.0	0.0	-0.1	0.0
Medium-high-technology products	**-0.7**	**-0.2**	**0.1**	**0.0**	**0.3**	**0.2**	**0.2**	**-0.1**
Other electrical machinery and apparatus	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Motor vehicles, trailers and semi-trailers	-0.6	0.0	0.1	-0.3	0.2	0.1	0.1	0.0
Chemicals excl. pharmaceuticals	-0.1	-0.1	0.0	0.0	0.1	0.0	0.0	-0.1
Railroad equipment and other transport equip.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other machinery and equipment	0.0	-0.1	0.0	0.4	0.1	0.0	0.2	-0.1
Medium-low-technology products	**0.4**	**-0.1**	**0.0**	**0.5**	**0.1**	**0.0**	**0.1**	**-0.4**
Rubber and plastics products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other non-metallic mineral products	0.0	0.0	0.0	0.1	0.0	-0.1	0.0	-0.1
Building and repairing of ships and boats	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
Basic metals	0.3	0.0	-0.1	0.4	0.1	0.1	0.1	-0.3
Fabricated metal products, excl. machinery	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Low-technology products	**-1.3**	**-0.6**	**-0.5**	**0.6**	**0.4**	**-0.6**	**0.1**	**-0.7**
Other manufacturing and recycling	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
Wood, pulp, paper and printed products	-0.6	-0.1	-0.2	-0.2	0.0	-0.1	0.0	-0.2
Food products, beverages and tobacco	0.1	-0.2	0.0	0.2	0.0	0.0	0.1	0.0
Textiles, textile products, leather and footwear	-0.6	-0.2	-0.3	0.6	0.4	-0.5	0.0	-0.5
Total	**-1.8**	**-0.6**	**-0.5**	**0.9**	**0.3**	**-0.7**	**-0.3**	**-1.0**

Sources: CHELEM database and own calculations.
Note: The results of each period are computed as the average of the individual results obtained for each year.

benefit the overall market share evolution.[16] The contribution of the product structure was negative in most periods, albeit not very significant. The most relevant negative effect came from the high relative specialization of Portuguese exports in low-technology products in periods where world exports of these products grew below average. The negative effects observed in the first and last periods of the sample are examples of this situation, with the sector of "textiles, textile products, leather and footwear" giving an important contribution. In addition, Portuguese exports have a bad positioning in most fast-growing products, as is the case of high-technology products that grew above average in almost all periods. In the most recent period, the non-specialization of Portuguese exports in these products had a small positive influence in overall market shares as world exports of these products grew below average. The periods of positive product structure effect, 1982-86 and 1987-91, were mostly related to the fact that some products where Portugal is relatively more specialized had a higher than average growth rate, namely the low-technology sector of "textiles, textile products, leather and footwear". Another significant positive impact in most periods came from the medium-low technology sector of "basic metals": Portuguese exports are not specialized in these goods, so the fact that world exports of these products increased below average had a positive impact on the product effect. However, in the most recent period, "basic metals" were the highest-growth sector in world export markets, so the contribution became negative. The same happened, but to a lesser extent, with the medium-high-technology group of "other machinery and equipment".

(16) See Amador *et al.* (2007) for a detailed analysis of the product specialization of Portuguese exports over the last forty years.

Table 5

BREAKDOWN OF THE GEOGRAPHICAL STRUCTURE EFFECT OF PORTUGUESE MANUFACTURING EXPORTS
(excluding energy, average results in nominal terms, contributions in percentage points)

Five main positive contributions	**1968-71**		**1972-76**		**1977-81**		**1982-86**	
	African LDCs	0.2	United States	0.2	United Kingdom	0.4	Saudi Arabia	0.3
	India	0.1	Germany	0.1	Poland	0.1	Mexico	0.2
	Netherlands	0.1	Canada	0.1	Gulf nes	0.1	Spain	0.2
	Canada	0.1	India	0.1	Canada	0.1	Germany	0.2
	Australia	0.1	South african Union	0.0	Italy	0.1	Nigeria	0.2
Five main negative contributions	**1968-71**		**1972-76**		**1977-81**		**1982-86**	
	Former Yugoslavia	-0.1	Former USSR	-0.2	Saudi Arabia	-0.1	Japan	0.0
	BLEU	-0.1	Saudi Arabia	-0.3	Mexico	-0.2	South Korea	-0.1
	United States	-0.1	United Kingdom	-0.5	United States	-0.2	China	-0.1
	Germany	-0.2	Gulf nes	-0.5	Sweden	-0.3	African LDCs	-0.3
	United Kingdom	-0.6	African LDCs	-0.5	African LDCs	-0.4	United States	-0.7
Geographical Structure Effect	**1968-71**		**1972-76**		**1977-81**		**1982-86**	
		-0.2		-2.4		-1.6		0.9
Five main positive contributions	**1987-91**		**1992-96**		**1997-01**		**2002-06**	
	Spain	0.9	Italy	0.1	Spain	0.2	Spain	0.5
	United States	0.7	Canada	0.1	Japan	0.1	United States	0.5
	Germany	0.3	Gulf nes	0.1	Singapore	0.1	Japan	0.2
	France	0.2	Saudi Arabia	0.0	South Korea	0.1	African LDCs	0.2
	Canada	0.1	BLEU	0.0	Thailand	0.1	Canada	0.1
Five main negative contributions	**1987-91**		**1992-96**		**1997-01**		**2002-06**	
	Mexico	-0.1	Spain	-0.2	France	-0.1	France	-0.1
	Singapore	-0.1	China	-0.2	China	-0.1	Gulf nes	-0.1
	Taiwan	-0.1	African LDCs	-0.2	Mexico	-0.2	United Kingdom	-0.2
	South Korea	-0.1	France	-0.3	Germany	-0.2	Former USSR	-0.2
	Japan	-0.3	Germany	-0.5	United States	-0.5	China	-0.4
Geographical Structure Effect	**1987-91**		**1992-96**		**1997-01**		**2002-06**	
		1.4		-2.7		-0.3		0.2

Sources: CHELEM database and own calculations.
Note: The results of each period are computed as the average of the individual results obtained for each year. BLEU includes Belgium and Luxembourg. For more detail on the countries included in each geographical area, see Appendix A.

3.4.2. The geographical structure effect

This subsection analyses the contribution of each destination to the geographical structure effect. Table 5 presents the five main positive and negative contributions in each period. Considering the average of the last forty years, the geographical specialization of Portuguese exports had an unfavourable impact on the overall evolution of market shares. The negative contributions were mainly concentrated in three periods: 1972-76, 1977-81 and 1992-96. From 1972 to 1981, the main contribution was given by the group of African LDCs, reflecting the high relative specialization of Portuguese exports in these markets and the below average growth rate of world exports to these countries. The significant negative impact of the geographical structure in the 1992-96 period was mainly due to the fact that world exports to EU countries grew below average, in a context where Portuguese exports are relatively more specialized in those markets.[17] In contrast, the highest positive contribution of the geographical structure effect of Portuguese exports occurred in the 1987-91 period. This effect was mostly related with the evolution of some EU markets that grew above average and that represented a high share of Portuguese exports, in particular Spain, Germany and France. In addition, the non-specialization of Portuguese exports in the North-American market also contributed positively, given that the growth of world exports to the United States and Canada was below average in the 1987-91 period. In broad terms, the most significant geographical effect since the eighties, with the exception of the 1992-96 period, was related to the Spanish market. In fact, this market recorded a growth rate above average and represents a high and sustained share of Portuguese exports, naturally increasing the sensitivity of the Portuguese economy to the Spanish business cycle. In contrast, the non-specialization of Portuguese exports in the Chinese market gave an important negative contribution in recent years, given the high growth of world exports to China in this period.

4. CONCLUSIONS

This article analyses the evolution of the share of Portuguese nominal exports in the world market over the 1968-2006 period, using a detailed product and geographical breakdown. We isolate the effective changes of export share in each individual market from the effects related with the product and geographical specialization of exports, using a constant market share formulation as proposed by Nyssens and Poullet (1990). However, as it is a descriptive method, the constant market share analysis does not provide information on the factors explaining the changes of market shares.

Over the average of the last forty years, the rate of change of Portuguese exports was slightly higher than that of total world exports, leading to an average annual increase of total market share of 0.4 per cent. This evolution contrasts with the ones observed in Ireland and Spain, whose shares in world exports had an average annual growth of 3.8 per cent from 1968 to 2006. It is possible to identify periods with distinct evolutions of Portuguese export market shares, corresponding to diverse shocks to the economy, different macroeconomic regimes and progressive economic integration with the European Union. A decline of total Portuguese market share is visible in the first two five-year periods from 1968 to 1976. Conversely, the following three periods until 1991 are characterized by an overall increase of market share. Finally, in the last three periods from 1992 to 2006 there is a gradual reduction of total Portuguese share in world exports.

(17) This negative geographical structure effect was very significant in 1993, not only for Portugal but also for the other four benchmark countries selected. In 1993 two facts are worth mentioning. Firstly, the cyclical position in most EU countries corresponded to a recession. Secondly, it was the starting year of the European Single Market, which initially brought some reporting problems in international trade data, as EU customs controls were reduced.

The results of this constant market share analysis indicate that the dominant contributions to the evolution of total Portuguese market shares in most periods were the effective changes of export share in each individual market, *i.e.*, the market share effect. A similar result is observed for the benchmark countries considered.

In the 1968-76 period, there was a significant effective loss of market share of Portuguese exports, mainly centered on low-technology products like food, beverages and tobacco. In geographical terms, the main contributions to the effective reductions of share in this period were the United Kingdom and the group of Portuguese speaking African countries. The 1977-96 period is characterized by effective gains of market share of Portuguese exports. In sectoral terms, there were substantial increases of market share in the low-technology sector of textiles, clothing and footwear in the three periods from 1977 to 1991. In 1992-1996, the most important contribution to the positive market share effect resulted from the medium-high-technology sector of motor vehicles. In terms of the geographical destinations, the major positive contributions in the 1977-96 period came from the European Union market, in particular Germany and France, but also Spain and the Netherlands. There were also increases of share of Portuguese exports in the group of Portuguese speaking African countries. Finally, in the period from 1997 to 2006, Portuguese exports experienced considerable reductions of share in textiles, clothing and footwear. In the 2002-06 period, Portuguese exports of motor vehicles and of wood and paper also lost share in world markets. In terms of destinations, the main declines of share in 1997-06 period occurred in the European Union market. The main exception was the Spanish market, where Portuguese exports continued to gain share, although less than in previous periods.

Over the 1968-2006 period, the relative product composition of Portuguese exports had a negative impact in the evolution of total shares in world exports. In general terms, the negative product structure effect resulted mainly from the high relative share in Portuguese exports of products whose markets grew below average, in particular some low-technology products like textiles, clothing and footwear. In addition, the non-specialization of Portuguese exports in most fast-growing sectors, like some high-technology products, also gives a negative contribution in most periods. The geographical distribution of Portuguese exports made also a negative average contribution to the evolution of total market shares over the last forty years. The negative geographical effects were mainly concentrated in three distinct periods: 1972-76, 1977-81 and 1992-96. This evolution resulted mainly from a higher share in Portuguese exports of countries whose markets grew below average, namely the Portuguese-speaking African countries in the first two periods and some European Union markets in 1992-96. Conversely, the relatively strong specialization of Portuguese exports in the European Union markets accounts for a significant contribution to the positive geographical effect observed in the 1987-1991 period. In the most recent periods, the overall evolution of export shares benefited from the relatively high importance of Spain as a destination market, given its above average growth rate. In contrast, the main negative contribution to the geographical effect in the 2002-06 period arises from the under-specialization of Portuguese exports in the Chinese market, one of the most dynamic in the world in recent years.

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Appendix A – Geographical breakdown

The 79 countries or country groups included in the sample are the following:

United States; Canada; France; BLEU; Germany; Italy; Netherlands; United Kingdom; Ireland; Denmark; Finland; Norway; Sweden; Iceland; Austria; Switzerland; Spain; Greece; Portugal; Turkey; Israel; Former Yugoslavia; Others in South Europe; Japan; Australia; New Zealand; South African Union; Venezuela; Ecuador; Mexico; Brazil; Argentina; Chile; Colombia; Peru; Bolivia; Paraguay; Uruguay; Others in America; Algeria; Morocco; Tunisia; Egypt; Libya; Saudi Arabia; Gulf; Middle East (no OPEC); Nigeria; Gabon; Cameroon; Cote d'Ivoire; Kenya; Others in Africa; African LDCs; Indonesia; India; South Korea; Hong Kong; Singapore; Taiwan; Malaysia; Philippines; Thailand; Pakistan; Brunei; Bangladesh; Sri Lanka; Others in East Asia; East Asian LDCs; Former USSR; Bulgaria; Former Czechoslovakia; Hungary; Poland; Romania; Albania; China, People's Rep.; Vietnam; Cambodia, Laos.

The composition of the different areas/country groups is the following:

a. BLEU includes Belgium, Luxembourg.

b. Germany includes the former German Democratic Republic until 1990.

c. Former Yugoslavia includes Serbia and Montenegro, Bosnia and Herzegovina, Croatia, Macedonia, Republic of Slovenia.

d. Others in South Europe includes Andorra, Cyprus, Gibraltar, Malta.

e. South African Union includes Botswana, Lesotho, Namibia, South Africa, Swaziland.

f. Others in America includes Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Montserrat, Netherland Antilles, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, and all others in America not elsewhere specified (nes).

g. Gulf includes Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, United Arab Emirates.

h. Middle East (no OPEC) includes Jordan, Lebanon, Syria, Yemen.

i. African LDCs includes Angola, Benin, Burkina Faso, Burundi, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo (formerly Zaire), Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Uganda, Zambia.

j. Others in Africa includes Congo, Ghana, Mauritius, Seychelles, Western Sahara, Zimbabwe, and all others in Africa nes.

k. East Asian LDCs includes Afghanistan, Bhutan, Kiribati, Maldives, Myanmar, Nepal, Solomon Islands, Vanuatu, Western Samoa.

l. Others in East Asia includes Fiji, French Polynesia, Guam, Macao, Mongolia, New Caledonia, North Korea, Pacific Islands, Papua New Guinea, Tonga, US Samoa, and all others in Asia and Oceania nes.

m. Former USSR includes the Commonwealth of Independent States (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan), Baltic States (Estonia, Latvia, Lithuania).

n. Former Czechoslovakia includes Czech Republic, Slovakia.

Source: CHELEM database.

Appendix B – Product classification by technological intensity

		ISIC rev.3
High-technology products	**HT**	
Aircraft and spacecraft	HT1	353
Pharmaceuticals	HT2	2423
Office, accounting and computing machinery	HT3	30
Radio, TV and communications equipment	HT4	32
Medical, precision and optical instruments	HT5	33
Medium-high-technology products	**MHT**	
Other electrical machinery and apparatus	MHT1	31
Motor vehicles, trailers and semi-trailers	MHT2	34
Chemicals excluding pharmaceuticals	MHT3	24 excl. 2423
Railroad equipment and other transport equipment	MHT4	352 + 359
Other machinery and equipment	MHT5	29
Medium-low-technology products	**MLT**	
Rubber and plastics products	MLT2	25
Other non-metallic mineral products	MLT3	26
Building and repairing of ships and boats	MLT4	351
Basic metals	MLT5	27
Fabricated metal products, excluding machinery	MLT6	28
Low-technology products	**LT**	
Other manufacturing and recycling	LT1	36-37
Wood, pulp, paper and printed products	LT2	20-22
Food products, beverages and tobacco	LT3	15-16
Textiles, textile products, leather and footwear	LT4	17-19
Total manufacturing		15-37

Source: CHELEM database.

Note: The product breakdown used here and available in the CEPII – CHELEM database follows the OECD classification of manufacturing industries according to technological intensity using the ISIC rev. 3 breakdown, but excludes the MLT1 sector of "Coke, refined petroleum products and nuclear fuel". This OECD classification was based on the analysis of R&D expenditure and output of 12 OECD countries in the period 1991-99. For more information, see OECD (2005).

Appendix C – Main annual results

CONSTANT MARKET SHARE ANALYSIS OF PORTUGUESE EXPORTS
(nominal, manufacturing excluding energy)

	Growth of Portuguese exports	Growth of world exports	Total Effect	Market Share Effect	Combined Structure Effect	*of which:* Product Structure Effect	Geographical Structure Effect	Mixed Structure Effect
1968	7.8	13.8	-6.0	-0.9	-5.1	-3.5	-1.6	0.0
1969	13.2	14.9	-1.7	3.8	-5.6	-1.4	-2.2	-2.0
1970	9.6	15.9	-6.3	-5.6	-0.6	-3.6	1.8	1.1
1971	12.1	11.4	0.7	1.1	-0.4	1.2	1.2	-2.9
1972	24.8	19.7	5.1	-5.4	10.5	5.0	-0.8	6.4
1973	44.7	37.0	7.7	6.9	0.8	1.6	0.4	-1.1
1974	22.3	32.5	-10.2	-3.9	-6.4	-8.0	-4.7	6.4
1975	-14.4	5.8	-20.2	-12.4	-7.8	-3.6	-3.2	-1.0
1976	-6.4	11.2	-17.6	-13.1	-4.5	2.0	-3.5	-3.0
1977	11.4	14.7	-3.3	-4.2	0.9	-0.3	-1.1	2.3
1978	19.1	19.4	-0.3	3.7	-4.1	-0.8	-2.5	-0.8
1979	42.8	21.4	21.4	15.7	5.7	1.4	3.7	0.6
1980	31.1	16.8	14.3	15.4	-1.1	-2.0	-1.3	2.2
1981	-11.0	-1.9	-9.2	-2.2	-6.9	-0.6	-6.7	0.4
1982	4.1	-5.4	9.5	7.1	2.4	1.0	1.5	0.0
1983	9.1	-0.2	9.3	11.2	-1.9	0.5	-1.5	-1.0
1984	15.5	8.5	7.0	6.5	0.4	2.1	-4.4	2.8
1985	8.9	4.2	4.7	3.8	0.9	-1.1	1.6	0.5
1986	27.1	19.7	7.4	-1.4	8.8	2.0	7.6	-0.8
1987	29.9	19.2	10.7	4.1	6.6	2.6	4.8	-0.7
1988	18.5	17.4	1.0	3.0	-2.0	-3.2	-0.9	2.1
1989	14.0	8.0	5.9	7.5	-1.5	-0.3	0.3	-1.5
1990	28.1	12.9	15.1	7.8	7.3	1.5	5.1	0.7
1991	0.4	3.8	-3.4	-3.3	-0.1	1.1	-2.4	1.2
1992	13.6	8.5	5.1	5.7	-0.6	0.6	-1.9	0.7
1993	-17.1	-1.1	-16.0	-5.6	-10.4	-0.2	-10.9	0.7
1994	16.2	15.3	0.9	2.6	-1.7	-1.7	-0.5	0.6
1995	31.2	20.1	11.1	11.9	-0.8	-2.3	1.4	0.1
1996	0.4	3.3	-2.9	-2.0	-1.0	-0.1	-1.5	0.6
1997	1.5	5.3	-3.8	-1.4	-2.4	-0.5	-2.7	0.8
1998	4.0	0.6	3.5	-0.9	4.4	0.0	6.3	-1.9
1999	1.1	2.8	-1.8	-1.0	-0.8	-0.1	-1.2	0.5
2000	-1.2	9.1	-10.3	-1.2	-9.1	-2.4	-7.2	0.5
2001	-0.7	-2.6	1.9	-2.3	4.1	1.4	3.2	-0.5
2002	7.1	4.7	2.4	1.1	1.3	0.9	-0.2	0.6
2003	22.6	16.2	6.3	1.4	4.9	-0.1	3.6	1.4
2004	11.4	20.5	-9.1	-7.3	-1.8	-2.5	0.0	0.7
2005	-4.7	8.3	-13.0	-9.7	-3.2	-1.3	-2.0	0.1
2006	13.2	14.7	-1.5	-0.1	-1.4	-1.8	-0.2	0.5

Sources: CHELEM database and own calculations.

CHRONOLOGY OF MAJOR FINANCIAL MEASURES

January to October 2008

January

- **3 January (Decree-Law No 1/2008, Official Gazette No 2, Series I, Ministry of Finance and Public Administration)**

  Introduces changes to the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law No 298/92 of 31 December and amended by Decree-Laws No 246/95 of 14 September 1995, No 232/96 of 5 December 1996, No 222/99 of 22 June 1999, No 250/2000 of 13 October, No 285/2001 of 3 November, No 201/2002 of 26 September, No 319/2002 of 28 December, No 252/2003 of 17 October, No 145/2006 of 31 July, No 104/2007 of 3 April and No 357-A/2007of 31 October. It amends a number of articles, adds a few others and revokes Articles 89 and 90 of the said Decree-Law, re-published in full in an annex (consolidated version). This Decree-Law establishes the market conduct supervision of credit institutions and financial companies, within the framework of the tasks of Banco de Portugal, thus reinforcing its supervisory powers. This Decree-Law shall enter into force on the day following its publication.

- **4 January (Circular Letter of Banco de Portugal No 3/2008/DET, Treasury and Issue Department)**

  Informs, within the scope of the framework for implementation of Decree-Law No 195/2007 of 15 May, with regard to the conclusion of contracts on euro banknote recycling, that in December 2007 Banco de Portugal signed a contract with the cash-in-transit company LOOMIS, S.A.

- **9 January (Circular Letter of Banco de Portugal No 1/08/DSBDR, Banking Supervision Department)**

  Conveys the understanding of Banco de Portugal as to the interpretation of Article 3 of Decree-Law No 240/2006 of 22 December with regard to the periodicity of revision of the benchmark used in variable-rate credit operations.

- **15 January (Notice of Banco de Portugal No 1/2008, Official Gazette No 15, Series II)**

  Under the terms and for the purposes of the provisions of Article 13(1) of Decree-Law No 221/2000 of 9 September, it determines which payment systems will benefit from the irrevocability of transfer orders and the enforceability of collateral set up on behalf of a participant or a bank integrating the European System of Central Banks (ESCB). This notice enters into force on 18 February 2008, or on the date of the actual migration of TARGET2-PT to the Single Shared Platform of TARGET2, if this migration can only occur on a later date.

- **15 January (Instruction of Banco de Portugal No 33/2007, BNBP 01/2008)**

  Regulates the operation of the Target 2 national system.

- **15 January (Instruction of Banco de Portugal No 34/2007, BNBP 01/2008)**

  Regulates the participation in the Large-Value Payment System (RTGS2).

- **15 January (Instruction of Banco de Portugal No 35/2007, BNBP 01/2008)**

  Creates the Intraday Credit Market.

- **15 January (Instruction of Banco de Portugal No 36/2007, BNBP 01/2008)**

  Amends Instruction No 25/2003, published in the Official Bulletin No 10 of 15 October 2003, with regard to the close of Financial Clearing and Settlement in the EFT System for the processing of operations sent and received within the scope of SEPA.

- **16 January 2008 (Circular Letter of Banco de Portugal No 5/2008/DET. Treasury and Issue Department)**

  Informs that Banco de Portugal will disseminate to the banking system requests for information submitted to it by individual persons, relating to the identification of bank accounts and/or other financial assets of deceased relatives. For that purpose, Banco de Portugal will make available, on the Bank Customer-oriented website, a form named "Request for the location of financial assets in case of death of the respective holders", which will allow for the filling-in and electronic sending of the request, as well as its printing and later forwarding by mail.

- **18 January (Circular Letter No 6/2008/DET Banco de Portugal. Treasury and Issue Department)**

  Informs, within the scope of the implementation framework set forth in Decree-Law No 195/2007 of 15 May on the contractual obligations relating to the recycling of euro banknotes, that Banco de Portugal has signed a contract with the cash-in-transit company *GRUPO 8 - Vigilância e Prevenção Electrónica, Lda*.

- **23 January (Circular Letter No 8/2008/DET Banco de Portugal. Treasury and Issue Department)**

  Publishes the procedures to be met in contracts to be signed with Banco de Portugal, arising from the new legal framework governing euro coin recycling, pursuant to Decree-Law No 184/2007 of 10 May. It provides clarification on the contract model to be adopted and informs on the procedures for handling euro coins unfit for circulation and for removing counterfeit coins from circulation. It establishes that the entities shall adjust to the transition period laid down therein, and informs that Banco de Portugal offers its availability in terms of cooperation, training and clarification regarding any issue.

- **24 January (Circular Letter No 6/2008/DSBDR Banco de Portugal. Banking Supervision Department)**

  Provides information, in the wake of the entry into force of Decree-Law No 371/2007 of 6 November, on the changes to the procedures relating to the Complaints Book to which Credit Institutions and Financial Companies should pay particular attention, with a view to a faster and more efficient treatment of the respective complaints. It also informs that a new service on claims is expected to be available soon, within the scope of BPnet, to be used for the electronic circulation of information flows between credit institutions and Banco de Portugal.

- **30 January (Circular Letter No 8/2008/DSB of 30 January 2008 Banco de Portugal. Banking Supervision Department)**

  Reminds credit institutions that they shall fully comply with the enforcement of attachments of bank accounts and securities, namely those stemming from the Directorate General of Taxation, with special attention to the applicable provisions of the Code of Civil Procedure. This reminder is provided in the wake of a number of complaints to the Ombudsman's Office. The Ombudsman addressed to the Governor of Banco de Portugal a recommendation pointing to the elimination of procedures adopted by some banking institutions that were deemed to be irregular.

February

- **4 February (Decision No 2727/2008 of 21 December 2007 Ministry of Finance - General Government. Minister's Office Official Gazette No 24 - Series 2**

  Approves, pursuant to Article 63 (1) of the Organic Law of Banco de Portugal (Law No 5/98 of 31 January), the new Chart of Accounts of Banco de Portugal, to enter into force as of 1 January 2008.

- **6 February Instruction of Banco de Portugal No 1/2008, BNBP 03/2008 (date of entry into force: 8 February 2008)**

  Introduces changes in Instruction No 4/2002, published in the Official Bulletin No 1 of 15 February 2002, which defines the information elements relating to liabilities on account of retirement and survivorship pensions to be supplied to Banco de Portugal.

- **18 February 2008 (Notice of Banco de Portugal No 2/2008, Official Gazette No 38, Series II)**

  Introduces changes in Notice No 12/91 of 31 December, in compliance with the amendments to the Companies Register, as a result of Simplified Business Information.

March

- **7 March (Parliament Decision No 6/2008, Official Gazette No 51, Series I)**

  Determines the setting up of a parliamentary committee of inquiry into the exercise of banking, insurance and capital market supervision.

- **17 March (Instruction of Banco de Portugal No 2/2008, BNBP 3/2008)**

  Revokes Instruction No 27/2000, published in the BNBP No 12 of 15 December 2000.

- **17 March (Instruction of Banco de Portugal No 3/2008, BNBP 3/2008)**

  Informs that credit institutions adopting the minimum banking services system laid down in Decree-Law No 27-C/2000 of 10 March shall fill in and send to Banco de Portugal, up to 15 January each year, the table in attachment to the present Instruction.

- **17 March (Instruction of Banco de Portugal No 4/2008, BNBP 3/2008)**

  Lays down the procedures to be followed in the application to the utilisation of internal models by institutions, as regards the calculation of own fund requirements to cover market risks.

- **17 March 2008 (Circular Letter of Banco de Portugal No 27/2008/DET, Treasury and Issue Department)**

  Makes known that within the framework for the implementation of Decree-Law No 195/2007 of 15 May, Banco de Portugal has entered into a contract with Prosegur - Companhia de Segurança, Lda. (a cash-in-transit company) regarding the euro banknote recycling activity.

- **18 March 2008 (Notice of Banco de Portugal No 3/2008, Official Gazette, Series II)**

  Lays down that credit institutions must provide clear and accurate information on the balance of demand deposit accounts and defines the concept of "available balance". This Notice shall apply to all information that mentions the available balance, irrespective of it being provided over-the-counter, by ATMs, banking portals or call centres. This Notice shall enter into force on the 90th day following its publication.

- **26 March 2008 (Circular Letter of Banco de Portugal No 25/2008/DSB, Banking Supervision Department)**

  Pursuant to the provisions laid down in paragraph 2 of Article 77-A of the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law No 298/92 of 31 December, as amended by Decree-Law No 1/2008 of 3 January, defines a set of procedures to be complied with by credit institutions and financial companies when complaints are directly submitted to the Bank against those institutions, and where the Bank considers that the said institutions must be involved in the assessment process.

- **26 March 2008 (Decree-Law No 57/2008, Ministry of Economy and Innovation, Official Gazette No 60, Series I)**

  Lays down the legal framework applicable to unfair business-to-consumer commercial practices, occurred before, during or after a commercial transaction in relation to a product or service. This Decree-Law transposes into Portuguese law Directive

2005/29/EC of the European Parliament and of the Council of 11 May.

April

- **7 April 2008 (Notice of Banco de Portugal No 4/2008, Official Gazette No 4, Series II)**

  Makes known that the Board of Directors of Banco de Portugal has decided to close down its agency located in Vila Real, effective from 31 May 2008.

- **17 April (Circular Letter No 30/08/DSBDR Banco de Portugal. Banking Supervision Department)**

  With a view to clarifying a number of doubts, it explains the provisions of paragraph 5 of Article 15 (implementation of the IRB approach) of Decree-Law No 104/2007 of 3 April.

- **28 April (Circular Letter No 36/2008/DET Banco de Portugal. Treasury and Issue Department)**

  In the wake of public complaints on practices involving the refusal to exchange cash and the charging of fees for the mere conduct of such operations, it informs that credit institutions must ensure the carrying out of exchange operations free of charge at their branches, so as not to undermine the trust of the public and other traders in currency circulation.

May

- **15 May (Instruction of Banco de Portugal No 5/2008, BNBP 05/2008)**

  Amends Instruction No 25/2003 published in the Official Bulletin No 10 of 15 October 2003, as regards the clearing of cheques and of interbank electronic transfers, as well as the closing times of financial clearing and settlement.

- **15 May (Instruction of Banco de Portugal No 6/2008, BNBP 5/2008)**

  Amends Instruction No 23/2007 published in the Official Bulletin No 8 of 16 August 2007, which laid down the prudential reporting requirements applicable to credit institutions and certain financial companies.

- **15 May (Instruction of Banco de Portugal No 7/2008, BNBP 5/2008)**

  Revokes Instruction No 18/2004 published in the Official Bulletin No 9 of 15 September 2004, laying down a new framework for the notification and regular reporting of securitisations.

- **15 May (Circular Letter of Banco de Portugal No 30/2008/DSB, Banking Supervision Department)**

  For the purposes of clarification of some doubts, makes clearer the provisions laid down in Article 15 (5) (implementation of the IRB Approach) of Decree-Law No 104/2007 of 3 April.

- **15 May (Circular Letter of Banco de Portugal No 38/2008/DSB, Banking Supervision Department)**

  Informs that for the purposes of compliance with the requirement laid down in Circular Letter of Banco de Portugal No 17/2002/DSB regarding the preparation of a report quantifying the economic provisions required to cover the risk implicit in a credit portfolio, Banco de Portugal will thenceforth accept the replacement of the said report with an imparity report, provided that the methods used are consistent and consistency is certified by the external auditors of the respective institutions.

- **29 May (Decree-Law No 88/2008, Official Gazette No 103, Series I, Ministry of Finance and Public Administration)**

  Harmonizes the criteria to be used in the calculation of the interest rate and respective indexing rate in the situations covered by Decree-Law No 51/2007 of 7 March, adopts the general 360-day count convention for the euro market, regarding the calculation of the interest rates of deposits, within the scope of the provisions laid down in Decree-Law No 430/91 of 2 November, and clarifies the treat-

ment of reference indices for the calculation of interest in terms of the monthly average, set out in credit and financing contracts and foreseen in Article 3 of Decree-Law No 240/2006 of 22 December. This Decree-Law shall enter into force on the 30th day after its publication.

June

- **5 June (Law No 25/2008 of 5 June, Official Gazette No 108, Series I, Assembly of the Republic)**

  Lays down measures of a preventive and repressive nature to combat money laundering of illicit origin and terrorist financing, transposing into Portuguese law Directives No 2005/60/EC of the European Parliament and of the Council of 26 October and No 2006/70/EC of the Commission of 1 August on the prevention of the use of the financial system for the purpose of money laundering and terrorist financing.

- **9 June (Deliberation No 1890/2008, Official Gazette No 134, Series II, Banco de Portugal)**

  Makes public the delegation of powers decided at a meeting of the Board of Directors of Banco de Portugal, held on 9 June 2008.

- **19 June (Regulation of the Securities Market Commission No 3/2008, Official Gazette No 127, Series II)**

  Amends Regulation of the Securities Market Commission No 2/2007 of 5 November, with a view to achieve convergence between the Securities Market Commission and Banco de Portugal in matters relating to the internal control of financial intermediaries. This Regulation shall enter into force on the 1st day following its publication.

- **24 June (Circular Letter of Banco de Portugal No 47/DET, Treasury and Issue Department)**

  Makes known that credit institutions can have access to an e-learning training course on "Euro banknote knowledge" developed by Banco de Portugal, through the platform of Instituto de Formação Bancária – WebBANCA.

- **25 June (Notice of Banco de Portugal No 5/2008, Official Gazette No 125, Series II, Part E)**

  Updates the internal control requirements to be applied to institutions subject to supervision by Banco de Portugal. Enables full harmonisation of the internal control reports required by Banco de Portugal and the Securities Market Commission, by introducing a simplification. Report contents shall be focused on weaknesses, understood as all existing real or potential shortcomings, or the opportunities to introduce improvements that will strengthen the internal control system, replacing the description of procedures. Considering that a minimum period of adaptation has been envisaged, the deadline for submitting the first internal control report has been extended to 31 December 2008. This Notice shall enter into force on the 1st day following its publication.

July

- **15 July (Instruction of Banco de Portugal No 8/2008, BNBP 7/2008)**

  Amends Instruction of Banco de Portugal No 30/2002, published in the Official Bulletin No 10 of 15 October 2002 relating to BPnet.

- **21 July (Decree-Law No 125/2008, Official Gazette No 139, Series I, Ministry of Finance and Public Administration)**

  Lays down the national measures required for the implementation of Regulation (EC) No 1781/2006 of the European Parliament and of the Council of 15 November 2006 on information on the payer accompanying transfers of funds.

- **21 July (Decree-Law No 126/2008, Official Gazette No 139, Series I, Ministry of Finance and Public Administration)**

Introduces changes in the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law No 298/92, of 31 December. Within the framework of adoption of "better regulation" principles, these changes are intended, inter alia, to promote convergence of criteria and procedures for assessing the fitness and properness of the members of management and auditing boards of the institutions subject to the supervision of the competent authorities regulating the financial sector.

August

- **18 August (Instruction of Banco de Portugal No 9/2008, BNBP 8/2008)**

Defines information to be reported by institutions to Banco de Portugal during the transition period agreed for adjustment to the common policy for the re-circulation of euro banknotes, its frequency and respective reporting period.

- **18 August (Instruction of Banco de Portugal No 10/2008, BNBP 8/2008)**

Introduces changes in Instruction No 31/99 of 17 October 2000, as reworded by Instruction No 34/2000 of 15 December 2000.

- **18 August (Instruction of Banco de Portugal No 11/2008, BNBP 8/2008).**

Introduces changes in Instruction No 26/2003 (Legal system governing the cheque and its technical specifications) of 15 October 2003.

- **26 August (Decree-Law No 171/2008, Official Gazette No 164, Series I, Ministry of Finance and Public Administration)**

Approves borrower protection measures in housing credit regarding the renegotiation of loan conditions and their mobility. This Decree-Law shall enter into force on the 30th day after its publication. At the end of the first year after the date of its entry into force, Banco de Portugal shall prepare and disclose an evaluation report on the impact of its implementation.

September

- **3 September (Instruction of Banco de Portugal No 12/2008, BNBP10/2008)**

Amends Instruction of Banco de Portugal No 19/2006, published in the Official Bulletin No 1 of 17 January 2007, as regards the release on the Website of Banco de Portugal of the accounting documents of branches in Portugal of credit and financial institutions.

- **19 September (Instruction of Banco de Portugal No 13/2008, BNBP10/2008)**

With a view to having available more systematised information on compliance with the provisions laid down in Articles 85 and 109 of the Legal Framework of Credit Institutions and Financial Companies (granting of credit to members of the management or auditing boards), provides for the sending of specific information items to Banco de Portugal.

- **30 September (Circular Letter of Banco de Portugal No 61/08/DSBDR, Banking Supervision Department)**

Conveys the understanding of Banco de Portugal regarding the provisions laid down in paragraph 1 of Article 3 of Decree-Law No 171/2008 of 26 August on the renegotiation of housing credit conditions.

October

- **15 October (Instruction of Banco de Portugal No 14/2008, BNBP 10/200)**

Sets at 0.03% the base contributory rate applicable to the calculation of the contribution of each member institution to the Deposit Guarantee Fund in 2009.

• **15 October (Instruction of Banco de Portugal No.15/2008, BNBP 10/200)**	Sets at 10% the limit for the irrevocable payment commitment applicable to annual contributions in 2009.