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ECONOMIC POLICY AND SITUATION

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THE PORTUGUESE ECONOMY IN 2009

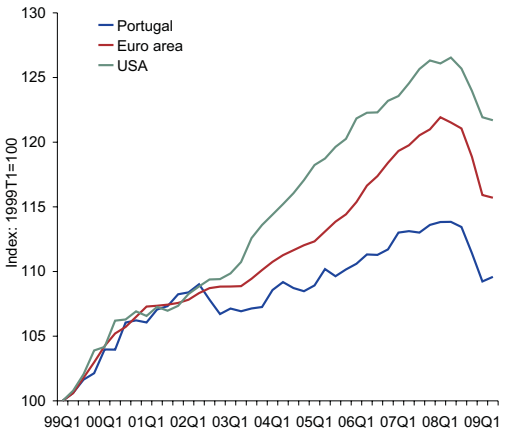
1. INTRODUCTION

The recent performance of the Portuguese economy has been strongly associated with the global economic recession, whose magnitude, duration and geographical extension stand at an unprecedented historical level. Indeed, in the wake of the intensifying financial crisis over the last quarter of 2008 – with a renewed broadly based surge in uncertainty and risk aversion levels – a sharp and marked fall has been observed in agents' expectations, economic activity and trade at an international level (Charts 1.1 and 1.2). In view of their nature, these adverse shocks quickly passed through to the group of integrated economies in real and financial terms, including Portugal, and amplified the deceleration dynamics in course in some economies, in particular those undergoing significant adjustments in real-estate markets. In this scenario of sharp fall of overall demand, international trade deflators and inflation rates dropped markedly in 2009.

With a view to containing the fall in overall activity, and to prevent a spiral of systemic effects resulting from the interaction between the economic and financial crises, monetary authorities and governments have responded in a decisive – and in some cases coordinated – manner, adopting, on the one hand, monetary stimulus and liquidity management measures and, on the other hand, expansionary fiscal policies and other measures to support the banking systems. This response of the authorities contributed not only to gradually alleviate tensions in international financial markets – in particular in monetary, stock, and public and private debt markets – but also to introduce direct stimuli, albeit temporary, on economic activity, thus contributing to heighten agents' expectations. In a context of lower volatility and risk aversion, prospects for overall economic activity have thus gradually turned less negative as of the second quarter of 2009, positive growth of activity and trade in the second half of the year being anticipated in most advanced economies and, more sharply, in emerging market economies as a whole. However, a high level of uncertainty persists regarding the international economic outlook, and risks for economic activity continue to be predominantly on the downside. Within this scope, it is worth

Chart 1.1

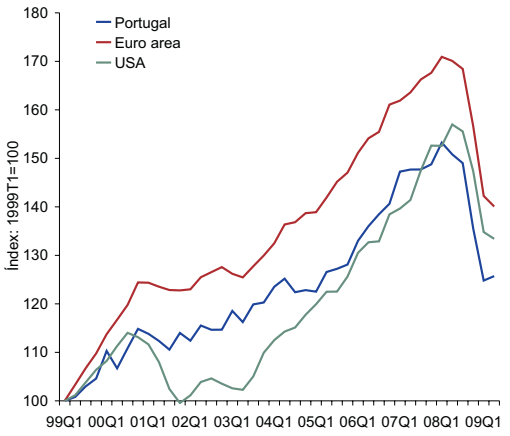
GROSS DOMESTIC PRODUCT



Sources: Eurostat, *INE*, Thomson Reuters and Banco de Portugal.

Chart 1.2

EXPORTS OF GOODS AND SERVICES



Sources: Eurostat, *INE*, Thomson Reuters and Banco de Portugal.

stressing the impact on overall demand dynamics of a possible reversal of measures taken by the authorities to support the financial system and economic activity. In addition, the present economic and financial crisis may negatively affect the equilibrium level of activity and even potential economic growth, in particular via increased obsolescence of installed capital, lower capital accumulation for protracted periods, and rising structural unemployment, which will tend to persist in the economies with less labour market mobility.

This set of successive shocks at a global level passed through to the Portuguese economy via several interlinked channels, implying a significant conjunctural deterioration, juxtaposing a structural situation characterised by persisting fragilities constraining the evolution of factor productivity. Nonetheless, it is worth underlining that in the context of the current overall economic and financial crisis, the Portuguese economy revealed some robustness features, in particular the absence of overvaluation of real-estate market prices and the maintenance of a relatively favourable position of the banking system in the European framework – in terms of profitability, liquidity and solvency (see text "*The Portuguese banking system in 2009*" in this Bulletin). In this context Banco de Portugal projections point to a GDP fall of 2.7 per cent in 2009, following a stagnation in 2008 (Table 1.1). According to the available data, that fall will be lower than in the euro area and the European Union. This figure corresponds to an upward revision of 0.8 percentage points from the estimates presented in the summer Economic Bulletin, and reflects the less unfavourable intra-annual profile of exports and, chiefly, private consumption in the second half of the year. In turn, the annual average rate of HIPC inflation is expected to stand at -0.9 per cent, *vis-à-vis* 2.7 per cent in the previous year. The current projection for the inflation rate in 2009 represents a downward revision of 0.4 percentage points from the figure published in the summer Economic Bulletin, reflecting a combination of sharper falls in import prices with higher growth of wages and unit labour costs and a further narrowing of profit margins.

The evolution of the Portuguese economy in 2009 was marked by an increase in the unemployment rate to a new historical high of 9.0 per cent in the first half of 2009, in line with the trend observed since early in the decade. This fact chiefly reflected a fall above 2 per cent of total employment in the econ-

Table 1.1

MAIN ECONOMIC INDICATORS
Rates of change, per cent

				***Memo*:** **EB Summer 2009**
	2007	**2008**	**2009**	**2009**
GDP	1.8	0.0	-2.7	-3.5
Private consumption	1.6	1.7	-0.9	-1.8
Public consumption	0.0	0.7	2.1	1.0
GFCF	2.7	-1.3	-13.1	-14.3
Domestic demand	1.6	1.1	-3.0	-4.5
Exports	7.9	-0.5	-13.1	-17.7
Imports	6.1	2.7	-11.7	-17.1
Contribution to GDP growth (in p.p.)				
Domestic demand	1.7	1.2	-3.3	-4.9
of which: changes in inventories	0.1	0.2	-0.3	-0.8
Net exports	0.0	-1.2	0.6	1.4
Goods and services account (% of GDP)	-8.1	-10.5	-8.6	-8.3
HICP	2.4	2.7	-0.9	-0.5

Sources: *INE* and Banco de Portugal.

omy in that period. On the demand side, the economic recession reflected a sharp fall in the variables with higher cyclical sensitivity, namely exports of goods and services, business investment and consumption of durable goods. These components evolved in line with the intra-annual behaviour of the economy, falling abruptly and sharply in the last quarter of 2008 and the first quarter of 2009, and gradually less after the second quarter of the current year. In turn, consumption of non-durable goods has shown a substantially smoother profile, albeit decelerating from the previous year. In the context of a slight increase in disposable income in real terms, aggregate developments of consumption should imply a significant rise in the household's savings rate in 2009, thus adding to the slight increase registered in 2008. In contrast, savings in the general government sector declined considerably, contributing to a substantial increase in the budget deficit in 2009. This was the result of the operation of automatic stabilizers and the adoption of discretionary measures, partly in response to the recessive environment. In line with developments in nearly all European Union countries, the current structural position of public accounts, together with the uncertainty regarding medium to long-term growth of potential output, has important implications for evaluating the sustainability of public accounts (see "Box 3 *Sustainability of public finances: Portugal in the context of the EU*" in this Bulletin). In the Portuguese case, the consistent implementation of the Social Security reform also gains special relevance in this domain.

In the framework of declining financing requirements of the private sector, in parallel with the very sharp deterioration in the general government sector, net external financing requirements of the Portuguese economy fell as a percentage of GDP, although still standing at levels above 8 per cent. In this context, it is important to mention the significant cut in the investment rate of the economy to an unprecedented level in the recent past. Moreover, in the first half of 2009, the external financing profile of the Portuguese economy was again characterised by rising foreign assets and liabilities – albeit of less magnitude vis-à-vis the period prior to the outbreak of the international financial crisis in the summer of 2007. This stands in clear contrast to the fall in foreign assets and liabilities observed in the context of the intensifying financial crises in the second half of 2008, particularly in the fourth quarter.

After a decade in which the HICP inflation in Portugal was relatively stable at levels close to 3 per cent, prices have decelerated sharply since the end of 2008, reaching negative figures since the first quarter of 2009. In the year as a whole, the annual average rate of change of prices is expected to be negative, which is unprecedented over recent decades. These developments have been associated, on the one hand, with the strong recessive framework of demand at a global level, which contributed to a substantial decline in the prices of imports, in particular energy prices. On the other hand, they have also reflected a contraction of domestic demand, influencing the domestic pass-through of the decrease in prices at the international level, and contributing to the sharp decline of profit margins, in a context where, in spite of a rise in the unemployment rate, wages and unit labour costs have continued to grow similarly to 2008. The breakdown of inflation developments shows that the weight of the components with year-on-year rates of change below zero has been increasing gradually. In the third quarter of the year, approximately half of the representative consumption basket recorded year-on-year price falls. Nonetheless, it is important to note that – in view of the current prospects of gradual recovery of the economy at a world level and the maintenance of medium to long-term inflation expectations in the euro area at levels consistent with price stability – negative inflation rates are not expected to persist in Portugal over the coming quarters. There is, however, high uncertainty as to the profile and magnitude of the economic recovery at a global level in world economies, wherefore this scenario is surrounded by particular uncertainty.

The evolution of official interest rates and in the euro area money market is a fundamental factor to understand the dynamics of the Portuguese economy in the context of the global financial crisis. In effect, in addition to directly influencing the external environment – in particular the inflation expectations in

the euro area – these rates directly affect the incentives to consumption, investment and savings of households and corporations, namely via changes in the respective inter-temporal budget constraints. These effects are amplified in the Portuguese case, due to the relatively high indebtedness level of the non-financial private sector and the prevalence of bank loans with money-market index-linked interest rates. The intensifying financial crisis in late 2008 and the response of the authorities had important implications for the decisions of economic agents in Portugal. On the one hand, official and money market interest rates in the euro area declined abruptly and sharply. In effect, from October 2008 to May 2009, the ECB cut the interest rate on the main refinancing operations by 325 basis points to an historical low of 1 per cent. The ECB has also promoted broad access to liquidity in the Eurosystem through liquidity providing operations at a fixed rate with full allotment of the bids submitted and for long terms. Moreover, money market rate spreads gradually narrowed – after having reached unprecedented levels at the end of 2008 – against the background of several measures to support the funtioning of this market. These interest rate cuts have fully passed through, with the usual lags, to bank interest rates, thus rendering inter-temporal budget restrictions – and in particular liquidity constraints – less binding for a significant number of households and corporations, especially those with higher indebtedness levels (see "Box 1 *Determinants of the recent pass-through of money market rates to interest rates on loans to the non-financial private sector*" in this Bulletin). Nonetheless, bank credit default ratios have been increasing, particularly as regards consumer credit and other lending and credit to corporations, in the context of a significant surge in unemployment and a strong economic contraction (see text "*The Portuguese Banking System in 2009*" in this Bulletin). After a protracted period in which banks accommodated the financing requirements of the corporations and offered households contracts that adjusted the debt burden to the debt service capacity of the counterparties, the conditions of access to loans to the non-financial private sector have deteriorated, albeit gradually less markedly over 2009. Overall, the deceleration of loans to the non-financial private sector in recent quarters chiefly reflects the marked fall in expenditure aggregates, in combination with the abovementioned change in credit supply conditions, notwithstanding the significant cut in bank interest rates (see "Box 2 *Recent developments and determinants of bank loans to the non-financial private sector*" in this Bulletin). Finally, it is worth mentioning that, in the context of sizeable net external financing requirements of the Portuguese economy, the fall in interest rates contributed to the narrowing of the income account deficit. This implies that, in contrast to recent years, national income developments should have been more favourable than domestic product developments.

2. THE INTERNATIONAL FRAMEWORK

In 2009 world economic activity continued to be strongly conditioned by the international financial crisis. In particular, in the wake of the intensification of the financial crisis with the collapse of the Lehman Brothers investment bank, the last quarter of 2008 and the first quarter of 2009 were characterised by a sharp contraction in economic activity and international trade, which reached unprecedented levels in recent historic terms. The deterioration of activity was exacerbated by the interaction between financial factors and the real economy which are mutually reinforcing in their effects. From the second quarter of the year onwards, the situation in financial markets improved and the global economic activity seems to have recovered somewhat compared with the first quarter, reflecting in particular a stronger impulse from the Asian economies and a stabilisation or modest recovery in other economic areas. The improvement of global economic and financial conditions was largely due to the measures intended to stimulate the monetary and fiscal policy and to stabilise the financial system. These measures contributed to the improvement of economic agents' confidence, boosted demand and enabled the reduction of uncertainty and systemic risk in financial markets. However, the recovery of the economy in the second half of 2009 will continue to be strongly conditioned by both the maintenance of relatively tight financial conditions for consumers and enterprises – despite the progress observed from the second quarter of the year onwards – and, in particular in some advanced economies, by the significant fall in asset prices and the rise in unemployment. In parallel, the economic recovery in some emerging market and developing economies will also tend to be conditioned, namely in those with higher external borrowing requirements. Inflation rates around the world dropped significantly throughout the year, chiefly reflecting the price levels of commodities, which were significantly lower than in 2008, and the decline in capacity utilisation, amid a sharp downturn in overall demand. International economic developments continue to be surrounded by high uncertainty and the risks to the world economic outlook remain predominantly on the downside, despite easing somewhat.

For 2009 as a whole, IMF forecasts, based on data available until mid-September, point to a sharp fall in economic activity and international trade. World GDP is projected to drop 1.1 per cent in 2009 after 3.0 per cent growth in 2008 (Table 2.1). Economic activity in advanced economies as a whole is expected to fall significantly compared with the previous year (3.4 per cent, against an increase of 0.6 per cent in 2008). As to the emerging market and developing economies, the IMF foresees a reduction in the growth rate of GDP to 1.7 per cent in 2009 (6.0 per cent in 2008). The slowdown is expected to be broadly based across regions, but with different orders of magnitude. In the economies of Central and Eastern Europe and of the Commonwealth of Independent States – which were particularly affected by the reduction in international capital flows and by domestic financial crises – as well as of Latin America, GDP is forecast to drop significantly compared with 2008. In turn, the slowdown will be less pronounced in the economies of the Middle East and Africa, where GDP is likely to rise in comparison with the previous year. Finally, in the Asian developing countries, the deceleration is likely to be less marked, with GDP growth falling from 7.6 to 6.2 per cent. The contraction of global economic activity in 2009 was accompanied by a sharp reduction in world trade which was broadly based across the advanced economies and the emerging and developing economies (Chart 2.1). The disruption in world trade, associated with the generalised decline in confidence and with the high level of uncertainty that led economic agents to reduce or postpone consumption and investment expenditure, was exacerbated by the difficulties in obtaining trade credit in the context of the intensification of the financial crisis, as well by the vertical specialisation of the production process at the global level. This phenomenon was observed in the past few years and seems to have increased the sensitivity of trade flows to changes in overall demand. According to the IMF, world trade in goods and services is

Table 2.1

DEVELOPMENTS IN WORLD ECONOMY

Rates of change, per cent

	2007	2008	2009
GDP			
World economy	5.2	3.0	-1.1
Advanced economies	2.7	0.6	-3.4
US	2.1	0.4	-2.7
Japan	2.3	-0.7	-5.4
Euro area	2.7	0.7	-4.2
Germany	2.5	1.2	-5.3
France	2.3	0.3	-2.4
Italy	1.6	-1.0	-5.1
Spain	3.6	0.9	-3.8
Portugal	1.8	0.0	-2.7
United Kingdom	2.6	0.7	-4.4
Newly industrialised Asian economies (a)	5.7	1.5	-2.4
Emerging market and developing economies	8.3	6.0	1.7
Central and Eastern Europe	5.5	3.0	-5.0
Commonwealth of Independent States	8.6	5.5	-6.7
Russia	8.1	5.6	-7.5
Developing Asian countries	10.6	7.6	6.2
China	13.0	9.0	8.5
India	9.4	7.3	5.4
Middle East	6.2	5.4	2.0
Latin America	5.7	4.2	-2.5
Africa	6.3	5.2	1.7
Angola	20.3	13.2	0.2
World trade volume of goods and services	7.3	3.0	-11.9
International commodity prices			
Oil (brent) (b)			
USD	9.5	35.8	-45.1
EUR	0.4	26.6	-40.0
Non-energy commodities (c)			
USD	19.1	12.7	-28.1
EUR	9.2	4.4	-21.5
Consumer prices			
Advanced economies	2.2	3.4	0.1
Emerging market and developing economies	6.4	9.3	5.5

Sources: HWWI-Hamburg Institute of International Economics, IMF, Thomson Reuters and Banco de Portugal.
Notes: (a) Korea, Hong-Kong, Taiwan and Singapore. (b) Year-on-year rate of change, figures until 29 October 2009. (c) Year-on-year rate of change, figures until October 2009.

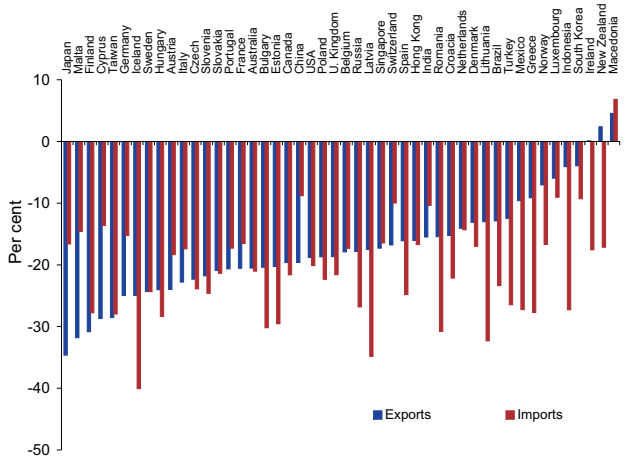
expected to record an unprecedented fall of around 12 per cent in 2009, after 3 per cent growth in 2008.

According to the IMF, world economic activity, after a strong fall in the fourth quarter of 2008 and in the first quarter of 2009, seems to have presented some recovery in the second quarter of 2009, which is likely to persist until the end of the year.[1] These developments reflected, in particular, a stronger impulse from the Asian economies and a stabilisation or modest recovery in other economic areas. The recovery in world economic activity was chiefly characterised by the pickup in industrial production and world trade (Chart 2.2), due to the need to replenish stocks after a sharp fall in production at the end of 2008 and in early 2009. Overall, the improved economic conditions benefited substantially from the measures launched to support the monetary and fiscal policy and to stabilise the financial sector,

(1) According to the IMF, world economic activity fell by 6.5 per cent in the first quarter of 2009 and increased by 3.0 per cent in the second quarter, in annualised terms.

Chart 2.1

INTERNATIONAL TRADE OF GOODS BY COUNTRY (in volume)
Rate of change between the first half of 2008 and the first half of 2009

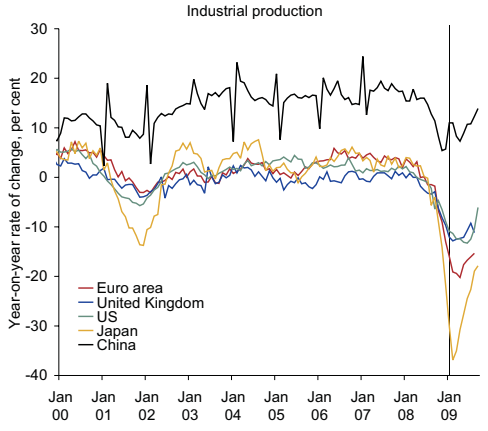


Source: CPB Monthly World Trade Monitor.

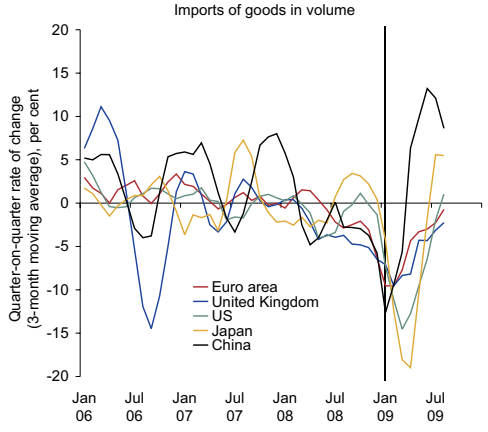
which helped to stimulate demand and contributed to enhance the confidence of economic agents (Chart 2.3) and to improve financial market conditions. Particular emphasis must be given to the acceleration of the Asian economies – notably China – which benefited from both economic stimulus policies and from the rebound in intra-regional trade, in financial markets and in international capital flows. Economic activity in other emerging market and developing economies is also expected to benefit from the pickup in world trade and in the demand for commodities. On the other hand, activity in advanced economies is projected to remain strongly conditioned by the rise in unemployment (Chart 2.4), the fall in real estate prices, and the existence of relatively tight financing conditions, namely in borrowing from banks, which nevertheless observed some improvement in the course of 2009 and in particular a strong reduction in interest rates.

Chart 2.2

INDUSTRIAL PRODUCTION AND INTERNATIONAL TRADE IN THE MAJOR WORLD ECONOMIES



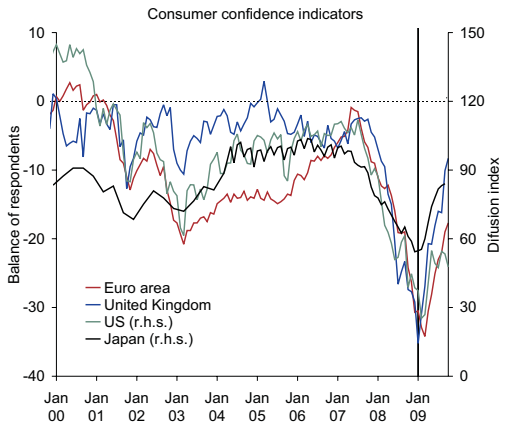
Sources: CEIC, Eurostat and Thomson Reuters.



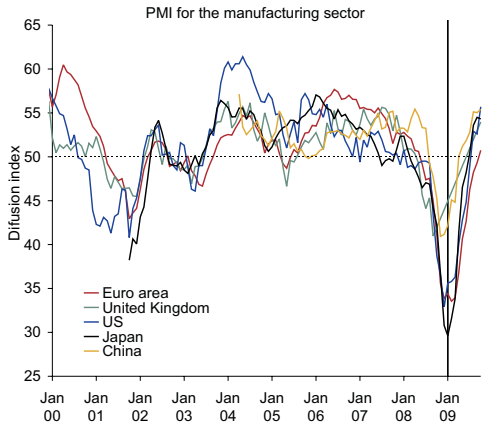
Source: CPB Monthly World Trade Monitor.

Chart 2.3

CONFIDENCE OF ECONOMIC AGENTS IN THE MAJOR WORLD ECONOMIES



Sources: European Commission and Thomson Reuters.

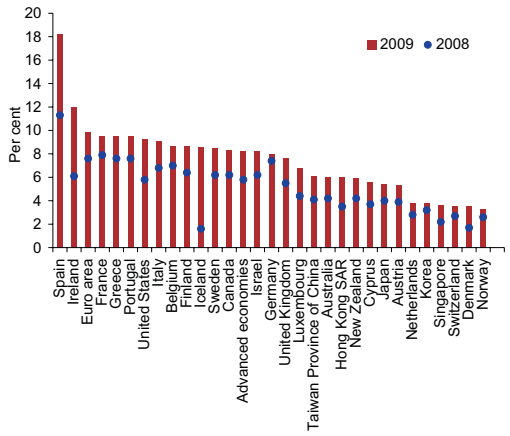


Source: Thomson Reuters.

Against a background of recovery in industrial production and improved expectations regarding short-term economic developments, there was a pickup in demand for commodities, whose prices increased sizeably from the second quarter of the year onwards, after the falls seen since mid-2008 (Chart 2.5). Compared with end-2008, prices of oil and non-energy commodities expressed in US dollars had increased by around 94 and 24 per cent respectively at the end of October. It should be noted, however, that commodity prices are still clearly below the record highs seen in mid-2008. In particular, the price of oil stood at around 77 US dollars/barrel at the end of October 2009, up from around 40 US dollars/barrel at the end of 2008, but far below the level around 146 US dollars/barrel reached in mid-2008. Taking into account information from the beginning of the year to end-October, oil and non-energy commodity prices in US dollars fell by approximately 45 and 28 per cent respectively compared with the same period a year earlier (in euro, around 40 and 22 per cent) (Table 2.1).

Chart 2.4

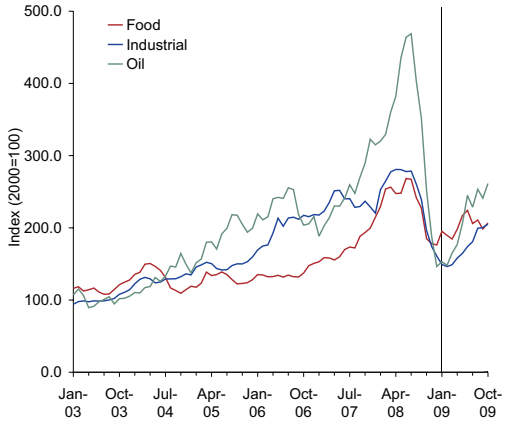
UNEMPLOYMENT RATES IN ADVANCED ECONOMIES IN 2009



Source: IMF.

Chart 2.5

INTERNATIONAL COMMODITY PRICES IN USD

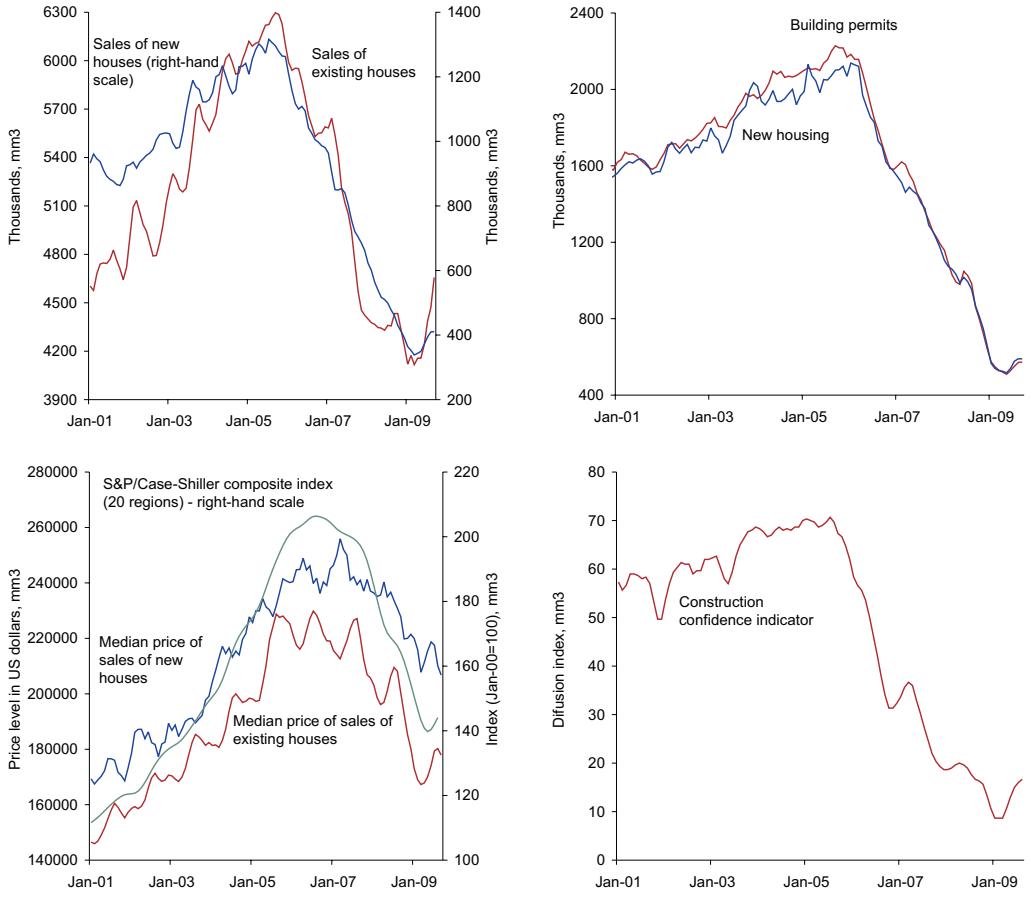


Source: HWWI.

In the United States, economic activity, after a significant contraction in the second half of 2008 and in the first half of 2009, is expected to grow moderately in the second half of the year, although labour market conditions have continued to deteriorate recently. At the beginning of the year, amid the intensification of financial market turbulence and a sharp deceleration in world economy, the fall in GDP reflected very significant drops in corporate and residential investment, as well as in exports. Subsequently, financial conditions became more favourable and the pace of decline in economic activity eased, largely reflecting both the fiscal and monetary policy measures and the financial sector stabilisation measures in the meantime launched. Private consumption remained relatively sustained, benefiting from the growth of disposable income in the second quarter of the year, underpinned by tax cuts and other benefits taking the form of transfers under the fiscal stimulus programmes. Consumer and business confidence also picked up significantly from the minimum levels reached at the beginning of the year. There were also signs of some stabilisation in the housing market, after the strong correction previously observed (Chart 2.6). Nevertheless, investment continued to fall in the second quarter of the year, although at a slower pace than before, largely reflecting weak demand and the persistence of tight credit conditions for many firms and households. The labour market recorded very significant falls in employment (although the pace of decline has moderated since the beginning of 2009) and an increase in the unemployment rate to nearly 10 per cent in September, which is likely to strongly condition future economic developments. Inflation remained at a low level in 2009 after a marked con-

Chart 2.6

US HOUSING MARKET INDICATORS



Source: Thomson Reuters.

traction at the end of 2008, reflecting a reduction in capacity utilisation in the economy and base effects on commodity prices. The IMF foresees moderate growth for the US economy in the second half of the year, due to the maintenance of fiscal stimulus measures and a recovery in the housing market and inventory cycle.[2] However, it should be noted that some fiscal stimulus measures, namely the incentives to purchase cars, were mainly of a temporary nature. Developments in aggregate demand are expected to remain adversely affected by difficult labour market conditions, by the need of households to rebuild their saving levels and to decrease their debt levels, by the persistent tensions in the banking system and tight credit conditions for some economic agents, and by the weak buoyancy of economic activity in some US trading partners. At the end of 2009 the year-on-year growth rate of GDP is forecast to stand at -1.1 per cent (-2.7 per cent in annual average terms).

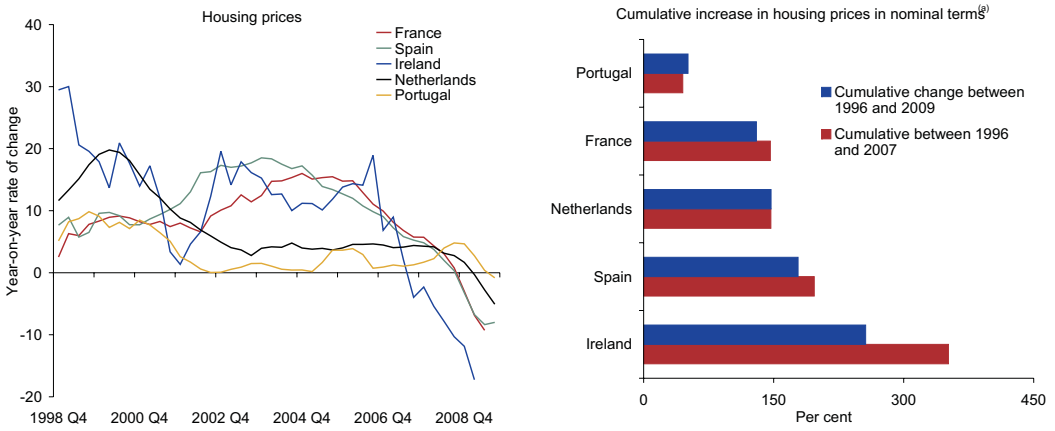
Economic activity in the euro area is forecast to drop very markedly in 2009 as a whole, although the latest indicators show signs of improvement. After the falls observed in 2008, in particular in the fourth quarter (-1.8 per cent quarter-on-quarter rate of change), GDP continued to decline significantly in the first quarter of 2009 and more slightly in the second quarter (quarter-on-quarter rates of change of -2.5 and -0.1 per cent respectively). Private consumption, after falling sharply in early 2009, seems to have been relatively resilient in the second quarter, reflecting in particular the temporary measures to support the purchase of cars implemented in several countries, and improving consumer confidence. GFCF dropped sharply in the first quarter of the year, but clearly more moderately in the second quarter. The contribution of net exports to GDP growth was rather negative in the first quarter, but became positive in the second, as the pace of decline was less marked in exports than in imports. In turn, the change in inventories made a significantly negative contribution to GDP growth in the first half of 2009. In the second half of 2009, according to the IMF, euro area GDP will virtually stabilise. The recovery in economic activity during the second half of the year is expected to be driven mainly by rising exports, a turn in the inventory cycle and the maintenance of economic stimulus measures. The strength and the degree of sustainability of the economic recovery remain surrounded by high uncertainty, given the temporary nature of some of its driving factors, combined with other conditioning factors. Among them, reference should be made to the corrections in the housing markets in some economies (Chart 2.7), the deterioration of labour market conditions – with the unemployment rate close to 10 per cent – and the increasing impact of the materialisation of credit risk on the banking system. According to the IMF, the year-on-year growth rate of GDP is projected to stand at -2.5 per cent at the end of 2009 (-4.2 per cent in annual average terms).

The IMF also foresees that the drop in economic activity in 2009 will be felt across nearly all EU economies (Chart 2.8). The contraction foreseen for the Portuguese economy is smaller than the average projected for the euro area and the EU countries. The euro area countries that are expected to show less favourable performances are Ireland, Finland, Germany and Italy, with GDP falling by more than 5 per cent. These economies are likely to be more negatively affected by a contraction in international trade, due to the larger role played by external demand in most of them and in the case of Ireland due to the ongoing correction in the housing market. Developments in the vast majority of non-euro area EU countries are also expected to be less favourable than in the euro area, with the notable exception of Poland. In most European emerging economies, in particular in those with the higher current account deficits at the onset of the financial crisis, economic activity fell sharply in the first half of 2009, adversely affected by the significant reduction in capital flows. In the United Kingdom, economic activity is expected to contract by 4.3 per cent in 2009. GDP recorded significant falls in the first two quarters of the year, chiefly reflecting a very negative performance of private consumption and GFCF. This occurred against a background of strongly falling asset prices – in particular housing prices –, uncertainty about future developments in income – in particular given the rise in unemployment and a poten-

(2) The advance estimate for US GDP in the third quarter of the year points to an increase of 0.9 per cent quarter-on-quarter.

Chart 2.7

HOUSING PRICES IN SOME EURO AREA ECONOMIES



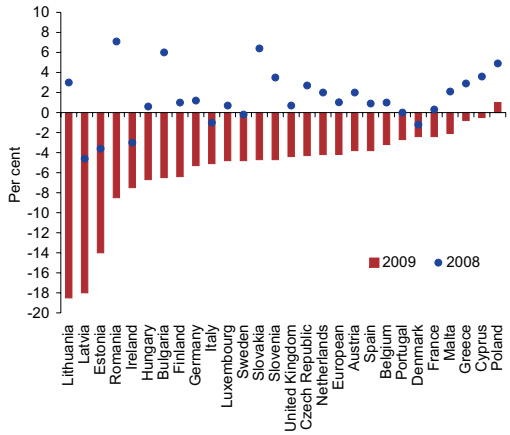
Sources: *Confidencial Imobiliário* and Thomson Reuters.
Note: (a) Data for 2009 refer to the last quarter available for each country. Prices in Spain and Portugal concern all houses (new and existing), while in Ireland, France and the Netherlands prices only refer to existing houses.

tial future rise in taxes –, tighter credit conditions, and high spare capacity. These factors will continue to condition the evolution of activity, but the economic stimulus policies, the past depreciation of the pound sterling and a turn in the inventory cycle are expected to contribute to the recovery of economic activity. The IMF foresees modest GDP growth in the United Kingdom in the second half of 2009 (the year-on-year growth rate of GDP is expected to stand at -2.5 per cent at the end of the year).[3]

In 2009 the main trading partners of Portugal are expected to record a very pronounced deceleration of economic activity, which will give rise to a very significant reduction in demand for Portuguese goods

Chart 2.8

GROSS DOMESTIC PRODUCT OF EUROPEAN UNION COUNTRIES IN 2009
Real rate of change



Sources: IMF and Banco de Portugal.

(3) The preliminary estimate for UK GDP in the third quarter of the year points to a fall of 0.4 per cent quarter-on-quarter.

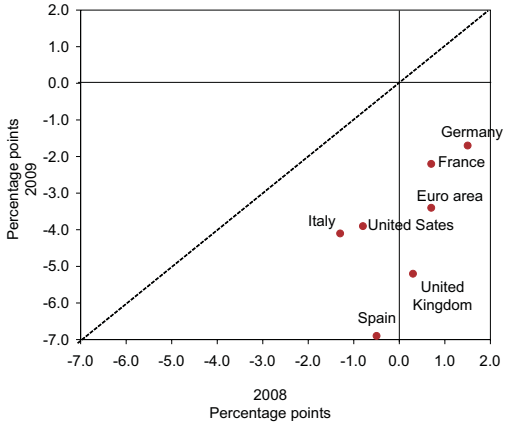
and services. According to the IMF, the contraction of GDP in the four major euro area economies, the United Kingdom and the United States will be largely accounted for by a smaller contribution of domestic demand to GDP growth, which in general is expected to turn rather negative, in particular in Spain and the United Kingdom (Chart 2.9), which are the main export markets of Portuguese goods and services respectively. The fall in domestic demand is likely to result in particular from the contraction of investment. The deceleration projected for GFCF in 2009 in these economies is rather significant; according to these forecasts, the falls will be around 15 per cent in Spain, the United Kingdom and the United States and of 13, 10 and 6 per cent in Italy, Germany and France respectively. Likewise, the contribution of the change in inventories to GDP growth declined compared with the previous year and is likely to be negative in all these economies. Similarly, private consumption in general will decelerate in 2009. The falls in this expenditure component are forecast to be more pronounced in the United Kingdom and Spain (around 3 and 5 per cent respectively), while in Italy and the United States they are expected to stand at 1.7 per cent and around 1 per cent respectively. In France and Germany, private consumption will continue to increase compared with the previous year, although modestly. In turn, the contribution of net exports to GDP growth will decline significantly in the case of Italy and chiefly of Germany. Against a background of economic deceleration worldwide, imports by the main trading partners of Portugal are expected to weaken markedly (Table 2.2), translating into a reduction of external demand for Portuguese goods and services of 13.6 per cent in 2009 compared with an increase of 0.4 per cent in 2008 (see "Section 5 *Expenditure*").

In a context of very weak economic activity and increasing spare capacity, in parallel with significantly lower commodity prices than in 2008, inflation rates at the global level have fallen sharply in the course of 2009. For the current year, the IMF estimates a reduction in the inflation rate in the advanced economies from 3.4 to 0.1 per cent and in emerging and developing economies from 9.3 to 5.5 per cent (Table 2.1). It should be noted that in the past few months, in several of the major advanced economies, consumer prices have declined in comparison with the same period a year earlier, largely reflecting base effects related to the peaks reached by commodity prices in mid-2008 (Chart 2.10). However, the level of underlying inflation in these economies, despite having declined, has remained relatively sus-

Chart 2.9

DOMESTIC DEMAND IN THE MAIN TRADING PARTNERS OF PORTUGAL

Contribution to GDP growth



Source: IMF.

Table 2.2

IMPORTS OF GOODS AND SERVICES BY SOME OF THE MAIN DESTINATION COUNTRIES OF PORTUGUESE EXPORTS

Real rate of change

	Weights 2008	2006	2007	2008	2008 [a] I	2008 [a] II	2008 [a] III	2008 [a] IV	2009 [a] I	2009 [a] II
Spain	27.2	10.2	8.0	-4.9	3.1	-1.3	-7.6	-13.5	-22.9	-22.3
Germany	12.9	12.2	5.0	3.9	5.4	4.2	5.3	0.8	-7.6	-11.0
France	11.7	5.9	5.4	0.6	4.5	1.2	-0.3	-3.0	-10.0	-10.7
United Kingdom [b]	5.5	6.8	3.8	-1.9	3.8	3.5	-2.2	-8.0	-14.1	-15.0
US	3.5	6.1	2.0	-3.2	-0.8	-1.9	-3.3	-6.8	-16.2	-18.5
Italy	3.8	6.2	3.3	-4.5	-2.1	-2.6	-4.4	-8.9	-16.8	-18.1

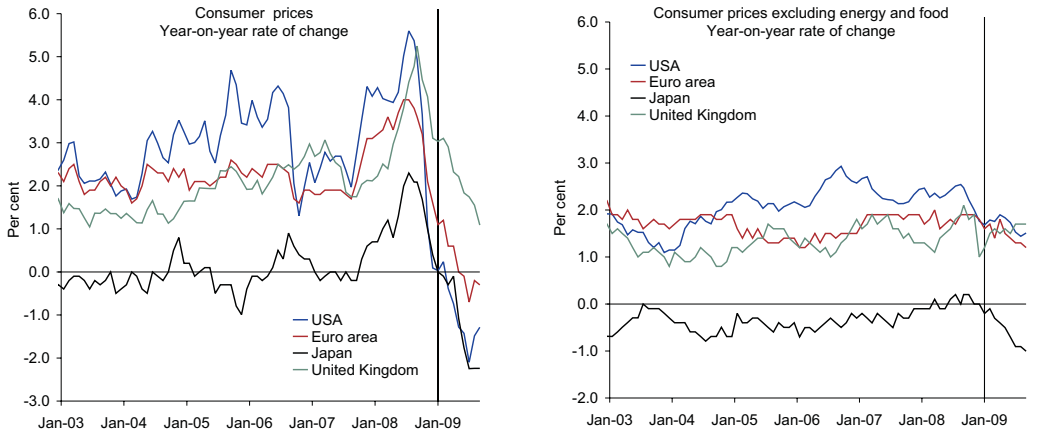
Sources: Eurostat, Thomson Reuters and UK-ONS.
Notes: (a) Year-on-year rate of change. (b) Excludes the effects of VAT fraud, according to estimates of the UK Office for National Statistics.

tained and inflation expectations have generally remained anchored at levels consistent with price stability.

Financial market sentiment deteriorated significantly during the first months of 2009 and improved overall since mid-March. During the first months of 2009 and in the wake of the events occurred in the last quarter of 2008, disturbances in financial markets continued to intensify significantly. The strong weakening of global economic activity has further heightened uncertainty and risk aversion, contributing to sharp falls in asset prices. This situation translated into a very low degree of confidence of economic agents and accentuated the financial system losses. At the beginning of 2009 the interaction of the negative impacts between economic activity and financial markets became more marked, strongly deteriorating global economic and financial prospects. In the second half of March 2009, the adverse movements in financial markets were slightly reversed, following the release by financial institutions of better-than-expected results and the announcement of further measures to support the economy. Subsequently, there was an overall reduction in uncertainty and risk aversion by investors. This resulted to a large extent from the improvement in market sentiment, in the context of an upward revision

Chart 2.10

CONSUMER PRICES IN THE MAJOR ADVANCED ECONOMIES



Sources: Eurostat and Thomson Reuters.

of growth prospects for the world economy. In addition, it cannot be ruled out that the potential rebound in the demand for risky assets is being stimulated by the ample liquidity existing in financial markets, in the context of accommodative monetary policies.

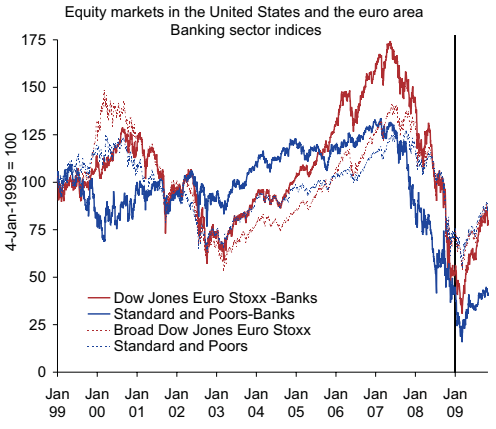
Equity markets in the major advanced economies recorded further significant falls in the first months of the year, which were more strongly felt in the financial sector. Uncertainty in the equity market, as measured by implied volatility, remained very elevated (Chart 2.11). Since mid-March, equity prices have been on a rising trend, but at the end of October they were still below the levels prevailing before the bankruptcy of the Lehman Brothers investment bank in mid-September 2008 (around 10 per cent in the euro area and the United States). Volatility has also declined considerably since March 2009, reaching levels that had last been recorded in the summer of 2008. Between end-2008 and end-October 2009, gains in equity markets were close to 20 per cent in the euro area and the United States (Table 2.3). In the case of banks, share prices have also increased significantly since March 2009 in the euro area and the United States and at the end of October they were around 14 and 27 per cent respectively below the levels prevailing in the period immediately before the bankruptcy of Lehman Brothers investment bank.

In corporate debt markets, credit risk remained high in the first months of the year. Credit default swap (CDS) spreads and spreads between corporate and government debt yields remained at high levels and increased further in the financial sector (Charts 2.12 and 2.13). Since March CDS premia for the private sector and corporate bond spreads have fallen significantly, including for lower investment-grade and for speculative-grade bonds. Corporate bond spreads reversed the rises seen after the bankruptcy of Lehman Brothers investment bank in mid-September 2008, but remain at elevated levels in certain categories when compared with those prevailing in the period before the onset of the financial crisis in July 2007.

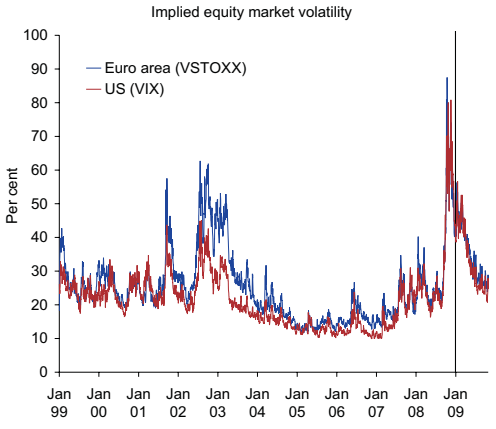
Long-term government bond yields, despite recording some fluctuations, increased slightly between end-2008 and end-March 2009, both in the euro area and in the United States and the United Kingdom (Chart 2.14). This movement was seen after the sharp falls recorded in the last months of 2008, due to the increased demand for more liquid financial instruments with lower credit risk. Between end-March and end-October, long-term government bond yields rose further in the United States and the United Kingdom, while in the euro area they fell slightly to levels close to those prevailing at the end of 2008.

Chart 2.11

EQUITY MARKETS



Sources: Bloomberg and Thomson Reuters.



Source: Thomson Reuters.

Table 2.3

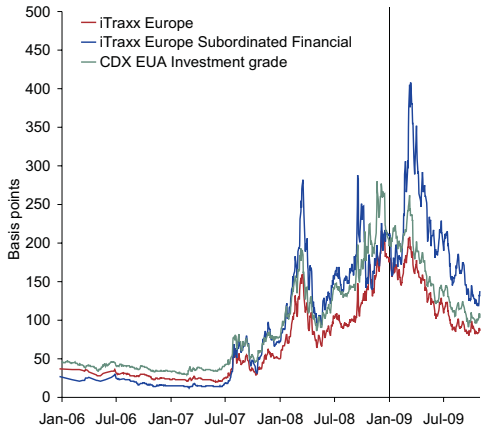
INTERNATIONAL FINANCIAL MARKETS
Daily data

	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]		End-of-period *vis-à-vis* the period preceding the bankruptcy of Lehman Brothers (percentage change or basis points) [c]	
	2008	2009[a]	2008	2009[a]	2008	2009[a]	2008	2009[a]
Stock price indices (percentage change)								
Dow Jones Euro Stoxx	-25	-27	-46	15	-49	-41	-25	-14
Banks	-37	-39	-64	48	-68	-53	-44	-17
S&P 500	-17	-25	-38	15	-41	-33	-24	-13
Banks	-45	-48	-50	-10	-64	-67	-22	-30
Nikkei 225	-29	-24	-42	13	-51	-44	-27	-18
FTSE 100	-16	-17	-31	14	-33	-24	-15	-3
MSCI - emerging market economies [d]	-11	-17	-47	48	-44	-17	-44	12
10-year interest rates - government debt (per cent)								
Euro area	4.4	4.1	3.8	3.8	-71	-79	-60	-68
United States	3.6	3.2	2.2	3.4	-274	-157	-117	0
Japan	1.5	1.4	1.2	1.4	-69	-45	-36	-12
United Kingdom	4.5	3.6	3.0	3.6	-230	-170	-144	-84
Spreads between corporate and government debt yields (basis points)								
Euro area								
AA	148	122	196	46	156	6	48	-102
Non-financial corporations	71	73	104	52	79	27	37	-15
Financial corporations	161	135	217	44	175	2	56	-118
BBB	277	418	573	208	501	136	323	-42
Non-financial corporations	239	266	455	119	387	51	242	-94
Financial corporations	635	293	1369	625	1259	514	749	5
Banks	212	293	399	133	354	88	188	-78
United States								
AA	302	293	420	161	344	85	101	-158
Non-financial corporations	212	205	299	141	230	72	91	-67
Financial corporations	320	331	458	164	381	87	117	-178
BBB	443	557	802	344	669	211	392	-66
Non-financial corporations	413	480	735	299	605	169	355	-81
Financial corporations	744	1173	1450	619	1273	442	734	-97
Banks	438	534	656	294	562	200	180	-182
Emerging market debt spreads								
EMBI+	383	486	690	323	508	141	310	-57
Nominal effective exchange rates (percentage change)								
Euro	4.8	0.4	2.7	0.8	6.8	7.7	4.2	5.0
US dollar	-3.5	7.0	8.6	-4.8	5.0	0.0	6.6	1.5
Japanese yen	11.5	14.4	30.7	-4.1	38.1	32.5	21.4	16.5
Pound sterling	-12.6	-11.2	-23.4	7.9	-28.8	-23.1	-15.7	-9.1
Memo:								
EUR/USD exchange rate [e]	7.3	-6.2	-5.5	5.3	0.7	6.1	-1.7	3.6

Sources: Bank of International Settlements, ECB, Bloomberg, Federal Reserve Board and JP Morgan.
Notes: (a) Data until 30 October. (b) Changes *vis-à-vis* 23 July 2007. (c) Changes *vis-à-vis* 15 September 2008. (d) Morgan Stanley Capital International index for emerging market economies: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan and Peru. (e) A positive change corresponds to an appreciation of the euro.

Chart 2.12

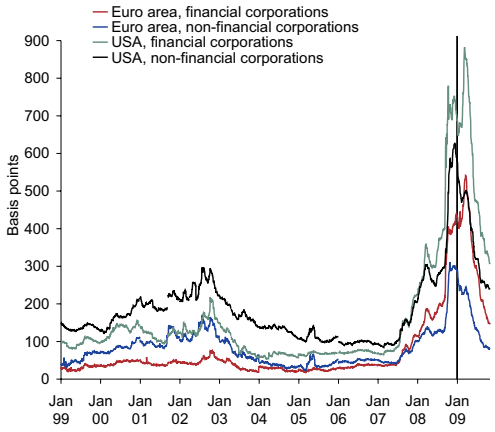
CREDIT DEFAULT SWAP SPREADS



Source: Markit.

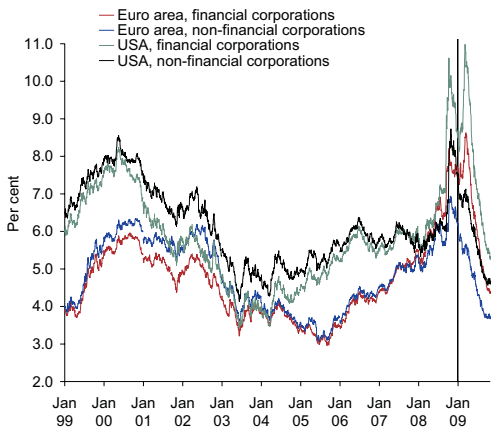
Chart 2.13

SPREADS BETWEEN CORPORATE AND GOVERNMENT DEBT YIELDS



Sources: Thomson Reuters and Banco de Portugal.

CORPORATE BOND YIELDS



Source: Thomson Reuters.

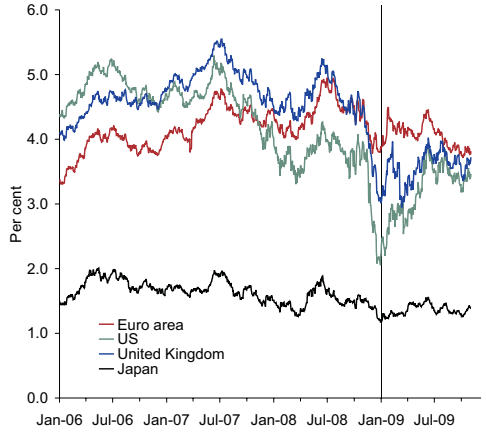
Yields on long-term government bonds, in general, seem to incorporate a more cautious assessment of growth prospects than reflected in share price developments. Besides, yields may have also been affected by the strong demand for government securities by the banking sector and international investors at the global level, despite strong issuance activity.

In the context of the announcement of the government plans to address the financial and economic crisis in the last quarter of 2008, which pointed to the deterioration of public finances, the spreads of long-term government bond yields between some euro area countries and Germany widened considerably (Chart 2.15). During the first months of 2009, these spreads remained rather elevated or widened, amid a further deterioration of economic growth prospects, a downgrade of the sovereign rating of some euro area countries and disruptions in Eastern European economies, raising fears of contagion to the banks and economies in Western Europe that are more exposed to that region. Subsequently, the spreads of government debt rates narrowed, reflecting in general a correction in international financial markets after the exacerbated levels of risk aversion observed in the previous months. These developments reflected an increase in the government debt rate in Germany and, in particular, a decrease in the other euro area countries. At the end of October, the spreads of government debt rates vis-à-vis Germany stood above 100 basis points in Greece and Ireland, around 70 basis points in Italy, and around 50 basis points in Portugal and Spain, while in the remaining countries they ranged between around 30 basis points in France and nearly 40 basis points in Belgium.

Developments in the capital markets of emerging market economies were broadly similar to those of the advanced economies. In the first months of the year, share prices in the former economies fell sharply and the spreads between government debt rates of these countries and US government bonds remained at elevated levels, despite some correction after the peak reached at the end of 2008 (Chart 2.16). Subsequently, share prices rebounded and at the end of October they had increased by around 50 per cent compared with the end of 2008 (and by 13 per cent compared with the levels prevailing before the bankruptcy of the Lehman Brothers investment bank in mid-September 2008). In parallel, the spreads between government debt rates of these countries and US government bonds narrowed significantly and at the end of October they were below their long-term average and the level prevailing

Chart 2.14

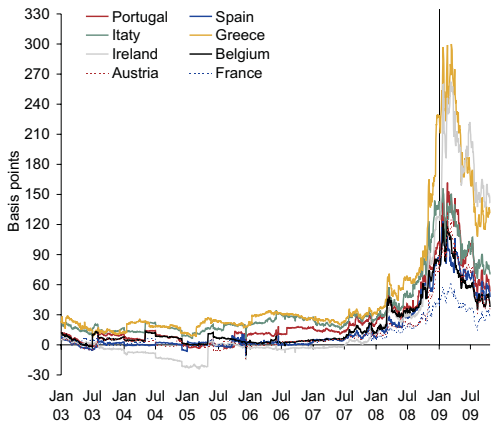
10-YEAR BONDS YIELDS



Sources: Bloomberg and ECB.

Chart 2.15

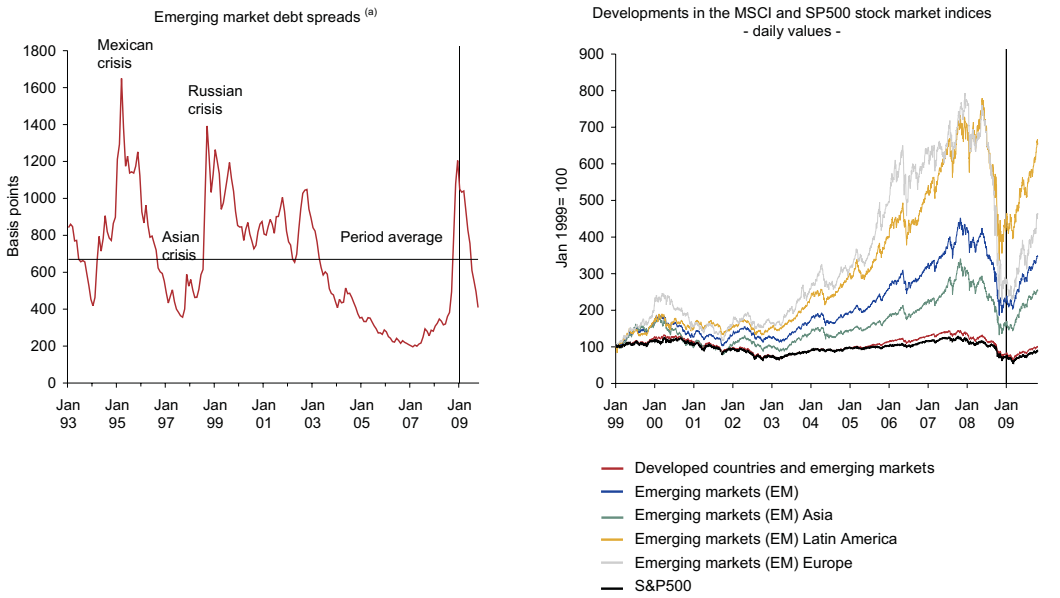
SPREADS VIS-À-VIS GERMANY OF 10-YEAR GOVERNMENT BOND YIELDS IN EURO AREA COUNTRIES



Sources: Bloomberg, Thomson Reuters and Banco de Portugal.

Chart 2.16

FINANCIAL MARKETS IN EMERGING ECONOMIES



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

Sources: Bloomberg and Thomson Reuters.

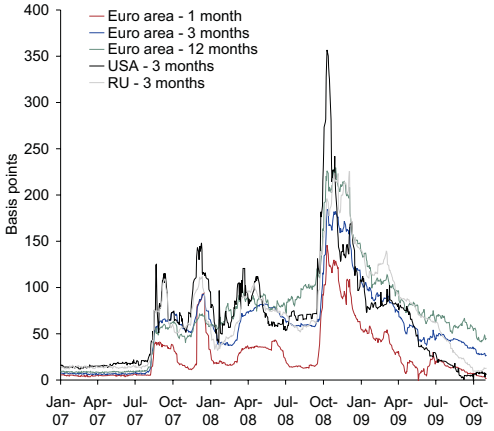
before the above-mentioned bankruptcy in mid-September 2008, but they were above the level prevailing before the onset of the financial crisis in July 2007.

In money markets, the spreads between secured and unsecured interest rates remained broadly unchanged in the first months of the year, but at higher levels than those prevailing before the intensification of the financial turbulence in September 2008 (Chart 2.17). Subsequently, money market conditions continued to improve until September in the major advanced economies, with the narrowing of the spreads between secured and unsecured rates. At the end of October in the euro area these spreads were still above those observed before the onset of the financial crisis in August 2007, with the exception of the spreads of 1-month rates. On the other hand, in the United States and the United Kingdom 3-month spreads were close to zero.

Foreign exchange markets recorded some fluctuation, in particular at the beginning of the year with the intensification of the financial crisis. In bilateral terms, the euro tended to weaken against the US dollar at the beginning of the year, in a context of higher uncertainty (Chart 2.18). Subsequently, the euro strengthened against the US dollar, reflecting the easing of financial market tensions and the decline in risk aversion from March onwards. This strengthening also reflected the concerns about fiscal prospects in the United States felt since end-May and the more recently released data that pointed to an improvement in economic prospects for the euro area. In the course of 2009 developments in the exchange rate of the euro against the Japanese yen reflected, to a certain extent, the developments in the exchange rate of the euro against the US dollar, and at the end of October 2009 the yen had recorded an appreciation compared with end-2008. The exchange rate of the euro against the pound sterling fluctuated somewhat and at the end of October the euro had depreciated against the sterling compared with end-2008. In this context, the nominal effective exchange rate of the euro also fluctuated somewhat and at the end of October 2009 it had moved closer to the record highs reached in the middle and at the end of 2008 (Chart 2.19). Over the same period, the US dollar and the Japanese yen

Chart 2.17

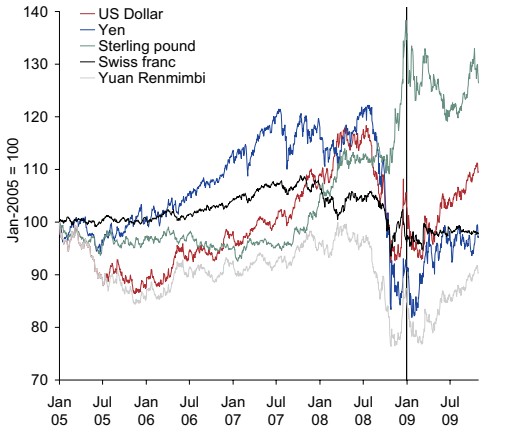
SPREADS BETWEEN SECURED AND UNSECURED INTEREST RATES



Source: Thomson Reuters.

Chart 2.18

EURO EXCHANGE RATES



Source: ECB.

depreciated in nominal effective terms by around 5 and 4 per cent respectively, while the pound sterling had appreciated by around 8 per cent. The Chinese renminbi has moved in line with the US dollar and at the end of October it had depreciated by around 4 per cent in nominal effective terms compared with end-2008.

In a context of persistently high financial market tensions, mainly at the beginning of the year, of significant economic weakness and very low inflation rates, the national authorities of the major world economies continued to launch in 2009 – like they had done in 2008 – several financial sector stabilisation measures and intensified both fiscal and monetary policy measures to stimulate economic activity.

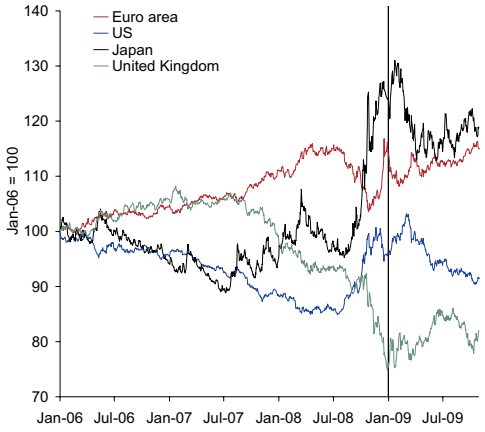
In 2009 the official interest rates of the major advanced economies were further cut or were kept at very low levels in historical terms, after having fallen at an unprecedented pace and magnitude in 2008. Some monetary authorities, namely in the euro area and the United Kingdom, which had some room for further cuts in the official interest rates, proceeded with the same policy in 2009. Official interest rates reached 0.5 per cent in the United Kingdom and 1.0 per cent in the euro area, while remaining between zero and 0.25 per cent in the United States (Chart 2.20).

In a context of low interest rates, several central banks adopted non-standard monetary policy measures in 2009 supplementing other measures already launched in 2008. The Governing Council of the ECB decided to implement a number of liquidity management measures related in particular to the amounts of liquidity injected, the maturity of operations, the collateral, and the eligible counterparties. Among them, the most important were the maintenance of fixed rate tender procedures with full allotment for all main refinancing operations for as long as needed, the conduct of liquidity-providing operations with a maturity of 12 months, the purchase of covered bonds, and the decision that the European Investment Bank would become an eligible counterparty in the Eurosystem's monetary policy operations. The Federal Reserve also continued to facilitate the financing of financial institutions and markets through a package of liquidity and credit facilities. More specifically, it launched a programme designed to catalyse the securitisation markets, by providing financing to investors to support their purchases of certain high-rated asset-backed securities[4] and decided to purchase significant amounts of

(4) This programme, called "Term Asset-Backed Securities Loan Facility" (TALF), was launched in March 2009. In May the Federal Reserve announced the expansion of eligible collateral under TALF.

Chart 2.19

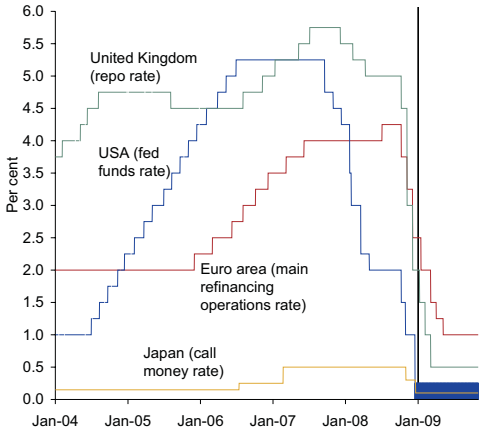
NOMINAL EFFECTIVE EXCHANGE RATES



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

Chart 2.20

OFFICIAL INTEREST RATES



Source: Bloomberg.
Nota: Since December 2008, the target for the Federal Funds rate in the US stands between 0.0 and 0.25 per cent.

agency mortgage-backed securities and debt, as well as longer-term Treasury securities.[5] Finally, it should be noted that the Bank of England launched also in March a programme for the purchase of government and corporate debt securities in the secondary market (including commercial paper and corporate bonds), whose amount was successively increased afterwards.[6] Overall, these measures seem to have contributed, on the one hand, to foster the ongoing downward trend in money market interest rates and to encourage banks to expand credit to their clients and, on the other hand, to reduce yields on long-term government debt securities in these economies and to improve liquidity in major segments of the private sector debt securities market, thereby easing the financing conditions for banks and companies. In addition, governments and supervisory authorities launched a set of different measures intended to stabilise the financial sector, including measures to provide liquidity, grant guarantees and inject capital; in addition, stress tests to the banking system were also performed.

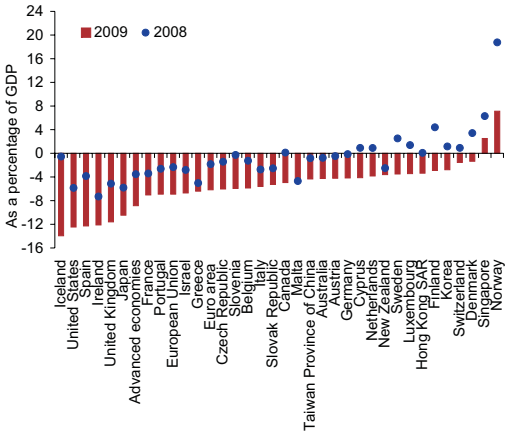
At the fiscal policy level, several governments announced in 2008 and in 2009 programmes intended to stimulate economic activity in order to limit the impact of the current crisis on the real economy, over and above the usual operation of the automatic stabilisers. Various initiatives have been undertaken by the different countries around the world, involving both revenue and public expenditure-related measures. In some cases, measures are chiefly concentrated in 2009 while in others they extend over the following years. According to the IMF, the discretionary fiscal measures implemented in 2009 by G20 countries are estimated at about 2 per cent of GDP for 2009. Among them, the largest stimulus measures were launched in Asia, the Middle East and the United States. The measures that were implemented more rapidly, such as tax cuts or transfers, are typically those that have lower impacts on economic activity, while measures related to public consumption or public investment usually take longer to implement and weigh more on economic growth. In this context, the IMF foresees that the impact of these discretionary measures on the GDP of G20 economies will reach approximately 1 per cent in 2009. The total effect of the automatic stabilisers and of the discretionary fiscal policy measures will give rise to a sharp deterioration of fiscal balances and to a rise in public debt in 2009 (Chart 2.21).

(5) On 18 March 2009 the Federal Reserve announced that it would purchase: (i) 300 billion US dollars of longer-term Treasury securities over the following six months, (ii) an additional 750 billion US dollars of agency mortgage-backed securities (to a total of up to 1.25 trillion US dollars), and (iii) an additional 100 billion US dollars of agency debt (to a total of up to 200 billion US dollars).

(6) This programme, called "Asset Purchase Facility" was launched in March 2009. The programme was expanded in May and August 2009.

Chart 2.21

FISCAL BALANCE IN ADVANCED ECONOMIES IN 2009



Source: IMF.

Developments in the international economic framework remain surrounded by high uncertainty. According to the IMF, risks to the world economic outlook remain on the downside, although they have eased somewhat. The downside risks are chiefly related to the maintenance of the recovery of private demand in the advanced economies which remains subject to several constraints, namely the high level of unemployment and the need to rebuild private savings. Against this background, policy initiatives may face difficulties in maintaining the economic stimulus over the short to medium term, given the need to achieve an appropriate equilibrium with the sustainability of public debt over the longer term. In addition, the materialisation of credit risk may trigger other spillover effects between the financial sector and economic activity. In turn, there are also some upside risks, as the economic policy measures implemented at the global scale may strengthen economic agents' confidence and contribute to a stronger-than-expected rebound in private demand, thereby leading to a more sustained economic recovery.

In this context, the conduct of economic policies must be consistent and well timed. At the monetary policy level, the authorities must continue to closely monitor developments in the economic situation and in financial markets, in order to assess the need to proceed with the stimulus measures, taking into account the prospects for price stability. Against a background of consolidation of the economic recovery, the increase in inflationary pressures should be cautiously scrutinised, in particular considering that the potential growth of the economy may have recently decreased. In the case of the fiscal policies, the impact of these measures, by their nature, is not immediate and remains surrounded by significant uncertainty. In the more favourable case, i.e. of a more pronounced recovery of activity, starting the necessary consolidation process of public accounts will be less difficult in many economies. On the other hand, there are risks that the economic stimulus may not be sufficient to guarantee sustained economic recovery. In this context, it may be necessary to launch further stimulus measures or to postpone the consolidation processes in some economies. However, the efficacy of these measures may be limited if they raise concerns about the sustainability of public finances, increasing the cost of the public debt at the long term and reducing the policy effects on economic growth. The depth of the economic recession and of the still incipient recovery will continue to weigh significantly on the losses of the banking sector, namely on the portfolio of credit granted, given the persistence of difficult financial conditions for some firms and households, the rise in unemployment and the continuation of

the adjustment process in real estate markets in some economies. Against this background, some banks may need to resort to recapitalisation, in a framework of reform of the financial system and to avoid increased risks in the future.

3. MACROECONOMIC POLICIES

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

Monetary policy of the ECB

During the first months of 2009 until May, the ECB continued to cut its key interest rates. After a reduction of 175 basis points (from 4.25 to 2.5 per cent) between 8 October and the end of 2008, the interest rate on the main refinancing operations was further reduced by 150 basis points until 7 May this year, standing at 1.0 per cent (Table 3.1.1). The reduction in the interest rate on the main refinancing operations of the Eurosystem during this seven-month period totalled 325 basis points. These decisions were taken in a context of declining inflationary pressures that reflected the progressive weakening of the economic environment, largely due to the effects of the interaction between the financial crisis and economic activity. These decisions were supported by prospects that the inflation rate would remain in line with the objective of price stability over the medium-term, which is the monetary policy-relevant horizon. From March onwards, the decisions of the Governing Council of the ECB took into account its expectation that the inflation rate would stand clearly below 2 per cent in 2009 and 2010, reflecting the past fall in commodity prices and the reduced pressures on costs, given the deep slowdown of economic activity in the euro area and globally. The interest rates on the marginal lending facility and the deposit facility moved in line with the interest rate on the main refinancing operations until May 2009, and the corridor set for these rates was kept symmetrical and constant at 200 basis points. At the Governing Council meeting held in May, the corridor formed by the interest rates on the standing facilities continued to be defined in a symmetrical manner, but was narrowed from 200 to 150 basis points.

At the meeting held in June and in the following meetings, the Governing Council of the ECB kept the rate on the main refinancing operations unchanged at 1.0 per cent. This decision took into account previous decisions, including the credit support measures and the information and analyses in the meantime released. Despite reiterating expectations that price developments over the monetary policy-relevant horizon would remain dampened by the persistence of weak economic activity in the euro area and globally, the information in the meantime released for the euro area suggested that the signif-

Table 3.1.1

KEY ECB INTEREST RATES

Per cent

Date of the decision	Deposit facility	Main refinancing operations	Marginal lending facility
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
4 Dec. 2008	2.00	2.50	3.00
15 Jan. 2009	1.00	2.00	3.00
5 Mar. 2009	0.50	1.50	2.50
2 Apr. 2009	0.25	1.25	2.00
7 May 2009	0.25	1.00	1.75

Source: ECB.

icant contraction observed at the end of 2008 and in early 2009 had come to an end. Therefore, economic activity would start to record decreases of a smaller magnitude, followed by a stabilisation phase and a very gradual recovery. Against this background, the Governing Council expected the episode of extremely low or even negative inflation rates to be short-lived and that price stability would be maintained over the medium term. The available indicators of inflation expectations over the medium to longer term remained firmly anchored in line with the Governing Council's aim of keeping the inflation rate below, but close to, 2 per cent over the medium term.

In addition to the reduction in interest rates and in the wake of other measures implemented since the start of the financial crisis,[7] in the course of 2009 the Governing Council of the ECB decided to launch several liquidity management measures, in order to promote a decline in forward money market interest rates, encourage banks to expand credit to their clients, help to improve market liquidity in relevant segments of the private sector debt securities market, and to ease the financing conditions for both banks and companies. These liquidity management measures were related to the type of liquidity supply, the maturity of operations, the collateral and the eligible counterparties. On 5 March 2009 the Governing Council decided to continue the fixed rate tender procedure with full allotment for all main refinancing operations, special-term refinancing operations and supplementary and regular longer-term refinancing operations for as long as needed and in any case beyond the end of 2009.[8] On 7 May 2009 the Governing Council decided to proceed with an enhanced credit support approach, and to help improve banks' liquidity for a longer period under very favourable conditions it was decided that the Eurosystem would conduct liquidity-providing longer-term refinancing operations with a maturity of 12 months. These operations would be carried out as fixed-rate tender procedures with full allotment. In the meantime, two 12-month longer-term refinancing operations were carried out on 24 June and 30 September at a fixed rate of 1 per cent.[9] Still in May, the Governing Council decided in principle that the Eurosystem would purchase euro-denominated covered bonds issued in the euro area;[10] furthermore, the Governing Council decided that the European Investment Bank would become an eligible counterparty in the Eurosystem's monetary policy operations, under the same conditions as any other counterparty.

In the course of 2009 short and long-term interest rates on loans to households and non-financial enterprises recorded a declining trend, in the context of falling official interest rates and narrowing spreads of money market rates. However, the spreads between short-term rates and the benchmark market rates widened, in particular in the case of households (Chart 3.1.1). The passthrough of the fall in market rates in general as been slower and smaller in the case of loans to households (particularly of consumer credit) than in loans to non-financial enterprises. The cumulative decline totalled around 425 basis points in money market rates compared with cumulative declines of 320 basis points in loans to non-financial enterprises and 280 basis points and 90 basis points in housing purchase and consumer credit and other lending to households respectively. The spreads between long-term interest rates of loans and the market rates have remained at levels consistent with the past and the falls in government debt rates seem to have been fully reflected on bank loans with a comparable maturity.

(7) See Box 1.2 "Operational framework of the Eurosystem, Federal Reserve and Bank of England in the context of the financial crisis" and Box 1.3 "Government measures to support the financial sector and stabilize the financial markets" of Chapter 1 – International Environment, Banco de Portugal, *Annual Report 2008* and Box 2 "Authority responses in the context of the financial crisis: liquidity management measures and intervention in financial systems" of the Section "The Portuguese Economy in 2008", Banco de Portugal, *Economic Bulletin-October 2008.*

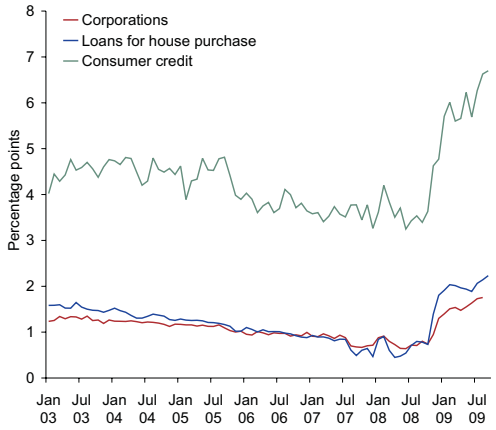
(8) Moreover, at the meeting held in March, the Governing Council of the ECB decided to continue with the frequency and maturity profile, established until then, of the supplementary longer-term refinancing operations and special-term refinancing operations for as long as needed and in any case beyond the end of 2009.

(9) In May, it was decided that the rate for the first of these operations would be the rate on the main refinancing operations at that time, but that subsequently the fixed rate might include a premium to the rate on the main refinancing operations, depending on the circumstances at the time. In September the Governing Council decided that the rate for the second 12-month longer-term refinancing operation would also be the rate on the main refinancing operations.

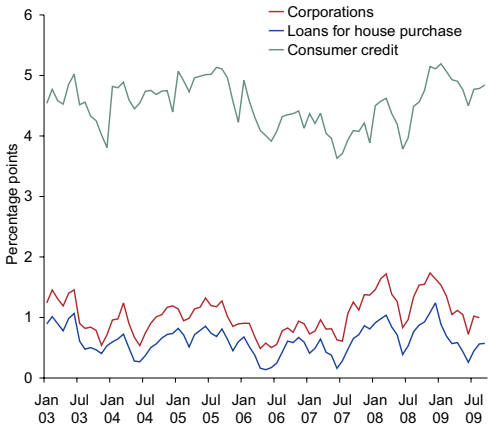
(10) The technical details regarding the purchase of covered bonds were decided on the following Governing Council meeting held on 4 June.

Chart 3.1.1

SPREADS BETWEEN INTEREST RATES ON SHORT-TERM LOANS AND MARKET RATES



SPREADS BETWEEN INTEREST RATES ON LONG-TERM LOANS AND MARKET RATES



Source: ECB.

According to the euro area bank lending survey, the net percentage of banks that tightened the credit standards applied to both enterprises and households remained positive in the third quarter of 2009, albeit continuing the declining trend seen in the course of 2009. Expectations for the fourth quarter point in the same direction, though in the case of enterprises the net percentage of banks that will apply tighter credit conditions will be close to zero. Overall, banks continued to report a decline in the demand for loans, with the exception of the demand for housing loans by households, which increased slightly in the second and third quarters of 2009. Prospects for the fourth quarter suggest some stabilisation of the demand for credit by enterprises and households in the case of consumer credit and other lending and a further increase in loans for house purchase.

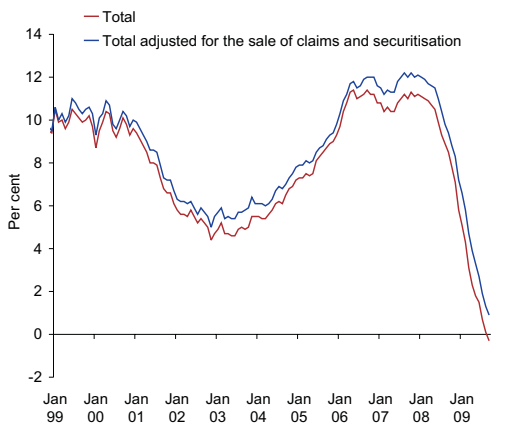
In the course of 2009, on the back of very weak economic activity and tighter credit standards, despite the fall in interest rates, loans to the private sector in the euro area slowed significantly, to minimum growth rates in historical terms (Chart 3.1.2). The growth rate of loans to the private sector (adjusted for loan sales and securitisation) decreased from 7.2 per cent in December 2008 to 0.9 per cent in September 2009. These developments reflected, to a large extent, the decrease in the growth of loans to non-financial enterprises and, to a smaller extent, of loans to households (from 9.5 to -0.1 per cent and from 1.7 to -0.3 per cent respectively between December 2008 and September 2009).[11] Developments in loans to non-financial enterprises suggest some substitution between short-term and longer-term loans and between loans and issuance of securities. In particular, the issuance of long-term bonds increased significantly in the course of 2009. The deceleration of loans to households reflected the slowdown of both housing loans and consumer credit and other lending. It should be noted that the shorter-term dynamics of loans suggest some signs of stabilisation in the past few months. The growth rates on a three-month moving average basis interrupted the declining trend in loans to non-financial enterprises and continued the ascending trend in loans to households for house purchase.

Overall, given the intensification of the financial crisis in September 2008, the Governing Council of the ECB launched a set of measures in terms of nature and scope. Against this background, there was a clear fall in important money market rates, usually used by euro area banks as benchmarks for the set-

(11) Unadjusted for loan sales and securitisation.

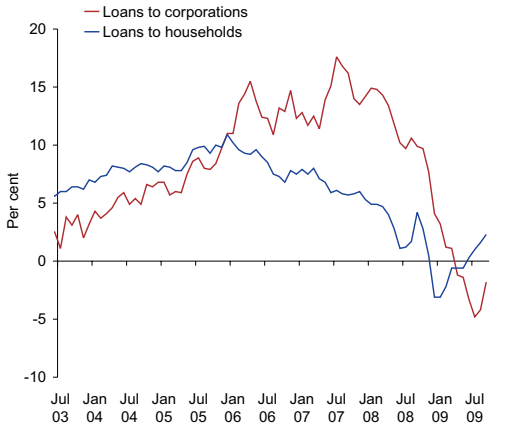
Chart 3.1.2

ANNUAL GROWTH RATE OF LOANS TO THE PRIVATE SECTOR IN THE EURO AREA



Source: ECB.

ANNUALISED THREE-MONTH RATE OF GROWTH OF LOANS TO EURO AREA ENTERPRISES AND HOUSEHOLDS



Source: ECB.
Nota: Unadjusted for loans sales and securitisation.

ting of variable rate loans and the price of new short-term loans. This led to marked falls in the rates of loans to households and non-financial enterprises. As the transmission of monetary policy has some lags, the passthrough to the economy of the policy measures mentioned above has been gradual. The Governing Council has stated that once the macroeconomic environment improves, the measures taken will be unwound in a timely fashion and the liquidity provided will be absorbed.

Monetary and financial conditions of the Portuguese economy

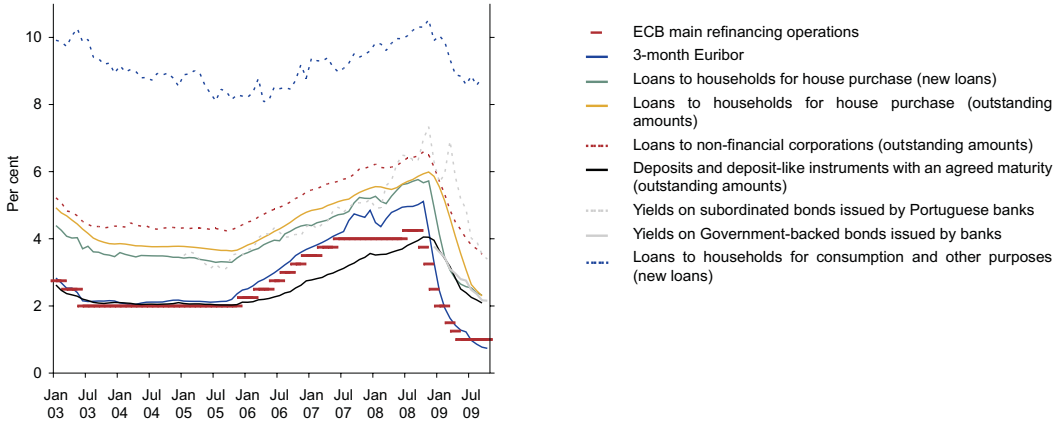
As of early October 2008, in the wake of the deepening of the financial crisis, euro area key interest rates declined sharply and, in particular, the rate on the ECB's main refinancing operations declined by 325 b.p. up to May 2009 (Chart 3.1.3). This trend, which emerged in the context of an international co-ordinated movement, was accompanied by liquidity management measures, among which one should point out the full allotment of liquidity at fixed interest rates in the Eurosystem from October 2008 onwards. As a whole, these efforts brought about a narrowing of the spread between money market interest rates and key ECB rates and resulted in a strong decline in Euribor rates. Even though since October 2008 there was a strong narrowing of the spread between interest rates on collateralised and uncollateralised operations in the money market, according to market expectations for the next two years, this spread is likely to remain clearly above the values close to 5 b.p. which were observed before the summer of 2007 (Chart 3.1.4). Developments in money market interest rates gave rise to a downward trend in bank lending interest rates.

According to the monetary conditions index for the Portuguese economy, the reversal of the upward trend of interest rates seen in late 2008 led to their positive impact on economic activity growth in 2009 (Chart 3.1.5).[12] However, given the greater lag in the response of prices, developments in interest rates have still contributed to decrease inflation in 2009 according to the same indicator. The behaviour of the effective exchange rate index in turn seems to have contributed both to lower inflation and, albeit to a smaller extent, to lower economic growth during the same period. In the last few months of

(12) For methodological information, see Esteves, Paulo Soares (2003), "Monetary conditions index for Portugal", Banco de Portugal, *Economic Bulletin-June* .

Chart 3.1.3

INTEREST RATES



Sources: Bloomberg, ECB and Banco de Portugal.
Note: The yields on Portuguese bank bonds refer to asset-weighted averages of subordinated bonds issued by BCP and BES and bonds issued with Government guarantees by BCP, BES and CGD. The lack of market depth strongly restricts the existence of bonds with comparable characteristics within each segment, and therefore the rates shown should be interpreted as purely indicative. Government guarantees on bonds issued by Portuguese banks are part of a series of financial stability support measures announced by the government on 12 October 2008.

Chart 3.1.4

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 rate implied in futures contracts and the average expected Eonia rate (computed from the Eonia swap index) for the corresponding period.

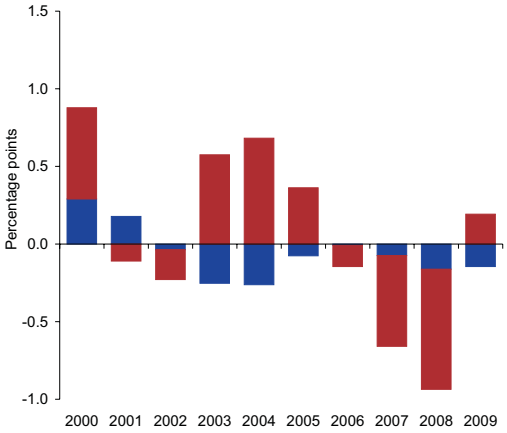
2008, the effective exchange rate index appreciated somewhat, recovering to levels similar to those seen in the middle of the year (Table 3.1.2). During the first half of 2009 this index was overall stable.

Taking into account the key role played by the Portuguese banking system in the intermediation of funds between resident sectors and abroad, the context in which banks operate becomes particularly relevant for the development of monetary and financial conditions. In this respect, it should be noted that despite the signs of some normalisation of the situation in financial markets from the end of the first quarter of 2009 onwards, the international financial crisis and, in particular, its reflections on the real economy, continued to significantly restrict Portuguese banking activity in the course of 2009.

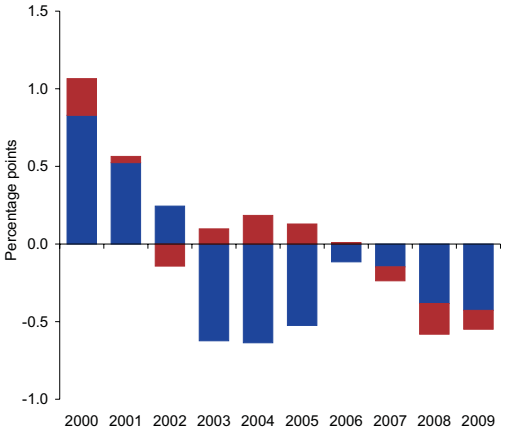
Chart 3.1.5

CONTRIBUTION OF MONETARY CONDITIONS

To the GDP growth rate



To the inflation rate



Effects of interest rate changes during the reference period and in the two previous years.
Effects of exchange rate changes during the reference period and in the two previous years.

Source: Banco de Portugal.
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.

In fact, in a context of risk reassessment and instability in wholesale funding markets, banks have been offering more attractive returns on customer deposits and tightening their credit standards. These more attractive conditions in customer deposits should thus be incorporated in the financing strategy of banks, insofar as financing conditions in wholesale debt markets have deteriorated substantially since the summer of 2007, both in terms of prices and quantities, although there have been positive developments in the course of 2009. With regard to lending operations, responses from the five Portuguese institutions included in the sample of the Bank Lending Survey show that from the third quarter of 2007 onwards banks have been tightening their credit standards, although during the first three quarters of 2009 this became progressively less intense, a similar trend being anticipated for the last quarter of the year. Also according to the results of the above survey, this tightening of credit standards seems to have translated into a widening of spreads applied on loans granted to the non-financial private sector, mainly as regards riskier loans, as well as into stricter requirements for other contractual conditions.

Up to the last few months of 2008, at the start of the ECB's cycle of sharp cuts in interest rates, changes in bank lending and deposit conditions were not reflected to a significant extent in the spread between interest rates calculated on the basis of the outstanding amounts of operations with customers and money market rates (Chart 3.1.6). Against the background of a rise in money market interest rates, this had a contribution from the usual lag in the pass-through of changes in these interest rates to banking rates on new business and from the fact that new business – where there is interest rate setting/renegotiation – accounts for only a fraction of the gross flow of credit and deposits. In addition, in a context of risk reassessment and greater risk differentiation by banks, there may be a higher concentration of credit supply in low-risk customers. More recently, spreads associated with bank lending interest rates increased significantly, while spreads associated with bank deposit rates decreased. As regards the latter, in the most recent months the return on outstanding amounts of deposits and deposit-like instruments with an agreed maturity exceeded the 6-month Euribor rate, which had not been

Table 3.1.2

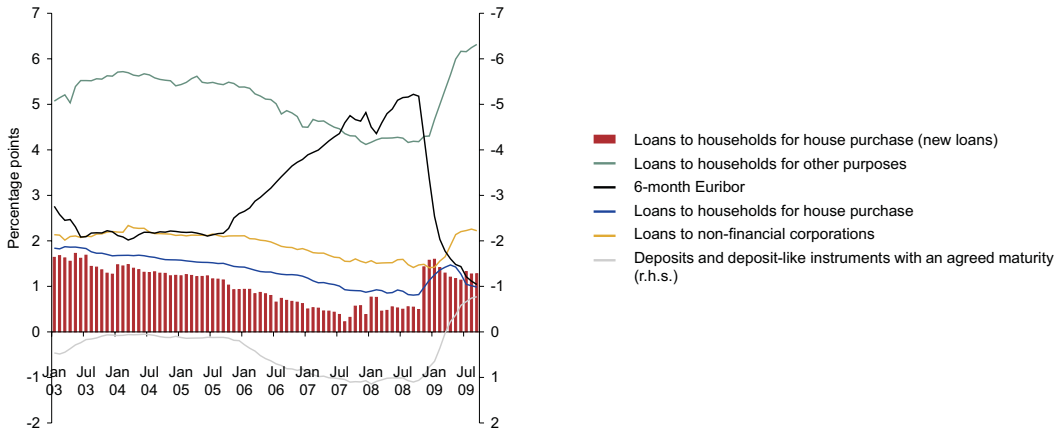
MONETARY AND FINANCIAL CONDITIONS OF THE PORTUGUESE ECONOMY

							Monthly developments									
	2006	2007	2008.1	2008.2	2008.3	2008.4	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09
Nominal interest rates - period averages (per cent)																
3-month Euribor	3.1	4.3	4.5	4.9	5.0	4.2	2.5	1.9	1.6	1.4	1.3	1.2	1.0	0.9	0.8	0.7
12-month Euribor	3.4	4.4	4.5	5.1	5.4	4.4	2.6	2.1	1.9	1.8	1.6	1.6	1.4	1.3	1.3	1.2
10-year fixed-rate Treasury bond yields	3.9	4.4	4.3	4.7	4.8	4.3	4.3	4.5	4.7	4.5	4.3	4.5	4.3	3.9	3.9	3.9
Bank interest rates																
On outstanding amounts of loans																
Non-financial corporations	4.9	5.8	6.2	6.2	6.4	6.4	5.7	5.3	4.8	4.5	4.3	4.0	3.8	3.7	3.5	
Households for house purchase	4.3	5.1	5.5	5.5	5.8	5.9	5.5	5.1	4.6	4.1	3.6	3.1	2.6	2.5	2.3	
Households for consumption and other purposes	8.0	8.6	8.8	8.9	9.1	9.2	9.0	8.8	8.5	8.2	8.1	8.0	7.7	7.7	7.6	
On outstanding amounts of deposits with an agreed maturity																
Households	2.1	2.8	3.3	3.4	3.6	3.9	3.7	3.5	3.3	2.9	2.5	2.4	2.3	2.3	2.2	
On new loans																
Households for house purchase	4.0	4.8	5.1	5.4	5.7	5.4	4.1	3.4	3.1	2.8	2.7	2.6	2.5	2.4	2.3	
Households for consumption (excluding overdrafts)	8.5	9.3	9.7	9.9	10.2	10.2	10.0	9.9	9.3	8.9	8.8	8.6	8.8	8.6	8.8	
Exchange rates - period averages																
Nominal effective exchange rate index [a][b]	100.9	101.8	102.9	103.5	103.2	102.5	103.3	103.0	103.6	103.4	103.5	103.5	103.5	103.4	103.7	104.1
Nominal effective exchange rate index - percentage change from the previous corresponding period [a][b]	0.2	0.8	0.5	0.6	-0.3	-0.7	0.0	-0.4	0.7	-0.2	0.0	0.0	-0.1	0.0	0.3	0.3
Stock market - percentage change from the previous corresponding period (end-of-period values)																
PSI Geral index	33.3	18.3	-18.8	-10.8	-11.4	-21.6	2.5	-5.8	4.0	11.4	8.5	-1.5	1.1	6.7	8.3	-2.2
Broad Dow Jones Euro Stock	20.3	4.9	-16.4	-7.3	-12.1	-21.2	-7.0	-11.0	4.0	15.0	3.3	-2.0	9.4	5.7	4.4	-4.6
Housing market prices - year-on-year rate of change																
Confidencial Imobiliário index [c]	2.1	1.3	3.2	3.9	5.8	4.1	4.1	3.0	1.1	0.4	-0.1	0.8	0.0	-0.6	-1.8	
Assessment by banks (*INE*)	0.3	0.5	-1.5	-4.6	-4.8	-6.3	nd	nd	-5.8	nd	nd	-1.5	nd	nd	0.0	
Loans granted to the non-financial private sector - end-of-period annual rate of change																
Loans granted by resident monetary financial institutions [d]																
Non-financial private sector	8.7	9.9	10.4	9.7	8.7	7.1	6.2	5.7	5.0	4.5	4.5	3.6	3.1	2.9	2.8	
Households - Total	9.9	9.0	8.5	7.8	6.3	4.6	3.9	3.5	3.1	2.7	2.5	2.2	2.1	2.0	2.1	
For house purchase	9.9	8.5	7.8	7.1	5.8	4.3	3.8	3.5	3.2	2.9	2.7	2.5	2.3	2.3	2.4	
For consumption and other purposes	10.1	11.3	11.3	10.6	8.7	6.2	4.3	3.6	2.9	2.2	1.9	1.3	0.9	0.9	0.9	
Non-financial corporations	7.1	11.2	13.0	12.3	12.0	10.5	9.3	8.7	7.5	6.9	7.1	5.4	4.4	4.1	3.7	
Deposits in resident monetary financial institutions - year-on-year rate of change																
Non-financial private sector	4.2	5.7	10.1	9.6	11.4	10.6	10.5	11.0	10.5	9.8	7.8	8.9	6.8	6.1	5.0	
Households with an agreed maturity	6.2	14.7	17.8	21.8	24.5	24.5	23.2	22.7	20.9	17.3	14.5	13.0	9.9	6.9	4.6	
Memo:																
HICP - End-of-period annual average rate of change																
Portugal	3.0	2.4	2.6	2.7	2.9	2.7	2.4	2.2	1.9	1.6	1.3	0.8	0.5	0.1	-0.3	
Euro area	2.2	2.1	2.5	2.9	3.4	3.3	3.1	2.9	2.7	2.5	2.1	1.8	1.4	1.1	0.8	

Sources: Euronext Lisboa, Eurostat, *Imométrica*, *INE*, Thomson Reuters and 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 "Índice Confidencial imobiliário: procedimentos metodológicos" by Isabel Fonseca and Ricardo Guimarães, in the October 2006 issue of the Newsletter *Imobiliária Portuguesa – Confidencial Imobiliário*. (d) The annual growth rates are obtained from the relation between the outstanding amounts of bank loans at the end of the months, adjusted for securitisation operations, and monthly transactions,which are calculated from the outstanding amounts corrected of reclassifications, write-offs/write-downs, exchange rate changes and price revaluations.

Chart 3.1.6

BANK INTEREST RATE MARGINS *VIS-À-VIS* MONEY MARKET INTEREST RATES



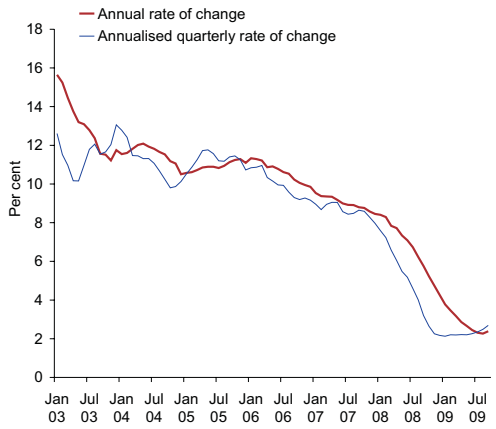
Sources: ECB and Banco de Portugal.
Note: The interest margin in outstanding amounts of loans is calculated as the difference between the interest rate on outstanding amounts and the 6-month moving average of the 6-month Euribor. In the case of new loans, the interest margin is the difference between the interest rate on new loans and the 6-month Euribor. The margin of lending operations is defined by the spread between interest rates on loans and the Euribor rate, while for deposit operations it is defined by the spread between the Euribor rate and the interest rate on deposits.

observed in the previous recession period. Despite the fact that the most recent developments in spreads calculated on the basis of outstanding amounts of lending operations were partly determined by the above-mentioned inertia factors (insofar as interest rates on bank operations with customers are not instantaneously adjusted to changes in market interest rates), the evolution of these spreads in the past few months and the behaviour of spreads calculated on the basis of new loans for house purchase suggest a stabilisation of bank spreads on lending operations at levels clearly above those seen before the emergence of disturbances in financial markets. However, this increase in spreads is unlikely to be uniform across different operations, in line with an upward reassessment of risk and its greater discrimination. According to the results of "Box 1 *Determinants of the recent pass-through of money market rates to interest rates on loans to the non-financial private sector*" in this Bulletin, in the most recent period the rise in credit default and the more adverse developments in economic activity, as measured by the evolution of the unemployment rate, make an important contribution to developments in lending interest rates, especially in the segments of loans to non-financial corporations and loans to households for consumption and other purposes.

As of the second half of 2008, in a context of significant deceleration in economic activity, loans granted to the non-financial private sector slowed down, a trend which was heightened in the course of 2009, and the respective annual rate of change declined from close to 10 per cent in the first half of 2008 to less than 3 per cent in September 2009 (Table 3.1.2). Loans to households for house purchase started to decelerate in mid-2006, when the corresponding growth rate exceeded 11 per cent, and the deceleration became more marked in 2008 against the background of the economic and financial crisis (Chart 3.1.7). More recently, developments in the annualised quarterly rate of change (calculated on the basis of seasonally adjusted figures) point to a stabilisation of the annual growth rate of loans in this segment at a level close to 2 per cent. The annual rate of change in loans to households for consumption and other purposes followed an even sharper downward trend as of early 2008, declining from 11.4 per cent in January 2008 to 0.9 per cent in September 2009 (Chart 3.1.8). Although the annualised quarterly rate of change (calculated on the basis of seasonally adjusted figures) stood slightly above the annual rate of change in August and September 2009, its trend in the previous

Chart 3.1.7

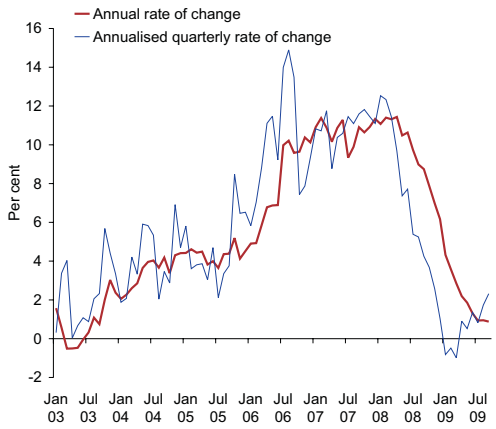
LOANS GRANTED TO HOUSEHOLDS FOR HOUSE PURCHASE BY RESIDENT MONETARY INSTITUTIONS



Source: Banco de Portugal.
Note: The annual and quarterly rates of change are calculated on the basis of the relationship between the outstanding amounts of bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions, which are calculated on outstanding amounts corrected for reclassifications, write-offs and foreign exchange and price revaluations. The quarterly rate of change is seasonally adjusted.

Chart 3.1.8

LOANS GRANTED TO HOUSEHOLDS FOR CONSUMPTION AND OTHER PURPOSES BY RESIDENT MONETARY INSTITUTIONS



Source: Banco de Portugal.
Note: The annual and quarterly rates of change are calculated on the basis of the relationship between the outstanding amounts of bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions, which are calculated on outstanding amounts corrected for reclassifications, write-offs and foreign exchange and price revaluations. The quarterly rate of change is seasonally adjusted.

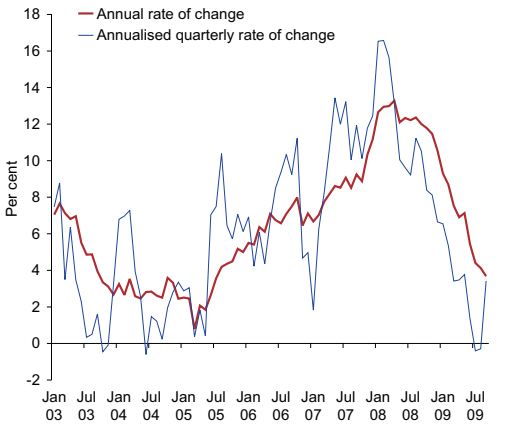
months, in parallel with the outlook for economic growth, suggests that the annual rate of change in loans in this segment is likely to remain at low levels over the next few months.

The deceleration in loans to households is in line with the tightening of credit standards and a decline in the demand for loans in this segment, as reported within the scope of the Bank Lending Survey. According to the surveyed institutions, the tightening of credit standards applied on loans to households was driven by developments in banks' cost of funds and balance sheet constraints and by a more negative assessment of risks by banks, namely regarding general economic activity, housing market prospects, the creditworthiness of consumers and the risk on collateral demanded. In turn, developments in the demand for loans with surveyed institutions seem to have been associated with a decline in the financing needs of households, in a context of deteriorating consumer confidence and housing market prospects. Comparing developments reported for the first three quarters of 2009 and banks' expectations for the last quarter of the year with developments seen during the second half of 2008, there has been a less stringent tightening of credit standards as well as a less negative behaviour of the demand for loans for consumption and other purposes and a stabilisation of the demand for loans for house purchase. This should contribute to stable growth in loans to households.

Bank loans granted to non-financial corporations still recorded high growth rates over the first months of 2008 (close to 13 per cent), and started to decelerate in May 2008, standing slightly below 4 per cent in September 2009 (Chart 3.1.9). In July and August 2009 the annualised quarterly growth rate (calculated on the basis of seasonally adjusted figures) of loans in this segment was close to zero. In September it increased to 3.4 per cent, remaining nonetheless below the annual rate of change. These developments thus point to a further decrease of the latter rate during the next few months. Hence, there was a certain lag in the slowdown of loans to non-financial corporations vis-à-vis loans to households. Within the scope of the Bank Lending Survey, surveyed banks highlighted the contribution to the demand for loans of increased corporate financing needs related to debt restructuring, in parallel with a decline in investment financing needs.

Chart 3.1.9

LOANS GRANTED TO NON-FINANCIAL CORPORATIONS BY RESIDENT MONETARY INSTITUTIONS



Source: Banco de Portugal.
Note: The annual and quarterly rates of change are calculated on the basis of the relationship between the outstanding amounts of bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions, which are calculated on outstanding amounts corrected for reclassifications, write-offs and foreign exchange and price revaluations. The quarterly rate of change is seasonally adjusted.

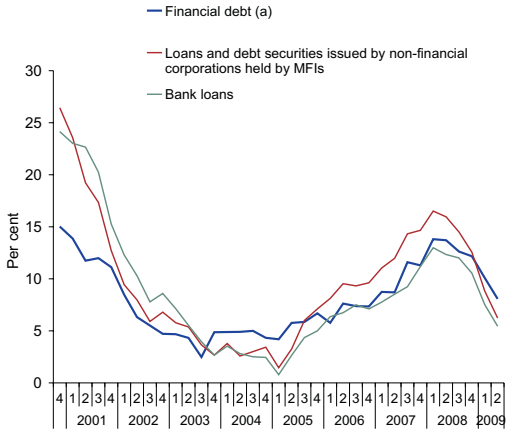
Results presented in "Box 2 *Recent developments and determinants of bank loans to the non-financial private sector*" in this Bulletin, show that overall the dynamics of explanatory variables made a significant contribution to developments in credit to the non-financial private sector. In particular, in the last few quarters there was an evident impact of the fall in expenditure aggregates (private consumption, housing and corporate investment) on the trend of credit aggregates, which was countered by a significant decline in bank interest rates. Other factors are also shown to contribute to the dynamics of loans, namely those related to credit supply conditions. In fact, in the context of the current economic and financial crisis there was a significant change in credit standards in the various segments considered, with a tightening as regards loans to the non-financial private sector, albeit gradually easing in the course of 2009. This partly countered the effect of the cut in key ECB interest rates and money market rates. However, even after the onset of the crisis in international financial markets, it is also evident that banks continued to accommodate corporate financing needs, given the unexpected strong fall in demand for that sector. This situation has changed only recently and, jointly with the drop in investment, it has been contributing to the recent deceleration in loans to enterprises.

During 2008 the aggregate comprising loans and debt securities of non-financial corporations held by MFIs presented substantially higher growth than the one that only includes bank loans (Chart 3.1.10). This reflected the fact that banks purchased rather substantial volumes of short-term debt securities issued by non-financial corporations (Chart 3.1.11). The option for shorter maturities may have also reflected some difficulties in placing debt securities in the market for longer maturities. Hence, banks have also shown an ability to reduce the negative impact of the situation in financial markets on corporate financing. During the first half of 2009 total financial debt of non-financial corporations, which covers loans and debt securities placed with banks and other investors, namely non-resident investors, grew at a greater pace than the aggregate that includes loans and securities of non-financial corporations held by banks, which in turn grew more than bank loans. In effect, in the first half of 2009, particularly during the second quarter, a number of non-financial corporations issued substantial volumes of

Chart 3.1.10

DEBT OF NON-FINANCIAL CORPORATIONS

Annual rates of change

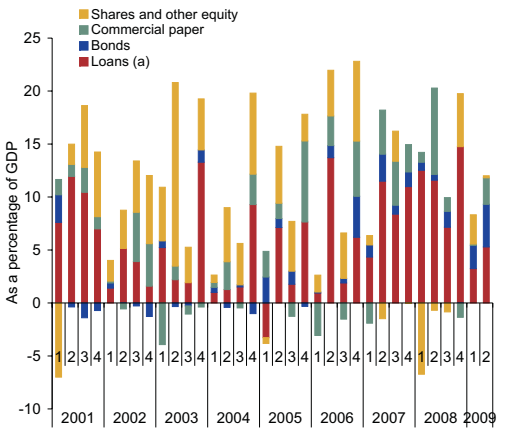


Source: Banco de Portugal.
Notes: Consolidated figures. (a) Includes bank loans granted by resident and non-resident credit institutions; loans/additional capital granted by non-resident intra-group corporations (excluding those granted to non-financial corporations having their head office in the Madeira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

Chart 3.1.11

FINANCING OF PORTUGUESE NON-FINANCIAL CORPORATIONS

Net issues



Source: Banco de Portugal.
Notes: Consolidated figures. (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).

commercial paper and especially bonds, reflecting the easing of tensions in financial markets. On the other hand, the flow of loans during the first half of 2009 was much lower than in the previous year. In this period, corporate financing needs decreased, which essentially reflected a reduction in investment and, to a lesser extent, an increase in saving. Against the background of a decline in the gross operating surplus and in corporate profitability, this increase in saving largely resulted from a decline in interest expenditure and dividend distribution.[13] In parallel, the value of trade credits of non-financial corporations declined strongly in 2009, with annual rates of change in credits payable and receivable standing at around -9 and -10 per cent respectively at the end of the second quarter of the year (Chart 3.1.12). Still, there was a slight increase in days in accounts payable and in receivables of non-financial corporations. In addition, in the second half of 2007 and 2008 there was an increasing resort to loans granted by other non-financial corporations. Although this did not extend to the first half of 2009, the weight of this type of loan in total loans granted to non-financial corporations increased from around 14 per cent in the second quarter of 2007 to over 18 per cent in the second quarter of 2009.

Even though customer deposit growth also contributed to sustain bank financing to the non-financial private sector during the first half of 2009, its role was less marked than in the previous semester. In fact, in the first six months of 2009, the issue (net of repayments) of debt securities was again the main financing source for the expansion of the Portuguese banking activity, although the former were partly placed with customers. This reflected a strong decline in reference rates, which reached historically low levels, as well as a narrowing of risk premia against a backdrop of reduced tensions in financial markets (Chart 3.1.13).

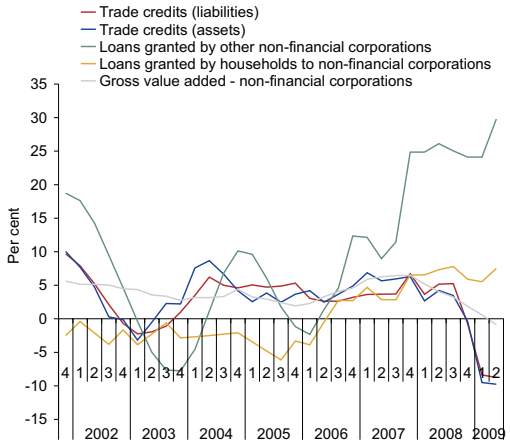
The trend of deposits should be analysed in the light of developments in the overall portfolio of household financial investments. In the first half of 2009 the net flow of these investments was mainly composed of debt securities and life insurance and pension funds, with deposits increasing to a limited

(13) For further details, see "Section 3 *The financial situation of the non-financial private sector*" of text "*The Portuguese banking system in the course of 2009*" in this Bulletin.

Chart 3.1.12

FINANCING OF NON-FINANCIAL CORPORATIONS

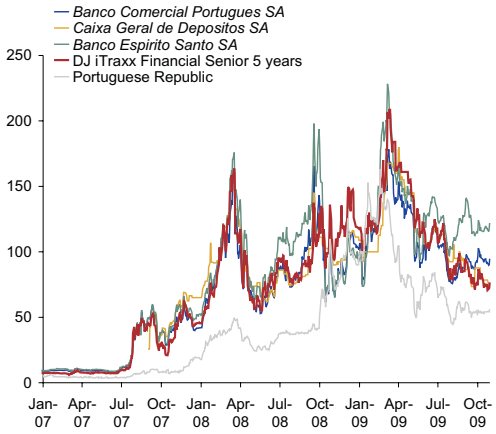
Trade credits, loans granted by non-financial corporations and households
(annual rate of change)



Source: Banco de Portugal.
Note: Non-consolidated figures.

Chart 3.1.13

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



Sources: Bloomberg and Thomson Reuters.

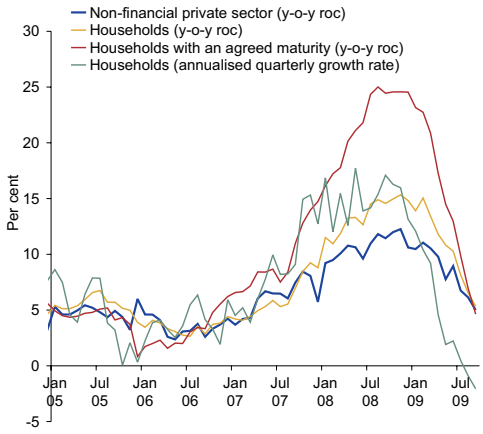
extent. However, it should be noted that around 90 per cent of the net purchase of debt securities by households concerns securities issued by banks. The latest data suggest that from the second quarter onwards there was a decline in the risk aversion of households, which translated into positive net subscriptions of investment funds.

Thus, in the course of 2009, household deposits slowed down considerably, and after having reached an annual rate of change close to 15 per cent in February, they grew by 5.3 per cent in September (Chart 3.1.14). Household deposits with an agreed maturity slowed down even more sharply in the same period, still recording year-on-year rates of change close to 23 per cent in early 2009 and growing at a slower pace than that of total household deposits in September. In addition, the pattern of the annualised quarterly rate of change (calculated on the basis of seasonally adjusted figures) in deposits to households shows that the corresponding year-on-year rate of change should continue to decline in the coming months. With regard to the composition of household deposits, during the first half of 2009 there was a decline in the proportion of deposits with an agreed maturity of up to two years, largely against an increase in the weight of deposits with an agreed maturity of over two years. In fact, from the beginning of the year to September 2009 the amounts of deposits with an agreed maturity of over two years rose by approximately 194 per cent, which should be considered as part of banks' financing strategy in the current environment.

Over the last two months of 2008 and the first quarter of 2009, against a background of very high global uncertainty, there was a widening of the spread between Portuguese Treasury bond yields with a residual maturity of 10 years and German public debt, reaching values close to 170 b.p. in early March 2009 (Chart 3.1.15). Subsequently, in line with the lessening of tensions in financial markets, this spread narrowed strongly to stand at 56 b.p. at end-October, still high in comparison with the level observed before the summer of 2007 (around 10 b.p.). This pattern was broadly based across European countries (for further details, see "Section 2 *The international framework*"). In the course of 2009 the evolution of the spread between Portuguese Treasury bond yields with a residual maturity of 10 years and German public debt securities largely reflected the behaviour of Portuguese public debt yields. On 30

Chart 3.1.14

BANK DEPOSITS
Rates of change



Source: Banco de Portugal.

October 2009 the yield on the Portuguese public debt was 3.81 per cent, i.e. 110 b.p. below the peak seen at end-February and 16 b.p. below the end-2008 level. The reduction in risk premia associated with public debt is likely to pass through to a decline in the financing costs of the remaining economic agents.

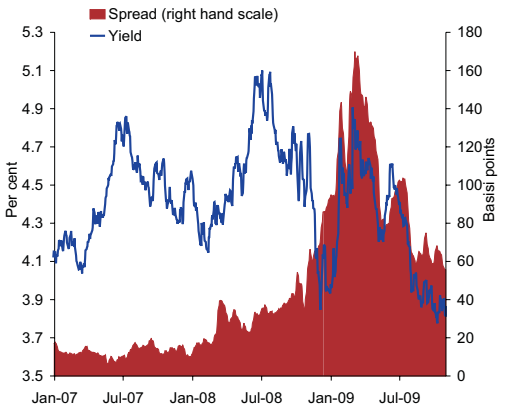
The spread between the yield on bonds issued by Portuguese companies and public debt securities of a comparable maturity narrowed strongly throughout 2009 (by around 200 p.p.), thus reversing the upward trend observed as of the summer of 2007 (Chart 3.1.16). This movement, which was accompanied by the evolution of yields on bonds issued by Portuguese companies, contributed to a reduction of their financing cost, although bond issuance traditionally accounts for a small fraction of non-financial corporate financing in Portugal, as illustrated in Chart 3.1.11. Net issues of debt securities by non-financial corporations in the first half of 2009 occurred mainly in the second quarter of the year, thus benefiting from lower spreads against a backdrop of lower tensions in financial markets. Late in October 2009 the yield on bonds issued by Portuguese companies stood at 3.75 per cent, which is comparable to the trough reached in the context of the 2003 recession.

The PSI Geral index devaluated in the first two months of 2009, in the wake of the rather adverse trend seen in 2008, and since then has exhibited an upward trend and declining volatility. Therefore, since the beginning of the year until the end of October, the PSI Geral index recorded a 36.7 per cent valuation, while the Dow Jones Euro Stoxx index rose by 15.2 per cent in the same period. However, at end-October 2009 these indices still stood 34.6 per cent and 38.6 per cent, respectively, below the figures for July 2007. In the second quarter of 2009 a considerable amount of shares of listed financial companies were issued, largely corresponding to a capital increase by a banking group, taking into account, namely, the recommendation of Banco de Portugal according to which the Tier I capital adequacy ratio should be at least 8 per cent as of September 2009. Listed non-financial corporations, the financing needs of which declined in the first half of 2009, did not issue a considerable volume of shares. In this respect, one should recall that the majority of shares issued by non-financial corporations correspond to unlisted companies.

The cost of non-financial corporate financing in Portugal, assessed in real terms through a synthetic indicator incorporating information referring to costs associated with shares and other equity, bank loans

Chart 3.1.15

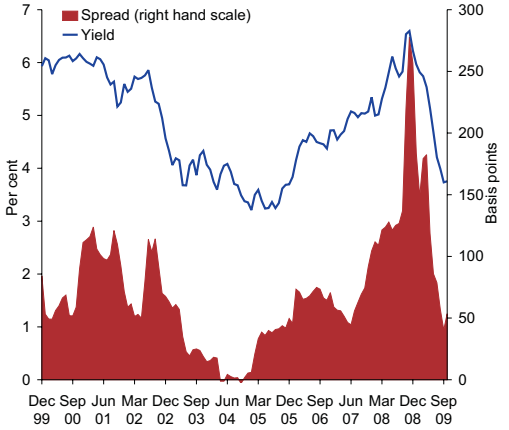
PORTUGUESE PUBLIC DEBT YIELD AND SPREAD VIS-À-VIS GERMAN PUBLIC DEBT (10-YEAR)



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 3.1.16

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.
Note: This indicator considers a variable set of securities issued by non-financial corporations with an average maturity which stood between 5 and 7 years in 2009.

and securitised debt, increased up to September 2009 compared with the level observed in 2008 (Chart 3.1.17).[14] This chiefly resulted from an increase in the estimate for the cost of equity financing, given that the cost associated with the debt instruments considered declined over the first half of 2009, particularly as regards long-term debt securities. In the third quarter of the year, positive developments in stock markets have contributed to decrease firms' costs of equity funding, while the cost associated with bank loans and long term debt securities has also decreased. In September 2009 the real cost of non-financial corporate financing through bank loans and short-term debt securities stood at levels clearly above those seen in the context of the 2003 recession, reflecting to a large extent the lower level of inflation observed recently.

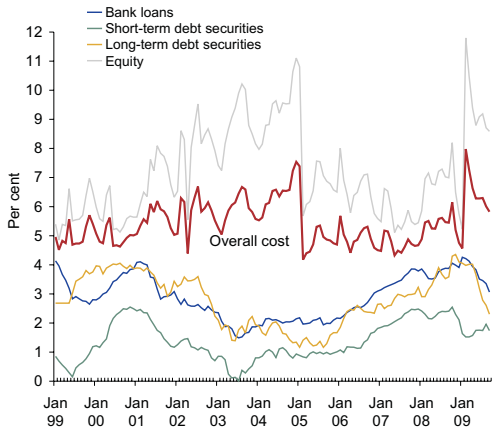
Given that real estate assets are used as collateral in loans, the value of the former is liable to influence credit market developments and the respective financing conditions. In addition, real estate accounts for a significant share of household wealth, so that changes in its valuation may have a considerable impact on household spending decisions. In the wake of the situation in 2008, the bank assessment index published by *Instituto Português de Estatística* (the Portuguese statistical office) continued to record negative year-on-year rates of change during the first half of 2009, although the pace of its devaluation eased throughout the year. In the third quarter of 2009, this index reached a similar value to that exhibited in the same period of the previous year (Table 3.1.2). This is consistent with the results of the Bank Lending Survey that show a less intense tightening of credit standards apllied by banks, which in turn reflects on the bank assessment index. Although real estate price growth in Portugal was not comparable to that in countries whose housing markets have been recently facing sharper correc-

(14) 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 $r = \frac{D}{P}\left[(1+gn)+8(ga-gn)+gn\right]$ 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 3.1.17

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

In real terms



Sources: Barclays Capital, Consensus Economics, ECB, Thomson Reuters and Banco de Portugal calculations.
Notes: The break in the series in January 2003 followed the introduction of harmonised Eurosystem statistics for MFI interest rates. In order to compute the overall funding cost for the third quarter of 2009, non-financial corporations' funding structure is assumed to remain similar to the one observed in the previous quarter. Last observation: September 2009.

tions, the year-on-year rate of change in the *Confidencial Imobiliário* index stood at -1.8 per cent in September 2009 (-0.7 per cent and -2.6 per cent for new and used real estate respectively).[15]

3.2. Fiscal policy

According to the excessive deficit procedure notification of September, the target for the general government deficit in 2009 amounts to 5.9 per cent of GDP (2.7 per cent in 2008).[16] The figure reported is in line with that published in the Budgetary Policy Steering Report of May. Nevertheless, available information on the budget outturn indicates that, in the absence of temporary measures, the deficit figure may exceed the official target. The projection for the debt-to-GDP ratio at the end of 2009, included in the September notification, stands at 74.5 per cent. The European Commission has recently approved a report under Article 104 (3) of the Treaty, opening the excessive deficit procedure for Portugal,[17] in which the Commission concludes that the deficit level above the reference value foreseen for 2009 may be considered exceptional but not temporary.

Concerning the stance of fiscal policy, this is expected to be clearly expansionary in 2009. At the same time, the cyclical position of the economy should contribute negatively to the change in the budget balance.

(15) This index is calculated on the basis of supply-side prices, weighted by region and state of use of the dwelling. The quality adjustment used for the calculation means, however, that it is not possible to exercise complete control over the parameters and this fact could well underlie the relatively high growth recorded towards the end of 2008. For information on methodology, see "Índice Confidencial Imobiliário: procedimentos metodológicos", Isabel Fonseca and Ricardo Guimarães", *Newsletter Imobiliária Portuguesa – Confidencial Imobiliário*, October 2006.

(16) The notification includes statistics up to the previous year compiled by *INE* (Statistics Portugal), as well as an estimate for the current year drawn up by the Ministry of Finance and Public Administration.

(17) The same procedure has been implemented for the following Member-states: Germany, Austria, Belgium, Slovakia, Slovenia, Italy, the Netherlands and Czech Republic. Spain, France, Greece, Hungary, Ireland, Latvia, Lithuania, Malta, Poland, the United Kingdom and Romania already are in excessive deficit.

One of the most important aspects of the fiscal projections for 2009 was their gradual deterioration throughout the year, as it became clear that economic activity was contracting markedly. This pattern was broadly based across all euro area countries. It should be recalled that the initial deficit target included in the State Budget for 2009 stood at 2.2 per cent of GDP, which was later revised to 3.9 per cent of GDP in the amendment to the State Budget published in January. In effect, the functioning of the automatic stabilisers and the adoption of several discretionary measures, partly in response to the present downturn, have implied a strong decrease in revenue and an increase in expenditure compared with initial targets.

The budget outturn for the State, available up to the end of the third quarter of the year, indicates a very negative evolution in the revenue of some of the main taxes. This is particularly the case for the VAT, which has seen a drop of 22.7 per cent in its collection, reflecting a number of factors in addition to the downturn in economic activity. Among these, it is worth mentioning the cut in the standard VAT rate by mid-2008 and measures leading to the frontloading of refunds, compared to previous year's pattern. Revenue from this tax is expected to rebound somewhat until the end of the year, as the effect of these factors fades out. Revenue from the corporate income tax has also been very negatively affected by the cyclical position of the economy, declining by 24.1 per cent. Social contribution receipts, in accordance with the budget outturn of the social security general system, remained virtually stable (0.4 per cent change), in line with the growth rate of private sector wages (see "Section 5 *Demand*") and some specific measures reducing the employers' social contributions rate.

On the expenditure side, there was a sharp rise in social payments excluding pensions up to the end of the third quarter, which is not limited to unemployment and employment-support benefits. In effect, while the latter recorded a 28.6 per cent change, the other items grew by 25.8 per cent as a whole.[18] Social security pension expenditure continues to decelerate gradually, increasing by 4.8 per cent. In turn, expenditure on pensions of the responsibility of Caixa Geral de Aposentações (former Portuguese public pension scheme) grew markedly, by 7.2 per cent, until September, accelerating from 2008 as a whole (5.7 per cent increase). These developments may partly reflect legislation approved in 2008 allowing employees with less than 36 years of service to retire. In fact, the average number of retirees rose by 3.3 per cent during the first nine months of the year, i.e. 0.8 percentage points more than in the previous year as a whole, thereby reinforcing the effect of the rise in the average pension. As regards State expenditure, the wage bill stabilised despite an increase of 2.9 per cent in the wage scale. These developments likely reflect the control of admissions and the fact that new employees earn on average less than retiring employees.

The long-term trends in public finances in Portugal, beyond the uncertainty regarding future policy measures, depends on factors with a rather unforeseeable impact. In this respect, it is worth mentioning the medium-term effects of restraint measures taken in recent years, as well as the consistency of the implementation of some structural reforms. In addition to these, factors resulting from the current economic and financial crisis must be taken into account. On the one hand, the possibility that some stimulus measures taken are not reversed; on the other hand, the difficulty in quantifying the negative impact of the crisis on potential output growth, which decisively affects the assessment of the sustainability of public finances (see "Box 3 *Sustainability of public finances: Portugal in the context of the EU*", in this Bulletin).

(18) In particular, mention should be made to an increase in expenditure on family benefits and supplements for the elderly (since mid-2008) as a result of changes in the calculation and/or entitlement rules.

4. SUPPLY

According to current estimates, the gross value added (GVA) of the Portuguese economy decreased by 3.0 per cent in year-on-year terms in the first half of 2009, compared with growth of 0.4 per cent in 2008 as a whole and 2.0 per cent in 2007 as a whole. This marked downturn is supported by the European Commission's economic sentiment indicator and by the coincident indicator of activity of Banco de Portugal. Developments in GVA were very heterogeneous in sectoral terms, with sharp falls in sectors more sensitive to cyclical fluctuations in the economy (construction and manufacturing) and less adverse developments in the services sector. In the first quarter, in intra-annual terms, the European Commission's economic sentiment indicator continued the downward trend that started in the first quarter of 2008, reaching a historical low. The coincident indicator of activity of Banco de Portugal is also consistent with these developments (Chart 4.1).

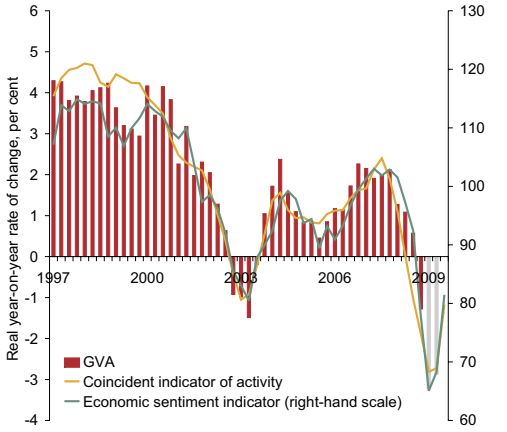
In addition, both indicators point to acceleration in activity in the second and, in particular, the third quarter of 2009. This intra-annual behaviour was broadly-based across several sectors, as evidenced by the confidence indicators in manufacturing, services, retail trade, construction, as well as by indicators of production expectations and order books.

For 2009 as a whole, GDP is projected to fall by 2.7 per cent (see "Section 5 *Demand*"). The largest contribution to this decrease comes from labour input (-1.6 percentage points), associated with the strong fall in employment, while capital input contributes with an increase of 0.1 percentage points. In turn, the contribution of total factor productivity is estimated to decrease substantially, from -0.7 percentage points in 2008 to -1.2 percentage points in 2009.[19]

Apparent labour productivity in the private sector is expected to decrease by 0.3 per cent in 2009, compared with a drop of 0.6 per cent in 2008 (Chart 4.2). Developments in labour productivity may be a result of (typically pro-cyclical) developments in the capacity utilisation rate, which, in the first half of

Chart 4.1

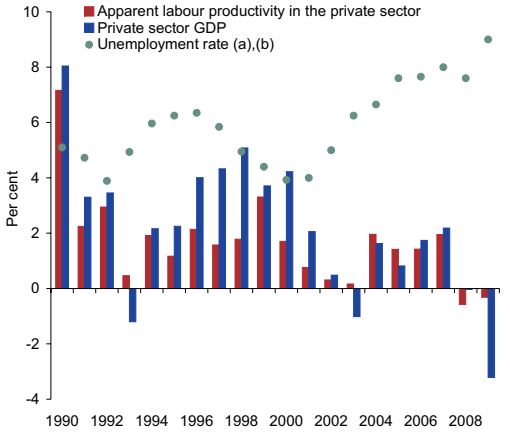
GVA, COINCIDENT INDICATOR OF ACTIVITY AND ECONOMIC SENTIMENT INDICATOR



Sources: European Commission, *INE* (Quarterly National Accounts) and Banco de Portugal.

Chart 4.2

CHANGE IN APPARENT LABOUR PRODUCTIVITY AND GDP IN THE PRIVATE SECTOR



Sources: *INE* and Banco de Portugal.
Notes: (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*. (b) The unemployment rate for 2009 is an average of figures for the first two quarters of the year.

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

2009, continued the marked decline started in the first half of 2008 (Chart 4.3). In addition, the evolution of labour productivity is significantly affected by the fall in employment in the private sector in the first half of the year (Chart 4.3).[20] Employment dynamics are consistent with the historical relationship between developments in employment and private sector activity in the Portuguese economy (Chart 4.4).

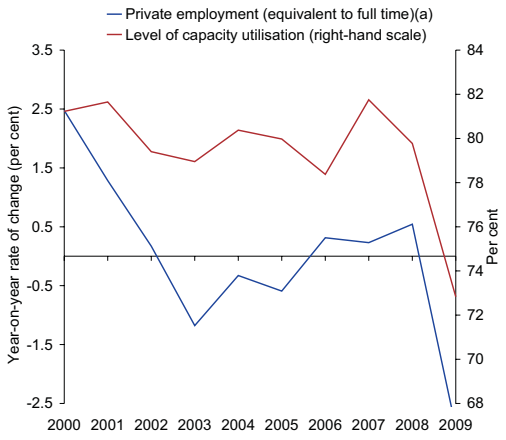
According to the Employment Survey of *INE* (Statistics Portugal), the participation rate stood at 73.9 per cent in the first half of 2009, decreasing slightly compared with the same period in 2008 (74.2 per cent) (Table 4.1). The decrease in the participation rate was mainly the result of developments in the male participation rate, which stood at 78.9 per cent, continuing the downward trend that started in the second quarter of 2008. The female participation rate (69 per cent) remained stable. Conversely to developments over the last few years, the participation rate is slightly below the figure it would have reached taking into account strictly demographic factors, i.e. if the participation rate of each age group were at 2006 levels.[21] In fact, the smaller share of groups with lower participation rates and the larger share of the group with the highest participation rate (aged 25-54) would imply a stabilisation of the aggregate participation rate.

In the first half of 2009, total employment in the economy decreased by 2.3 per cent compared to the same period in 2008 (Table 4.1). These dynamics resulted from a fall in both dependent employment (-1.8 per cent) and self-employment (-3.0 per cent).

With regard to the type of employment contract, the share of permanent contracts in total employment increased (from 76.9 per cent in the first half of 2008 to 78.3 per cent in the first half of 2009), discon-

Chart 4.3

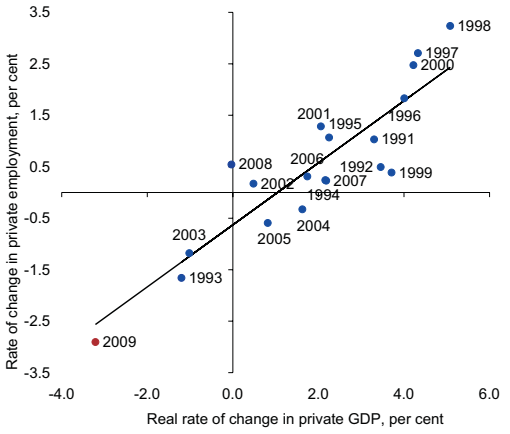
PRIVATE EMPLOYMENT IN THE ECONOMY (EQUIVALENT TO FULL TIME) AND CAPACITY UTILISATION [(a)]



Sources: *INE* and European Commission.
Note: (a) Private sector employment is defined as total employment excluding Banco de Portugal estimates for public sector employment. The private employment series does not include public hospitals transformed into public corporations and corresponds to total employment in the economy adjusted for the number of hours worked. Each number of hours worked equivalent to full time corresponds to one job. From 2007 to 2009, the series for total employment is based on the assumption that the average number of hours worked per worker has remained unchanged. The level of capacity utilization for 2009 is an average of figures for the first three quarters.

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 public employees and general government fixed capital consumption. Private GDP and private employment series do not include public hospitals transformed into public corporations. From 2007 to 2009, the private employment series is based on the assumption that the average number of hours worked per worker has remained unchanged.

(20) It should be noted that employment data used in the calculation of productivity are final only up to 2006. From 2007 to 2009, the private employment series is based on the assumption that the average number of hours worked per worker remained unchanged. Private sector employment is defined as total employment minus Banco de Portugal estimates for public sector employment and does not include public hospitals transformed into public corporations.

(21) This estimate is based on the assumption that, in 2009, participation rates for each age bracket remained unchanged from 2008. 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		
	2006	2007	2008	2007	2008	2009
Population	0.2	0.2	0.2	0.2	0.2	0.1
Labour force	0.8	0.6	0.1	0.5	0.5	-0.7
Participation rate, aged 15-64 (% of population)	73.9	74.1	74.2	73.9	74.2	73.9
Total employment	0.7	0.2	0.5	-0.2	1.3	-2.3
Dependent employment						
Permanent contract	0.9	-2.2	0.6	-2.4	0.0	0.0
Fixed-term contract [a]	9.3	8.0	6.2	9.9	10.3	-5.7
Self-employment	-2.7	1.3	0.9	-0.4	2.2	-3.0
Total unemployment	1.3	4.8	-4.8	9.0	-8.1	19.9
Total unemployment rate (% of labour force)	7.7	8.0	7.6	8.1	7.4	9.0
Long-term unemployment (% of total unemployment) [b]	53.1	49.9	50.8	49.8	51.8	45.8

Sources: *INE* (Labor Force Survey) and Banco de Portugal.
Notes: (a) In 2006, it includes contracts with temporary employment agencies. (b) A long-term unemployed is an individual seeking work for 12 months or more.

tinuing the downward trend observed since the second half of 2005. In the first half of 2009, the number of permanent contract employees did not change significantly compared with the same period in 2008, while that of fixed-term contract employees decreased by 5.7 per cent (after increasing by 10.3 per cent in 2008) (Table 4.1 and Chart 4.5). In addition to the upward trend in the share of fixed-term contracts observed since the mid-1990s, these developments are in line with the cyclical behaviour in employment by type of contract, according to which the number of fixed-term contract employees tends to increase in periods of total employment growth and to decrease in periods of total employment decline.

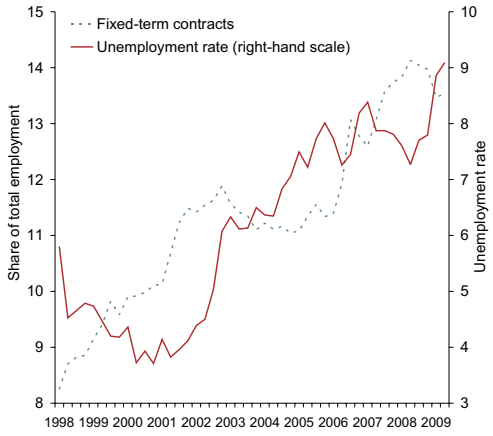
In sectoral terms, the broadly based decline in employment in the first half of 2009 was more marked in construction and manufacturing (8.2 per cent and 4.4 per cent, respectively). The fall in the number of workers in construction and manufacturing accounts for approximately 70 per cent of the decline in total employment. Employment decreased by 4.6 per cent in agriculture and by 0.6 per cent in the services sector.

In the first half of 2009, the number of unemployed increased by 19.9 per cent in year-on-year terms and the unemployment rate reached 9.0 per cent, up by 1.6 percentage points from the same period in 2008. The male unemployment rate increased by 2.1 percentage points, while that of females rose by 0.9 percentage points. As a result, the ratio of the female unemployment rate to the male unemployment rate declined, reaching one of the lowest figures of the past decade. Over recent years, the unemployment rate has shown a clear upward trend (started in 2001), partly associated with structural problems in the Portuguese economy. As observed during the downturn of 2002-2003, the (year-on-year) increase in unemployment in the first half of 2009 was more marked in the single men group (the unemployment rate rose from 11.5 per cent in 2008 to 14.9 per cent in 2009) (Chart 4.6). These developments are consistent with a sharp segmentation of the labour market, whereby, as previously mentioned, the employment dynamics are associated with developments in fixed-term contracts which particularly affect younger age groups.

Labour market dynamics can also be analysed in terms of flows between the different labour market status – inactivity, employment and unemployment. Chart 4.7 shows the quarterly averages of those flows over the past four quarters. On average, 47.8 thousand individuals moved from employment

Chart 4.5

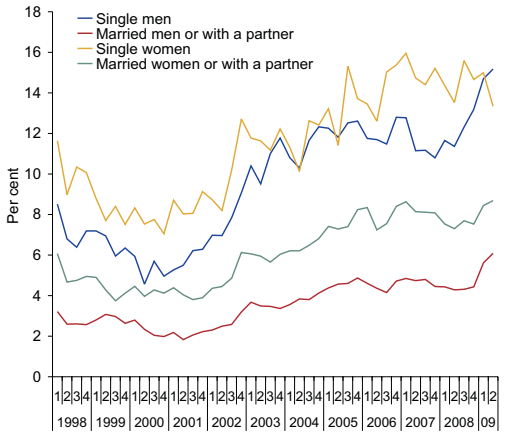
SHARE OF FIXED-TERM CONTRACTS



Source: *INE* (Labour Force Survey).

Chart 4.6

UNEMPLOYMENT RATE BY GENDER AND MARITAL STATUS



Source: *INE* (Labour Force Survey).

into inactivity, while only 41.4 thousand individuals moved in the opposite direction. 52.9 thousand individuals moved from unemployment into employment (down by 11.1 per cent from the same period in 2008) and 59.6 thousand in the opposite direction (up by 33.1 per cent from the same period in 2008). Finally, 56.0 thousand individuals moved from inactivity into unemployment and 48.2 thousand in the opposite direction. Total flows between the different labour market status account for 7.0 per cent of the labour force, a figure close to the 6.9 per cent recorded in the same period a year earlier.

Chart 4.7

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 2008 and the first two quarters of 2009.

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 51.8 per cent in the first half of 2008 to 45.8 per cent in the same period of 2009. This decrease results from more marked growth in short-term unemployment, although long-term unemployment has also increased in absolute terms. The fall in employment associated with the recent economic downturn has implied larger increases in short-term unemployment, in particular unemployment with a duration of one to six months. The average duration of unemployment declined from 23.3 months in the first half of 2008 to 21.4 months in the same period of 2009, which is consistent with the downward trend in the share of long-term unemployment.

5. EXPENDITURE

Based on projections for main expenditure components made with information available at the end of October, current Banco de Portugal estimates for 2009 indicate a contraction in economic activity of 2.7 per cent (Table 5.1). This is associated with a slight decline in private consumption – mainly due to a large reduction in spending on durable goods – and a sharp fall in investment and exports of goods and services, whose effects on domestic production were mitigated by the high import content of these expenditure components. In contrast to the last decade, a positive growth rate differential between Portugal and the euro area is expected in 2009. Indeed, the latest IMF projections point to a contraction in euro area economic activity of 4.2 per cent (Chart 5.1).[22]

Such developments in 2009 have led to the largest decline in Portuguese economic activity over the past decades. According to the Long Series for the Portuguese Economy – released since 1953 –, only in 1975 it was observable a more pronounced decline in GDP (Chart 5.2), in a context where ef-

Table 5.1

GDP AND MAIN EXPENDITURE COMPONENTS [a]

Real rate of change, per cent

	2003	2004	2005	2006	2007	2008	2009
GDP	-0.8	1.5	0.9	1.4	1.8	0.0	-2.7
Private consumption	-0.2	2.5	1.9	1.9	1.6	1.7	-0.9
Durable	-8.8	5.5	3.4	0.3	4.4	-0.1	-14.3
Non-durable	1.0	2.2	1.8	2.1	1.3	2.0	0.7
Public consumption	0.2	2.6	3.2	-1.4	0.0	0.7	2.1
Investment	-8.3	2.5	-1.5	-0.3	2.9	-0.3	-14.2
GFCF	-7.4	0.2	-0.9	-0.7	2.7	-1.3	-13.1
Machinery and metal products	-2.7	7.5	2.4	5.3	7.4	5.9	-9.8
Transport equipment	-9.8	-1.3	-3.1	13.5	10.6	0.6	-28.7
Construction	-9.6	-1.5	-3.0	-4.9	-0.2	-5.7	-13.2
Other	-5.5	-3.6	2.4	-2.7	0.5	0.3	-9.0
Change in inventories [b]	-0.3	0.5	-0.1	0.1	0.1	0.2	-0.3
Domestic demand	-2.0	2.5	1.5	0.8	1.6	1.1	-3.0
Exports	3.9	4.0	2.1	8.7	7.9	-0.5	-13.1
Imports	-0.9	6.7	3.5	5.2	6.1	2.7	-11.7
Contribution of domestic demand to GDP [b]	-2.2	2.7	1.6	0.9	1.7	1.2	-3.3
Contribution of net external demand to GDP [b]	1.4	-1.2	-0.7	0.5	0.0	-1.2	0.6

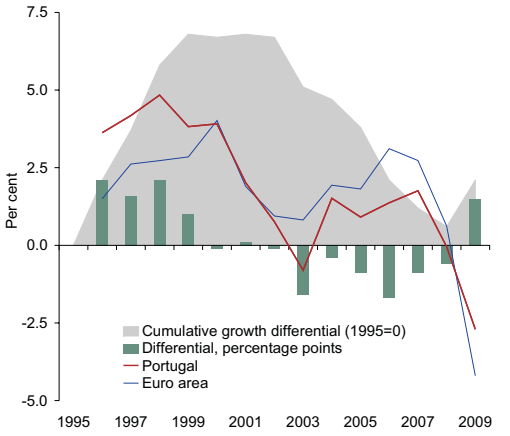
Sources: *INE* and Banco de Portugal.
Notes: (a) Banco de Portugal estimates for the period 2007-09. (b) Contribution to the rate of change in GDP in percentage points.

(22) The high variability of economic indicators since the end of 2008 has resulted in major revisions of most projections. Therefore, taking into account the lag between cut-off dates for these projections and IMF projections, this growth differential should be interpreted with greater caution than usual. Given that a number of economic indicators were recently recovered, an update of the forecast for the euro area would naturally result in an upward revision of growth projected for 2009. According to European Commission projections published on 3 November, euro area GDP is expected to fall by 4.0 per cent in 2009.

Chart 5.1

GDP: PORTUGAL VS. EURO AREA

Real rates of change

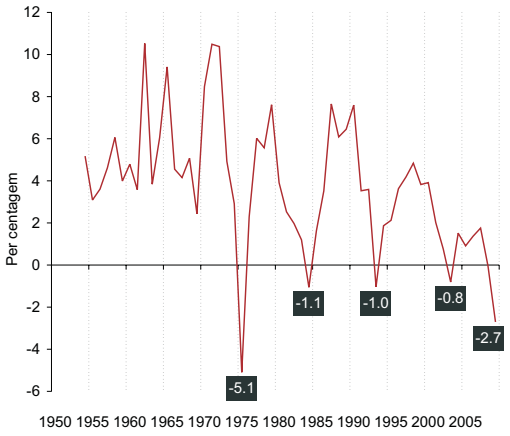


Sources: Eurostat, IMF, *INE* and Banco de Portugal.
Notes: Data for Portugal are based on *INE* and Banco de Portugal estimates for 2007-2009. Eurostat data for the euro area were updated for 2009, taking into account the latest IMF forecasts.

Chart 5.2

GROSS DOMESTIC PRODUCT (GDP)

Real rates of change



Sources: *INE* and Banco de Portugal.
Notes: For the period after 1977, series are based on the database that is released on an annual basis in the summer issue of the Economic Bulletin. Data for previous years were obtained from the post-World War II Long Series for the Portuguese Economy, which can be consulted on the Bank's website Banco de Portugal.

fects of an unfavourable international environment were less significant than the specific shock observed at the time. By contrast, economic developments in 2009 have mainly reflected an unprecedented global shock, which was characterised by a sharp correction in expectations and a very marked increase in uncertainty, against a backdrop of structural vulnerabilities of the Portuguese economy – reflected in continued low potential output growth. However, the Portuguese economy is also characterised by the absence of asset market overvaluation, particularly as regards the real estate market, and a broadly resilient financial system capable of withstanding the turmoil triggered by the economic and financial crisis.

The effects of this global shock in 2009 seem to have varied across countries. A number of countries were more sensitive to the international financial crisis that started in 2007 and deteriorated sharply following the bankruptcy of the Lehman Brothers investment bank in September 2008, while in other countries the housing market correction from previous high growth levels was substantial. In addition to these factors, differences between the immediate effects of this shock seem to be related to the structural features of each economy, e.g. the weight of the public and agricultural sectors – which are less directly affected by the sudden correction of economic agents' expectations – or the degree of specialisation in the production of goods whose demand traditionally mirrors sharper cyclical fluctuations, such as equipment goods and durable consumer goods. However, medium-term effects also depend on the existence of assorted adjustment dynamics, which may be due to endogenous factors (related *e.g.* to the degree of rigidity on the various markets) or the adoption of different economic policy responses.

Amid sharply deteriorating international environment and agents' expectations, the world economy has contracted markedly since the fourth quarter of 2008, at an unprecedented pace since the end of World War II. According to IMF estimates, world trade will fall in 2009 (see "Section 2 *International framework*"). This should be reflected in the behaviour of a small economy, such as Portugal, which is fully integrated as regards trade flows and international financial markets. Following a substantial decline in international market orders at the end of 2008, the drop in Portuguese goods exports was

sharp and unprecedented. In nominal terms, exports declined by around 24 per cent in the first eight months of the year from the same period in 2008 (Chart 5.3).[23]

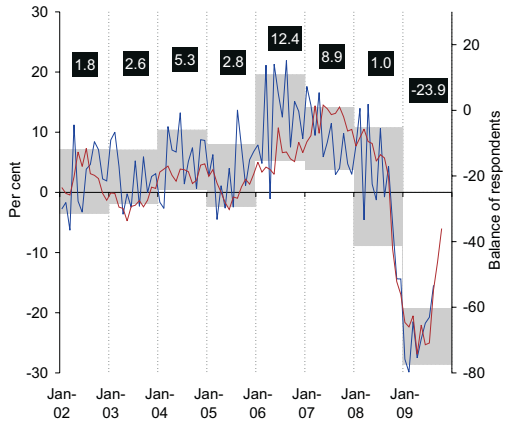
On the domestic side, economic agents' confidence indicators have also broadly declined (Chart 5.4). In October 2008 the economic sentiment indicator recorded its highest fall since the beginning of the series (January 1987). Therefore, in addition to indirect effects of lower exports on domestic demand, namely investment, this sharp correction of economic agents' expectations, amid high uncertainty, resulted in the cancellation/postponement of spending decisions, particularly expenditure related to the purchase of durable goods and the implementation of investment projects.

The current projection for GDP in 2009 (-2.7 per cent) is an upward revision from the projection published in the spring and summer issues of the *Economic Bulletin* (-3.5 per cent). With regard to the summer issue of the *Economic Bulletin*, this change was mainly related to a less negative assessment of exports and, particularly, private consumption. The 4.6 percentage-point revision of the projected growth rate for exports in 2009 is attributable to the latest data on exports and order books (Chart 5.3), which reflect improved economic indicators in Portugal's main export markets (see "Section 2 *International framework*"). In the case of private consumption, the currently projected 0.9 per cent decline corresponds to a significant upward revision from the previously estimated 1.8 per cent reduction. Two main factors are behind this revision: considerably lower uncertainty and stronger growth of real disposable income. Despite this substantial revision, underlying private consumption developments continues to envisage an adjustment by households, which reflects the considerable raise in the savings rate after a slight increase in the previous year.

Chart 5.3

NOMINAL EXPORTS OF GOODS [(a)]

Year-on-year rates of change



Range centered on the mean and in which each tail corresponds to a standard deviation in year-on-year rates of change for that year

Exports of goods

Export order books (r.h.s.)

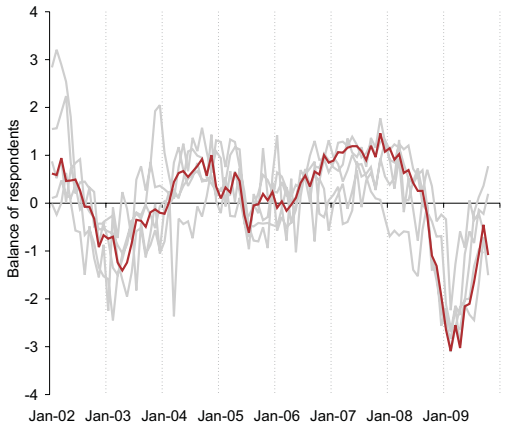
Annual rate of change

Sources: *INE* and Banco de Portugal.
Note: (a) Information for 2009 covers the first eight months of the year.

Chart 5.4

QUALITATIVE INDICATORS [(a)]

Balance of respondents



Sources: *Eurostat* and Banco de Portugal
Notes: (a) These series refer to indicators published every month by Eurostat regarding consumer, manufacturing, construction, retail trade and services confidence indicators. The series have been normalised by their average and standard deviation for comparability purposes. The highlighted variable refers to the economic sentiment indicator of the European Commission.

(23) Taking as a reference the quarterly database for the post-1977 period that is released on an annual basis in the issue of the *Economic Bulletin-Summer* the year-on-year rate of change in exports recorded the most negative figure in the first quarter of 2009.

The current projection for economic activity in 2009 points to some acceleration in the second half of the year, after -4.0 and -3.7 per cent year-on-year rates of change in the first two quarters, according to the Quarterly National Accounts released by *INE*. The gradual moderation in the pace of decline, year on year, resulted from a slight increase in economic activity in the second half of the year, which was also observed in the second quarter. For this period, INE estimates indicate a 0.3 per cent increase in GDP from the previous quarter, after a cumulative drop of 4.1 per cent in the three previous quarters.

This projection is supported by the latest economic indicators, which, similarly to most European countries, seem to suggest a less negative economic situation in the second half of the year. This is particularly evident in qualitative indicators, which in the most recent months have recovered markedly from the lows observed in the first half of the year (Charts 5.3 and 5.4). These indicators tend to reflect prevailing economic conditions and short-term agents' expectations (see "Box 4 *The recent evolution of ualit ative indicators*", Banco de Portugal, *Economic Bulletin-Spring 2009*).

In this context, special mention should be made to the latest developments in coincident indicators for activity and private consumption calculated by Banco de Portugal. Their purpose is the efficient use of a wide range of economic data in order to remove the irregular component from the corresponding variable and thus to extract trend and cyclical developments,[24] which point in the same direction (Chart 5.5).

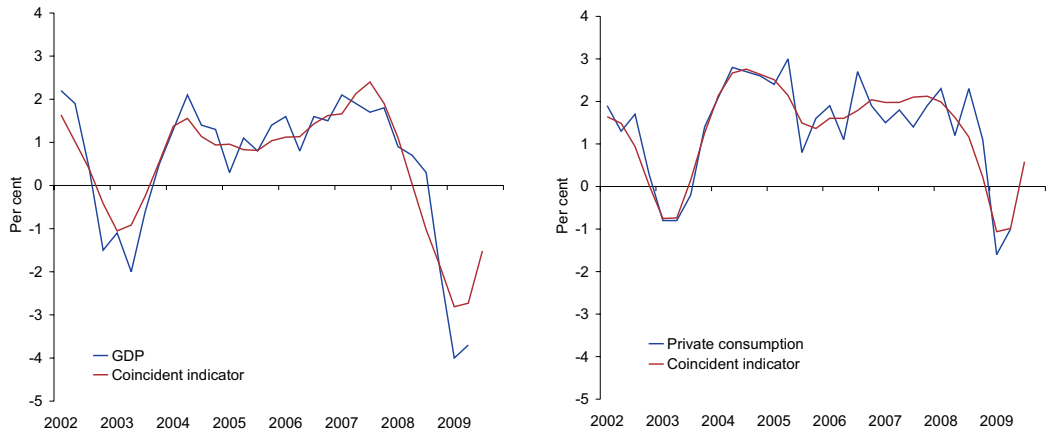
Current projections for 2009 embody a 0.9 per cent decline in private consumption, against a backdrop of increasing real disposable income, reflecting considerable growth in various disposable income components. This should result in a significantly higher savings rate in 2009, in line with a slight increase in 2008 but conversely to the trend decline seen over the past decade.

Private consumption projections assume significantly varied developments across durable and non-durable goods components. Expenditure on durable goods is likely to fall by around 15 per cent in 2009, following zero growth in the previous year. This reflects its high sensitivity to the economic cycle, particularly during a period of marked decline in confidence and continuously increasing unemploy-

Chart 5.5

COINCIDENT INDICATORS OF ECONOMIC ACTIVITY AND PRIVATE CONSUMPTION

Quarterly figures, year-on-year rates of change



Sources: *INE* and Banco de Portugal.

(24) For more details on methodologies underlying these indicators, see Rua (2004), "A new coincident indicator for the Portuguese economy", Banco de Portugal, *Economic Bulletin-June*, and Rua (2005), "A new coincident indicator for the Portuguese private consumption", Banco de Portugal, *Economic Bulletin-Autumn*.

ment. Developments in consumption of non-durable goods and services are expected to be smoother and growth is estimated to reach 0.7 per cent in 2009, after 2 per cent in 2008.

Underlying the projection for private consumption is a recovery of year-on-year rates of change in the second half of the year for both components, in line with developments in a number of qualitative and quantitative indicators (Chart 5.6) – particularly a recovery of consumer confidence and less negative developments in retail sales. Moreover, although year-on-year rates of change in sales of cars remained negative, developments were less unfavourable, after falls of more than 30 per cent in the first half of the year. This intra-annual profile is related to the unwinding of financial turmoil and the resulting decline in uncertainty, which seems to have significantly dampened spending decisions of consumers at the end of 2008 and in the first half of 2009, particularly in the first quarter. This sharp reduction in uncertainty as from March 2009 has been clearly reflected in the decreased volatility of most financial markets and lower spreads in interbank money markets and private and public debt markets.

Projections indicate that private consumption developments in 2009 will be supported by increased disposable income, particularly as regards components with high marginal propensity to consume, e.g. compensation of employees, interest paid and government transfers.

Indeed, despite the decline in employment, compensation of employees should grow significantly. According to the Institute for Informatics and Statistics of Social Security (Ministry of Labour and Social Solidarity) data, average compensation per worker in the private sector increased by 3.6 per cent in the first eight months of the year from the same period in 2008, on the basis of a sample of around 3 million individuals. Given the negative inflation rate in 2009, this increase accounted for considerable real wage growth – significantly above that estimated for average labour productivity (with a 0.2 per cent decline)–, which should be transitory.

Moreover, in 2009 and in line with the qualitative assessment by households of their financial situation over the past 12 months (Chart 5.6), net interest paid by households have declined significantly, amid strongly decreasing interest rates, due to the successive reductions of official ECB interest rates and narrower spreads in the euro area money market. It is estimated that in the first half of 2009 interest paid by households declined by around 15 per cent from the same period of 2008. The moderation of turmoil, which led to a decline in interbank market interest rate spreads – used as reference in loans to households–, together with development lags for bank retail rates should accentuate the decrease in interest paid by households in the second half of 2009. Effects on income related to the decline in interest paid by households should be greater than opposite effects associated with the decline in interest received, given the negative net position of households in terms of interest-bearing assets. Effects on private consumption will tend to be amplified by the greater marginal propensity to consume associated with interest paid.

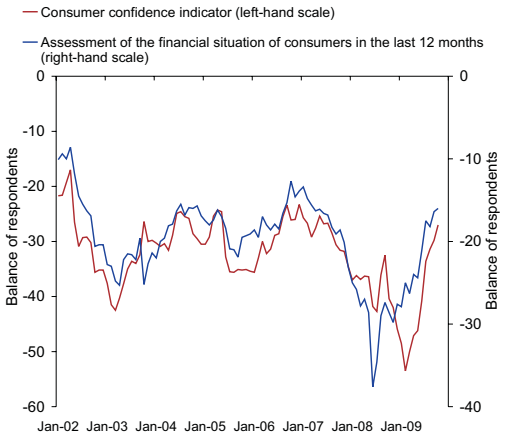
Finally, government transfers to households (also a disposable income component) are likely to grow very significantly. This reflects payments related to unemployment benefits and other social spending, part of which resulting from measures approved in mid-2008 (see "Section 3.2 *Fiscal policy*").

Current projections for 2009 point to a 13.1 per cent fall in gross fixed capital formation (GFCF), following a 1.3 per cent decline in 2008. Such developments in 2009 are related to the strong sensitivity of investment to the economic cycle, particularly against a background of deep deterioration in economic agents' expectations and significantly heightened uncertainty, with the ensuing increase in the risk premium associated with investment decisions. Moreover, as in other countries, negative expectations with regard to future demand and the abrupt drop in international trade flows seem to have implied strong inventory destocking, leading to very negative contributions from changes in inventories (-0.3 percentage points) to the GDP growth rate in 2009 and even more negative developments in investment.

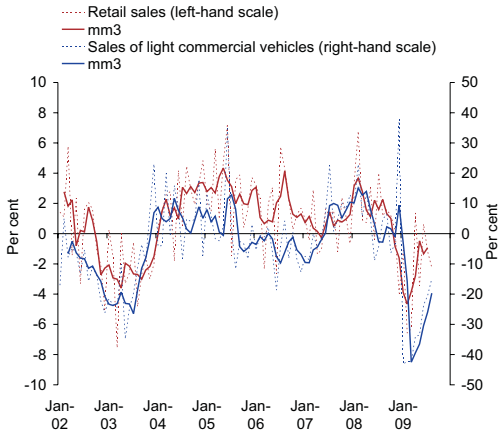
Chart 5.6

INDICATORS OF SHORT-TERM DEVELOPMENTS IN PRIVATE CONSUMPTION

Qualitative indicators



Quantitative indicators



Source: *ACAP*, European Commission and *INE*.

Investment developments in 2009 interrupted an incipient recovery path that started in 2006, worsening the rather unfavourable behaviour seen over the past decade, particularly as regards housing investment by households (Chart 5.7). According to current projections, housing investment in 2009 will be significantly lower than the one observed in 2000.

Chart 5.8 illustrates the significant fall in GFCF as from the last quarter of 2008, following a period of some acceleration that started in 2006. This is clearer when taking into account investment in machinery and equipment, which is more closely related to corporate investment. In fact, this acceleration path was dampened in the second half of 2007, following the onset of international financial market turmoil, and was clearly reversed in the last quarter of 2008. However, despite the unequivocal impact of the international crisis on recent investment developments, GFCF performance over the past decade did not result from cyclical factors but rather from structural issues.

The sharp decline in GFCF in 2009 was broadly based across its components (Table 5.1). Investment in machinery and equipment is projected to contract by around 10 per cent, while construction should drop by around 13 per cent. Investment in transport equipment is expected to fall even more considerably, by almost 30 per cent.

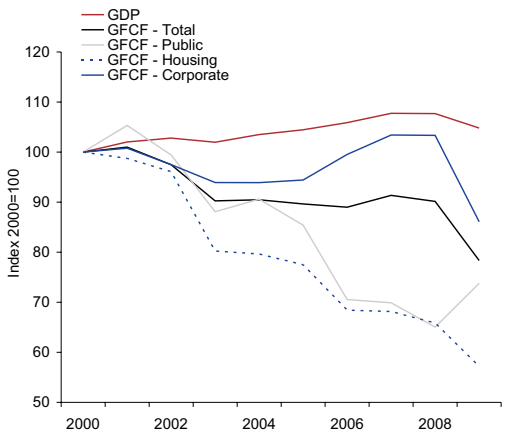
Underlying projections for GFCF in 2009 are less negative year-on-year rates of change in the second half of the year as regards all types of investment. The broadly based improvement in confidence indicators has been reflected, albeit mildly, in a number of quantitative indicators, e.g. sales of light commercial vehicles and cement sales (Chart 5.9). The dampening of financial market instability, the associated decline in uncertainty and substantial interest rate cuts in the course of 2009 may be behind the fact that GFCF developments in the second half of the year were less negative than in previous quarters.

However, despite some improvement in economic conditions in the second half of the year, economic agents' expectations deteriorated significantly from pre-financial turmoil levels, which may render it necessary for households and (financial and non-financial) corporations to make balance sheet adjustments. These adjustments may prevent investment from recovering as buoyantly as is typically the case in post-recession periods. The latest data on bank lending are consistent with investment expenditure restraint. Loans for house purchase decelerated continuously as from mid-2008, from

Chart 5.7

GFCF BROKEN DOWN BY INSTITUTIONAL SECTOR

Cumulative figures

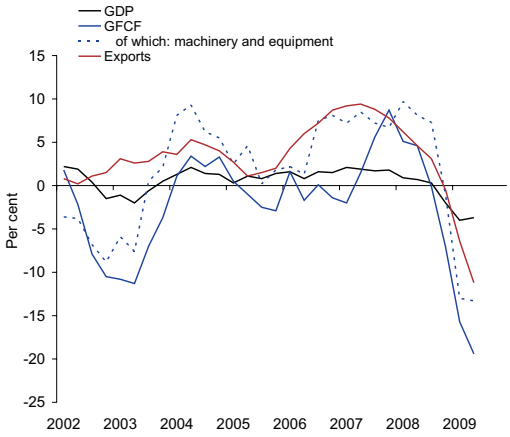


Sources: *INE* and Banco de Portugal.

Chart 5.8

GFCF *vs*. GDP

Quarterly figures, year-on-year rates of change

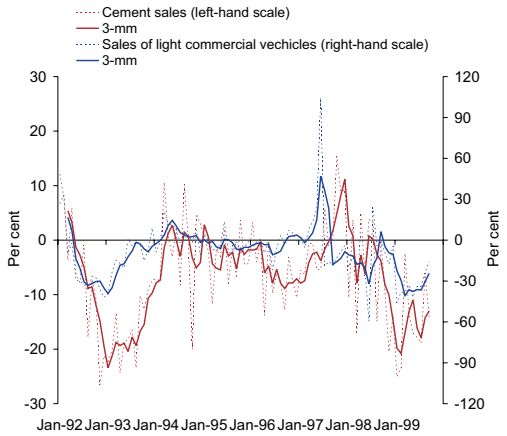


Source: *INE*.

Chart 5.9

INDICATORS OF SHORT-TERM DEVELOPMENTS IN GFCF

Year-on-year rates of change



Sources: *ACAP* and Banco de Portugal.

year-on-year rates of change of around 8 per cent to only 2.3 per cent in August. In the same period, year-on-year growth of bank loans to non-financial corporations declined from around 13 per cent to 4.1 per cent. This deceleration reflects both lower credit demand and tighter credit standards, albeit a gradual easing in the course of 2009.

According to the October Bank Lending Survey, in the third quarter and compared to the previous period, the five major banks again reported a further decline in demand and tighter credit standards for loans to enterprises and households, although to a lesser extent than in previous quarters. This tight-

ening is attributable to a less favourable assessment of risks, expectations regarding future developments in activity and risks on demanded collateral.

In the case of housing, lower credit demand from households is attributable to a decrease in their borrowing requirements, which was particularly linked to the deteriorating outlook for the housing market and consumer confidence, and to a cut in consumer expenditure not related to house purchase. In turn, corporations reported investment as the main factor behind lower corporate demand for loans in the third quarter. By contrast, corporate debt restructuring and increased borrowing requirements related with inventories and cash needs seem to have contributed to greater demand for corporate loans.

Evidence from the Investment Survey, carried out by *INE* in July 2009, confirmed the importance of deteriorating demand expectations to corporate investment developments. The percentage of corporations in a wide range of sectors reporting investment limitations in 2009 was 52.7 per cent, accounting for a considerable increase from the corresponding value for 2008 reported in the same period of the previous year (42.5 per cent). The percentage of corporations with investment limitations reporting the deterioration in sales expectations as the main limiting factor surged (from 50.9 to 66 per cent) (Chart 5.10). To a lesser extent, the interest rate level as main limiting factor lost some importance, while the percentage of companies reporting difficulties in obtaining credit increased somewhat.

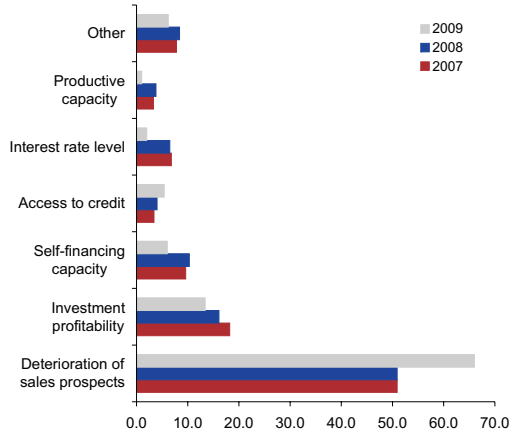
The volume of exports of goods and services is projected to drop slightly more (-13.1 per cent) than in Portugal's main export markets, which corresponds to a slight deterioration in the market share indicator – changes in this indicator have been negative since the beginning of this decade, except for once in 2007 (Chart 5.11).[25] The fall in exports is projected to be particularly sizeable in the case of exports of goods (15 per cent), while the expected reduction in exports of services is of around 9 per cent.

Underlying the current projection for the year as a whole is the upturn in year-on-year rates of change, in line with the latest data on exports and order books (Chart 5.3) and the improvement in economic indicators in most export markets.

Chart 5.10

MAIN FACTOR LIMITING INVESTMENT

Per cent of total number of companies with investment restrictions

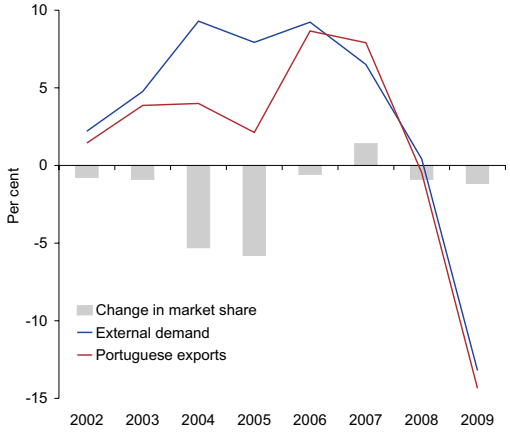


Source: *INE*.

Chart 5.11

MARKET SHARE OF PORTUGUESE GOODS AND SERVICES EXPORTS

Year-on-year rates of change



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.

(25) In addition to the traditional limitations observed in this indicator, which does not take into account all Portuguese export markets nor mixed developments across sectors, significantly variable growth rates of international trade flows may affect the comparability between projections for Portuguese exports and imports from the various markets. Accordingly, a degree of caution when interpreting results is appropriate.

Such very negative developments in exports were broadly based across most world economies, and discernible differences are related to country-specific specialisation in geographical and sectoral markets growing at varying paces.

According to data released by *INE* on international trade in goods, the fall in exports over the first seven months of 2009 was broadly based across sectors, although some differences are noticeable (Table 5.2). Broken down by main economic categories and in nominal terms, exports of fuels recorded the highest fall (48.2 per cent), in line with a significant drop in international market oil prices. The importance of fuel exports has increased over the past few years, accounting for 5.5 per cent of total exports of goods in 2008. Also, exports of intermediate goods fell by 29.1 per cent and equipment exports declined by 30.3 per cent. In the case of consumer goods, the drop in exports was more subdued (11.8 per cent).

These differences are also substantial when taking into account exports classified by technological intensity. The decline in exports was significantly smaller in the case of low-tech products (-14.3 per cent). In fact, although their weight in the total has continuously declined over the past decades, these products continue to account for the highest relative specialisation in Portugal. This seems to reflect the fact that food exports declined by only 0.9 per cent and exports of clothing and footwear also decreased significantly less than in other sectors (-15.5 and -8.2 per cent respectively). The component "Cork and wood" (included in this group of low-tech products) recorded a considerable fall (-29.7 per cent).

Exports of medium-tech products fell much more severely, particularly as regards "Basic metals" (-35.0 per cent), "Machinery and equipment" (-34.2 per cent) and "vehicles and transport equipment" (-27.1 per cent). As a whole, these three groups of products account for nearly 1/3 of Portuguese exports and contributed around -13 percentage points to a 24.7 per cent decline in Portuguese exports over the first seven months of the year.

The breakdown of exports by geographical areas also indicates a widespread decline in international trade as from the fourth quarter of 2008 (Table 5.3). In the first seven months of 2009, exports fell in both EU (-25.0 per cent) and extra-EU markets (-23.8 per cent). In terms of contributions, special mention should be made to exports to Spain, which accounted for 27.2 per cent of total Portuguese exports in 2008 and fell by 30.1 per cent in the first seven months of the year from the same period in the previous year. Exports to Germany and France, the two main export markets after Spain, also declined significantly, particularly in the first quarter of 2009. A notable exception concerned exports to Portuguese-speaking African countries. These exports were strongly concentrated in Angola and, albeit a significant slowdown, continued to grow above negative levels (8.8 per cent), increasing the weight of this market in total Portuguese exports.

The decline in exports of services was also broadly based across components, although to a lesser extent than exports of goods (Table 5.4). Against a background of strongly declining international demand, tourism, accounting for around 40 per cent of total exports of services, decreased by 10.2 per cent. Among the 10 main export markets (Table 5.5), the United Kingdom occupies a prominent position, accounting for around 1/5 of total export revenues. Tourism exports to this country declined by around 25 per cent in the first seven months of the year from the same period in 2008. Revenues from tourists from Spain and Germany also dropped considerably, accounting as a whole for around 1/4 of total tourism exports. Revenue shortfalls were also observed in all other markets, excluding Switzerland, in the first seven months of the year.

In 2009 the volume of imports of goods and services is projected to decline by 11.7 per cent, reflecting developments in the various demand components, particularly a considerable fall in a number of import intensive components, *e.g.* consumption of durable goods, GFCF and exports (Chart 5.12). Similarly to exports, such developments in imports were broadly based across the world, reflecting the

Table 5.2

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

Year-on-year rate of change: nominal values

	Weights 2008	Year-on-year rate of change (per cent)							
		2008	2009 (up to Jul.)	2008				2009	
				Q1	Q2	Q3	Q4	Q1	Q2
Total	100.0	1.0	-24.7	5.2	4.5	5.3	-11.1	-26.4	-24.6
Classification by groups of products									
Agriculture	4.7	19.4	-15.1	20.7	31.6	24.4	4.8	-8.1	-20.3
Food	5.0	10.1	-0.9	13.1	11.7	12.4	4.8	-0.2	-1.4
Mineral fuels	5.9	30.3	-48.5	63.6	58.6	28.0	-17.4	-57.0	-46.1
Chemicals	4.6	-7.7	-22.5	-2.7	-2.0	-2.8	-23.2	-23.6	-23.4
Plastic, rubber products	5.9	5.1	-22.3	14.7	10.2	10.7	-14.3	-26.6	-20.7
Leather, leather products	0.3	-0.4	-21.5	-3.1	-0.2	7.5	-4.7	-18.9	-21.5
Wood, cork	4.0	-5.1	-29.7	-0.4	-2.4	-5.1	-13.6	-31.7	-29.2
Cellulose pulp, paper	4.4	0.5	-13.6	7.6	3.1	2.6	-10.3	-15.7	-11.5
Textile products	4.1	-6.9	-19.7	-2.4	-6.7	-5.6	-12.7	-22.4	-18.5
Clothing	6.4	-7.4	-15.5	-4.3	-5.8	-9.2	-10.6	-15.2	-17.1
Footwear	3.5	2.1	-8.2	0.0	-0.3	7.9	-0.1	-11.0	-7.6
Minerals, ores	5.6	-1.0	-22.4	6.4	4.5	4.3	-18.4	-24.5	-23.2
Basic metals	8.8	1.0	-35.0	0.6	8.9	8.9	-15.2	-33.8	-35.2
Machinery, equipment	19.1	-2.5	-34.2	-1.5	-1.9	5.1	-11.2	-35.1	-35.2
Motor vehicles, other transport equipment	12.3	-2.7	-27.1	4.3	-5.7	1.4	-11.2	-33.5	-22.3
Optical and precision instruments	0.9	1.3	-3.4	11.0	12.6	0.7	-16.5	-4.3	-3.9
Other products	4.8	4.4	-6.9	7.5	10.7	7.0	-7.3	-7.3	-7.9
Classification by main economic categories									
Intermediate goods	33.9	-1.8	-29.1	3.6	4.8	3.5	-19.2	-30.1	-29.3
Capital goods	27.4	-0.9	-30.3	3.7	-1.0	5.7	-11.8	-32.0	-30.6
Consumer goods [(a)]	32.1	0.5	-11.8	1.4	0.9	2.5	-2.7	-13.6	-10.6
Fuels	5.5	36.7	-48.2	71.1	70.2	31.9	-12.8	-56.4	-46.4
Other	1.1	20.6	17.8	14.1	18.3	25.1	25.7	8.9	30.2
Classification by technological intensity [(b)]									
High-tech	10.1	3.2	-24.4	17.6	6.4	3.8	-14.0	-28.9	-24.7
Medium-high-tech	29.7	-4.5	-29.8	-3.7	-4.9	3.1	-12.1	-31.9	-28.5
Medium-low-tech	26.2	7.0	-32.0	15.1	17.0	12.4	-16.0	-34.4	-31.5
Low-tech	34.0	0.9	-14.3	3.5	3.7	2.5	-5.7	-14.6	-14.9
Memo: Total excluding fuels	94.5	-0.6	-23.2	3.0	1.9	4.0	-11.0	-24.7	-23.1

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).

collapse of world trade as from the end of 2008. Given the high sensitivity of imports to the business cycle, particularly in the case of import intensive demand components, the rate of import penetration in demand is projected to decrease in 2009, in line with what is traditionally observed during economic recession periods. Such periods have temporarily interrupted the upward path followed by this indicator over the past decades (Chart 5.13).

Table 5.3

PORTUGUESE EXPORTS OF GOODS BY GEOGRAPHICAL AREAS

Year-on-year rate of change: nominal values

	Weights 2008	Year-on-year rate of change (per cent)							
		2008	2009 (up to Jul.)	2008				2009	
				Q1	Q2	Q3	Q4	Q1	Q2
TOTAL	100.0	1.0	-24.7	5.2	4.5	5.3	-11.1	-26.4	-24.6
Intra-EU	73.8	-2.8	-25.0	3.3	1.5	0.2	-16.4	-27.6	-23.8
Spain	27.2	-3.0	-30.1	3.9	5.3	0.8	-21.8	-30.3	-29.3
Germany	12.9	-0.3	-20.1	2.6	-0.5	4.4	-7.7	-24.3	-17.0
France	11.7	-6.5	-21.2	-2.2	-1.1	-5.2	-18.1	-24.7	-21.5
United Kingdom	5.5	-7.7	-24.8	-3.7	-8.7	-3.0	-15.3	-29.1	-23.9
Italy	3.8	-7.7	-23.3	1.3	-3.5	-10.3	-18.4	-26.0	-23.7
Extra-EU	26.2	13.4	-23.8	12.3	14.9	21.0	5.6	-22.2	-26.9
of which:									
United States	3.5	-17.5	-36.6	-24.3	-19.1	-16.4	-40.0	-37.2	-37.8
PALOP	7.1	29.9	8.8	20.1	23.8	36.4	36.8	21.2	6.0

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

Table 5.4

PORTUGUESE EXPORTS OF SERVICES

Year-on-year rate of change: nominal values

	Weights 2008	Year-on-year rate of change (per cent)				
		2008	2009 (up to Jul.)	2008		2009
				H1	H2	H1
Total	100.0	5.6	-10.5	10.0	2.1	-10.9
Tourism	41.5	0.5	-10.2	4.3	-2.1	-11.4
Transportation	26.6	10.5	-12.5	14.0	7.4	-12.6
Other business	19.0	10.7	-13.3	13.8	7.7	-12.4
Construction	3.6	8.3	-18.0	13.0	4.1	-18.9
Communications	3.5	8.8	-6.6	19.7	-1.1	-8.2
Computer and information	1.5	15.3	0.5	29.6	4.3	-1.3
Financial	1.3	-4.0	-27.2	-3.9	-4.0	-22.1
Personal, cultural and recreational	1.1	7.2	2.8	16.4	-1.0	-1.0
Government operations	1.0	0.5	-4.9	33.7	-18.3	-0.7
Insurance	0.6	5.4	8.3	4.7	6.1	10.0
Royalties and license fees	0.3	-22.8	298.6	-39.7	-3.5	287.2

Source: Banco de Portugal (Balance of Payments).

Table 5.5

PORTUGUESE EXPORTS OF TOURISM SERVICES

Year-on-year rate of change: nominal values

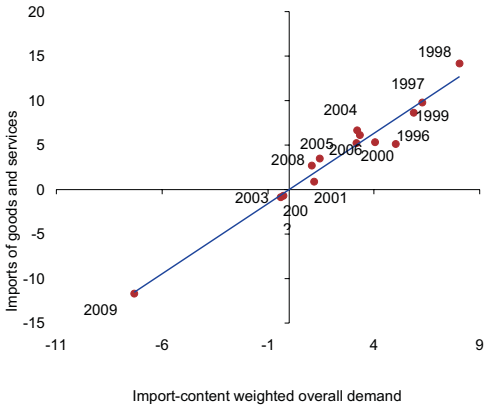
	Weights 2008	Year-on-year rate of change (per cent)				
		2008	2009 (up to Jul.)	2008		2009
				H1	H2	H1
Total	100.0	0.5	-10.2	4.3	-2.1	-11.4
United Kingdom	22.0	-8.4	-25.6	-3.2	-12.3	-25.3
France	16.1	6.3	-0.8	11.1	3.8	-2.6
Spain	14.5	-1.8	-6.0	5.2	-6.2	-7.7
Germany	10.9	2.9	-7.9	4.4	1.7	-8.4
United States	2.9	-26.9	-23.2	-21.9	-30.8	-5.6
Netherlands	3.9	7.6	-4.5	9.2	6.4	-4.3
Brazil	3.1	31.8	-20.2	48.5	19.1	-22.1
Belgium	2.6	-0.4	-0.7	6.1	-4.2	-4.9
Italy	2.3	-7.7	-12.4	-2.6	-10.9	-12.5
Switzerland	2.1	5.1	26.1	1.4	7.9	34.0
Rest of the world	19.4	9.5	-4.8	9.6	9.4	-10.7

Source: Banco de Portugal (Balance of Payments).

Chart 5.12

IMPORTS OF GOODS AND SERVICES VS. WEIGHTED OVERALL DEMAND

Real rates of change, per cent

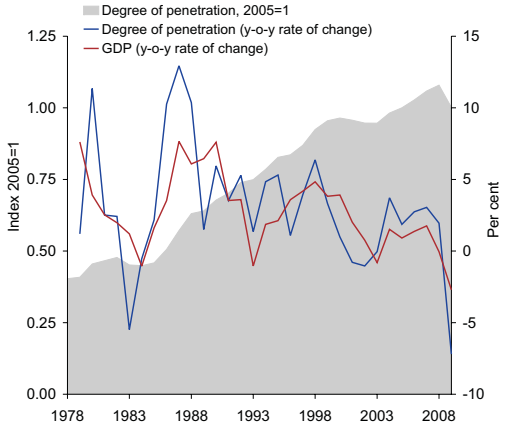


Sources: *INE* and Banco de Portugal.

Chart 5.13

IMPORT PENETRATION IN OVERALL DEMAND

Volume data



Sources: *INE* and Banco de Portugal.

6. PRICES

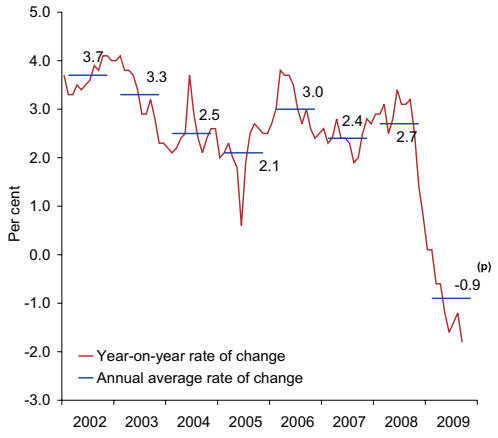
In 2009 the inflation rate in Portugal, as measured by the annual average rate of change of the Harmonised Index of Consumer Prices (HICP), is projected to be -0.9 per cent, against 2.7 per cent in the previous year (Chart 6.1). Comparing the current projection for Portugal with the average value of the projection interval for the annual average inflation rate for the euro area, published in the September issue of the European Central Bank (ECB) *Monthly Bulletin*, the inflation differential *vis-à-vis* the euro area should remain in negative territory, at -1.3 percentage points, which is a historical low since the start of the euro area. In the current projection, the inflation rate for 2009 has been revised downwards by 0.4 percentage points when compared with the figure published in the summer issue of the *Economic Bulletin*, against a backdrop of sharper falls in import prices, higher wage growth and a larger-than-expected squeeze on profit margins.

Following a period of fairly stable inflation in Portugal, the sharp deceleration of prices observed since the last quarter of 2008 continued in 2009. Furthermore, the annual average rate of change is projected to be negative which has never been recorded in the past three decades. On the one hand, this reflects the external environment for the Portuguese economy characterised by deep global economic and financial crisis, which accounted for sharp falls in demand and low levels of capacity utilisation. Against this background, energy and non-energy commodity prices fell substantially (Table 6.1). In particular, following a surge in 2008, oil prices were sharply corrected in 2009, with year-on-year falls of around 40 per cent. Significantly lower commodity prices in international markets led to a broadly based decline in goods which was also observed in services import prices. On the other hand, the sharp contraction in domestic demand has also contributed to the fall in prices, by facilitating the pass-through of declining international prices to domestic prices. Moreover, lower domestic demand and unfavourable developments in external demand also had an impact on price developments in some services, such as hotels and restaurants, package holidays and transport services.

According to Banco de Portugal estimates, in 2009 the growth rate of unit labour costs (ULC) remained largely unaltered from the previous year (Chart 6.2), despite a notable increase in the unemployment

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.

Table 6.1

PORTUGAL – MAIN INTERNATIONAL PRICE INDICATORS

Rate of change, per cent

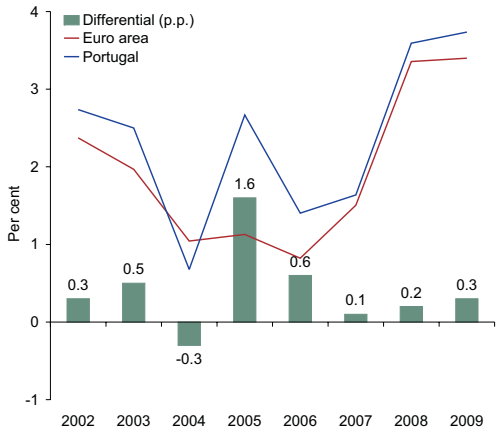
	2004	2005	2006	2007	2008	2009		
						Q1	Q2	Q3
Goods import prices [a]								
Total	2.2	3.1	4.1	1.2	4.9	-8.3	-11.6	
Total excluding fuels	0.8	-0.6	1.4	1.2	0.8	-4.6	-5.2	
Consumer goods	-1.6	-2.7	0.9	-0.1	-0.1	-2.7	-3.5	
Food consumer goods	1.2	-0.7	2.3	3.8	6.0	-1.8	-2.5	
Non-food consumer goods	-2.8	-3.6	0.2	-1.9	-2.9	-3.1	-4.0	
International commodity prices								
Oil prices (Brent Blend), EUR	21.4	45.0	19.0	0.4	26.6	-45.7	-44.3	-38.6
Non-energy commodity prices, EUR	10.8	9.4	24.8	9.2	4.4	-27.7	-23.1	-18.4
Nominal effective exchange rate index for Portugal [b]	0.6	-0.2	0.2	0.8	1.2	0.4	0.0	0.3

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.

Chart 6.2

UNIT LABOUR COSTS IN PORTUGAL AND THE EURO AREA

Rates of change and differential



Sources: ECB, European Commission, *INE* and Banco de Portugal.

rate. This reflects the fact that wages grew by a similar rate to 2008 and productivity was virtually unchanged, mirroring a fall in total employment of a similar magnitude to that estimated for economic activity. In 2009 compensation growth per employee is estimated at around 3.5 per cent and mirrors the update of the public employees' wage scale by 2.9 per cent, a 5.6 per cent rise in the national minimum wage and a composition effect due to changes in the structure of employment. In the private sector as a whole, compensation growth per employee is estimated at 3.4 per cent. Against a background of constant compensation growth, corporate profit margins have once again been squeezed, amid deteriorating profitability within this sector (see "Section 3 *The financial situation of the non-financial private sector*" in the chapter entitled "*The Portuguese Banking System in 2009*", in this publication). In turn,

ULC growth is likely to remain relatively constant in the euro area. However, underlying this relative stability is a deceleration in compensation together with a fall in productivity. Productivity developments reflect a sharp drop in euro area activity only partly accompanied by lower employment. In parallel to this fall in employment, it is estimated that the number of hours worked by person in the euro area was adjusted downwards. As in the past two years, ULC growth differential between Portugal and the euro area is expected to be slightly positive.

In 2009 the intra-annual development of year-on-year rate of change of the HICP continued on a downward path that started in the last quarter of 2008, and its year-on-year rate of change was the most negative in September (-1.8 per cent). However, the current estimate for inflation in 2009 assumes a reversal of this trend in the last months of 2009. Developments up to September largely reflect the behaviour of energy and processed food prices, although the deceleration in prices observed since the end of 2008 was broadly based across components (Chart 6.3).

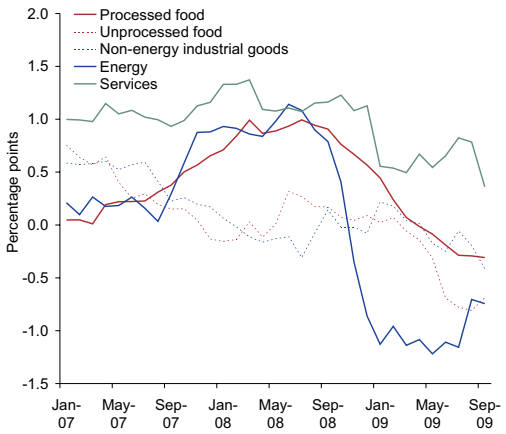
The marked deceleration in energy prices (a cumulative change from January to September of -10.7 per cent, after 6.6 per cent in 2008 as a whole) was associated with oil price developments (Chart 6.4 and Table 6.2). However, over the past few months price falls within this component have been smaller, in year-on-year terms, which is consistent with an increase in oil prices. In fact, this component is projected to follow an upward path over the remainder of the year, reflecting an unwinding of the base effect associated with the surge in oil prices up to mid-2008.

In 2009 processed food prices continued along the downward path that started in mid-2008 (a cumulative change from January to September of -0.4 per cent, after 8.1 per cent in 2008). This is consistent with the decrease of food commodity prices in international markets and import prices of food consumer goods (Chart 6.5 and Table 6.1).

Changes in the price of a specific good or service may pass through to prices of other goods or services via (direct or indirect) transmission mechanisms that vary across markets and structures. In fact, the deceleration in energy and processed food prices has influenced developments in other prices. In particular, the deceleration in fuel and lubricant prices had a substantial impact on transport services prices (Chart 6.6). Note that the apparently stable monthly relationship between both prices observed over the past few years has been recently influenced by methodologi-

Chart 6.3

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

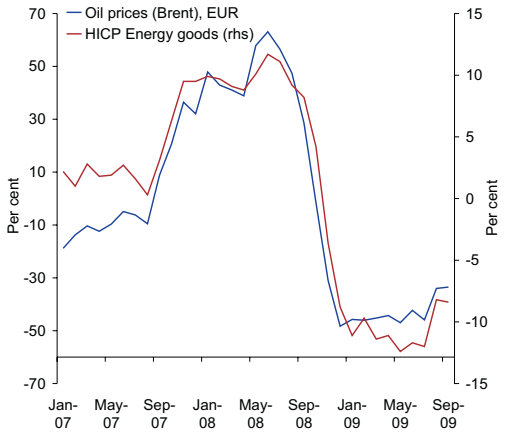


Source: Eurostat.

Chart 6.4

ENERGY PRICES

Year-on-year rate of change



Sources: Eurostat and Thomson Reuters.

Table 6.2

HICP – MAIN CATEGORIES AND AGGREGATES

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

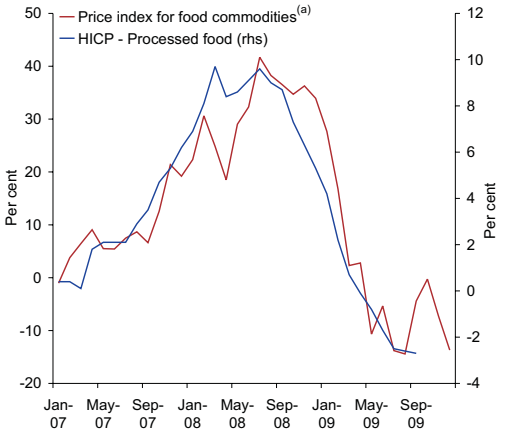
	Weights	Annual average rate of change					Year-on-year rate of change			
	2008	2005	2006	2007	2008	2009	2008		2009	
		Dec	Dec	Dec	Dec	Sep	Dec	Mar	Jun	Sep
Total	100.0	2.1	3.0	2.4	2.7	-0.3	0.8	-0.6	-1.6	-1.8
Total excluding energy	90.2	1.4	2.5	2.3	2.2	0.6	1.9	0.6	-0.5	-1.2
Total excluding unprocessed food and energy	79.2	1.7	2.4	2.2	2.5	1.0	2.0	0.8	0.3	-0.5
Goods	61.9	1.9	3.2	2.2	2.4	-1.7	-0.5	-1.8	-3.6	-3.5
Food	21.5	0.1	3.6	2.8	4.2	-0.7	3.0	0.0	-4.1	-4.7
Unprocessed	10.9	-0.5	3.2	3.0	0.6	-2.6	0.8	-0.5	-6.5	-6.9
Processed	10.6	0.8	4.1	2.6	8.1	1.2	5.3	0.7	-1.7	-2.7
Industrial	40.4	2.8	3.0	1.9	1.4	-2.3	-2.3	-2.7	-3.3	-2.9
Non-energy	30.6	1.0	1.5	1.4	-0.2	-0.4	-0.3	0.1	-1.0	-1.7
Energy	9.9	10.0	8.1	3.5	6.6	-8.8	-8.8	-11.4	-11.7	-8.4
Services	38.1	2.5	2.7	2.8	3.1	1.9	3.0	1.3	1.7	0.9
Memo:										
CPI	-	2.3	3.1	2.5	2.6	-0.3	0.8	-0.4	-1.6	-1.6
Euro area HICP	-	2.2	2.2	2.1	3.3	0.7	1.6	0.6	-0.1	-0.3

Sources: Eurostat and *INE*.

Chart 6.5

FOOD PRICES

Year-on-year rates of change



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

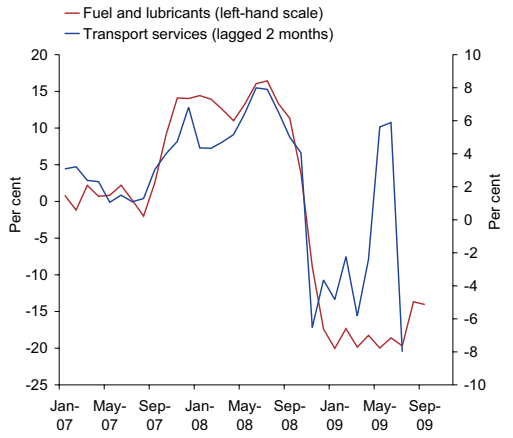
cal changes in the prices for air transportation services.[26] In turn, the behaviour of processed food prices seems to have had a somewhat lagged impact on changes in prices concerning

(26) In particular, *INE* revised the calculation methodology and updated the corresponding sample included in the component "passenger transport by air" with the release of the consumer price index in January 2009. The change involved the diversification of destinations and frequency/methods of price collection, and the introduction of low cost flights, in order to better capture price changes. Although this revision affects the intra-annual development of year-on-year rates of change up to December 2009, the impact on the annual average rate of change is unlikely to be of major significance.

Chart 6.6

DEVELOPMENTS IN THE PRICES OF FUEL AND LUBRICANTS AND TRANSPORT SERVICES

Year-on-year rate of change

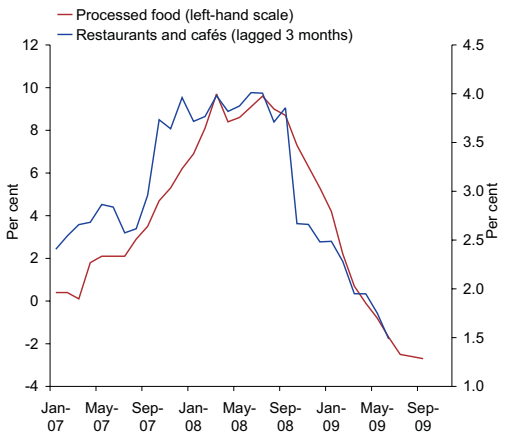


Source: Eurostat.

Chart 6.7

DEVELOPMENTS IN THE PRICES OF PROCESSED FOOD AND RESTAURANTS AND *CAFÉS*

Year-on-year rate of change



Source: Eurostat.

restaurants and cafés (Chart 6.7).

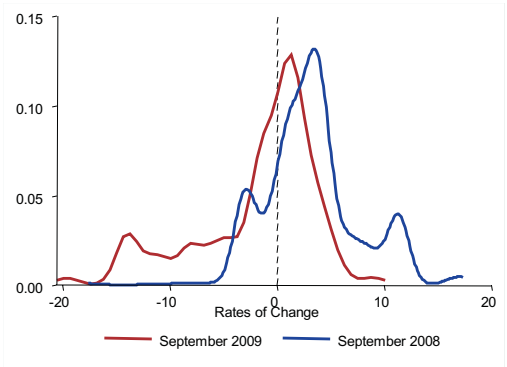
Of all the main HICP components, only year-on-year rates of change in the services aggregate remained in positive territory throughout the year. However, also in this case prices decelerated markedly (cumulative rate of change of 1.5 per cent from January to September, after 3.1 per cent in 2008 as a whole) partly as a result of above mentioned price transmission mechanisms and a sharp slowdown in domestic and external demand since the end of 2008. In particular, in early 2009 accommodation services and package holiday prices declined. In the latter case, this fall took hold during the year (in September package holiday prices dropped by around 20 per cent from the same period in the previous year). The component "Restaurants and *cafés*" also contributed to the deceleration in services prices throughout the year. In addition to the transmission mechanism mentioned above, contraction in demand also had an impact on services price developments (cumulative rate of change of 2.2 per cent from January to September, after 3.8 per cent in 2008). Note that, transport services decelerated as well, particularly as regards "passenger transport by air". Although the intra-annual development of year-on-year rate of change has been influenced by methodological changes, the cumulative rate of change in this component was -8.3 per cent from January to September, after 6.5 per cent in 2008 as a whole.

Against this backdrop, the weight of components with negative rates of changes increased gradually over the first half of 2009 and peaked in June, at around 50 per cent, remaining practically unchanged in September. Despite atypical falls in the HICP, in year-on-year terms, the rate of change in prices associated with a larger share in the consumption basket remained positive (Chart 6.8).

Typically, the distribution of rates of change in prices is positively skewed, given that high price increases are more common than large price reductions. In contrast with previous years, this was reversed in 2009, as skewness turned negative, given that large price reductions exceeded high price increases (Chart 6.9). However, the degree of skewness seems to be on a downward path, and it will likely return to levels close to those prevailing in previous years.

Chart 6.8

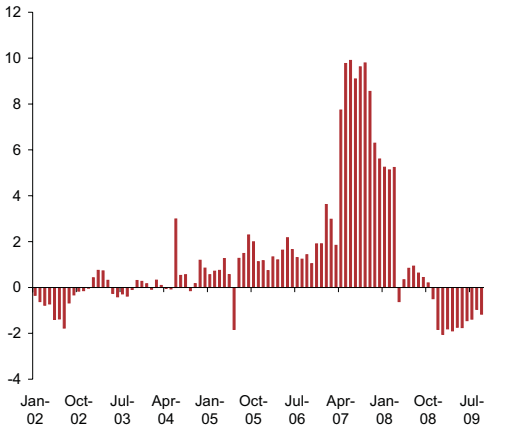
EMPIRICAL DISTRIBUTION OF YEAR-ON-YEAR RATES OF CHANGE IN HICP COMPONENTS



Sources: Eurostat and Banco de Portugal calculations.
Note: Empirical distribution obtained by the use of non-parametric methods, notably a Gaussian kernel weighting the diverse components (totalling 88 components) by their respective weight in the total basket.

Chart 6.9

SKEWNESS OF THE DISTRIBUTION OF THE YEAR-ON-YEAR RATES OF CHANGE OF HICP COMPONENTS

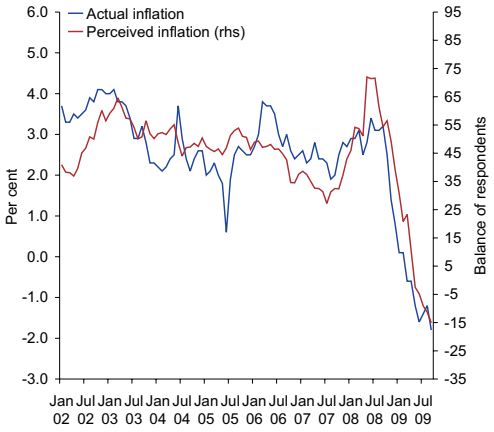


Sources: Eurostat and Banco de Portugal calculations.
Note: The skewness measure used is calculated as $m_3 / m_2^{3/2}$, where m_k is the centred moment of order k. The sign of this measure indicates the sign of skewness.

Despite a sharp deceleration of prices in 2009, as correctly perceived by consumers (Chart 6.10), and negative year-on-year rates of change over the year, 12-month inflation expectations of economic agents fell markedly, but remained anchored in positive territory (Chart 6.11). This indicates that price falls in 2009 were interpreted as a temporary phenomenon by economic agents. Moreover, despite lower euro area inflation expectations over a one-year horizon, inflation expectations in Portugal are below those for the euro area in the most recent period.

Chart 6.10

CONSUMERS' PERCEPTION OF PRICE DEVELOPMENTS

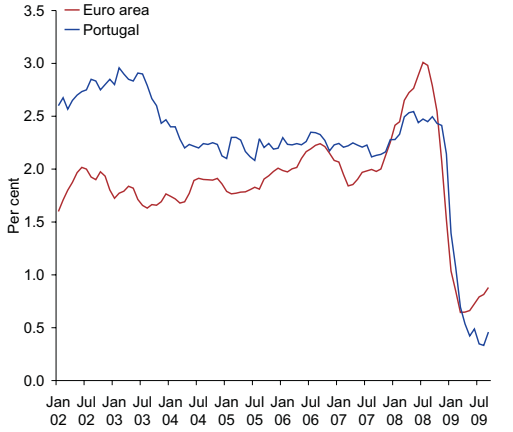


Sources: Eurostat and European Commission.
Note: The balance of respondents taken from the question on the assessment by consumers of price developments in the past 12 months of the consumer survey published by the European Commission was used as a measure of perceived inflation (for further details, see Dias, Duarte and Rua (2009) "Inflation Perceptions and Expectations in the Euro Area and Portugal", Banco de Portugal, *Economic Bulletin-Spring*).

Chart 6.11

INFLATION EXPECTATIONS: PORTUGAL AND EURO AREA

Expectations for a 12-month horizon



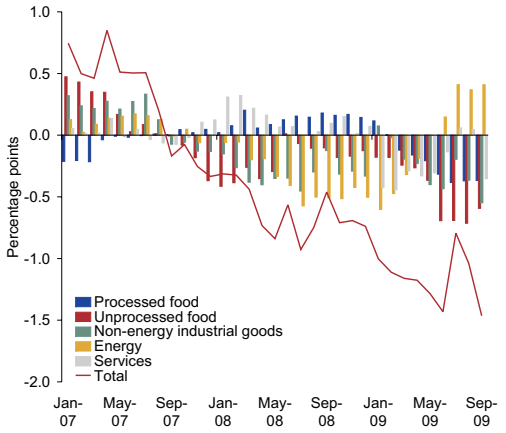
Sources: Consensus Forecasts and Banco de Portugal calculations.

The total inflation (as measured by the change in the HICP) differential *vis-à-vis* the euro area has been on a downward path since mid-2007. In fact, it moved into negative territory in September 2007 and dropped to substantially negative levels in 2009 (Chart 6.12). Conversely to 2008, this negative differential was relatively broad-based across the main HICP components, particularly in the first months of 2009. As from June, the differential turned positive in the case of energy and became increasingly negative in the case of unprocessed food. Recent developments in the inflation differential in the case of energy have been determined by the administered price component (namely electricity and gas). Although in 2008 the inflation differential was not significantly influenced by administered price developments, from January to September 2009 the administered price component recorded a negative differential above 1 percentage point. This reflects the goods component (namely electricity, gas and pharmaceutical products), given that the differential is slightly positive in the case of services with administered prices.

Against this background, there is great uncertainty around the future behaviour of prices, given that abrupt developments in economic activity may have some impact on macroeconomic relationships underlying inflation developments. Moreover, the magnitude and profile of the global economic recovery continue to be surrounded by considerable uncertainty.

Chart 6.12

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



Source: Eurostat.

7. BALANCE OF PAYMENTS

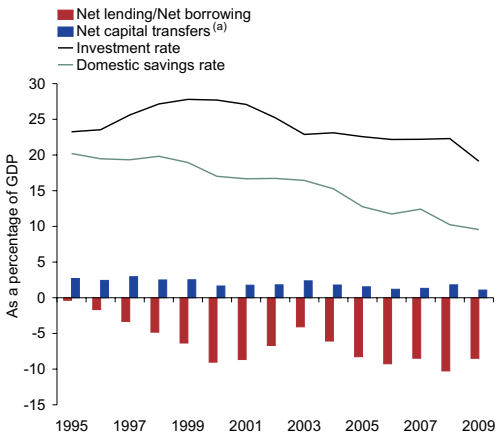
7.1. Borrowing requirements in 2009

Net external borrowing requirements of the Portuguese economy as a percentage of GDP are estimated to have decreased in 2009 (Chart 7.1.1). After a worsening in 2008, the Portuguese external imbalance as a percentage of GDP is expected to decrease by around 2 percentage points in 2009 to a value above 8 per cent. This improvement in the external deficit reflects, on the one hand, a significant decline in the investment rate of the economy, standing at its lowest level since 1995, when the current series of National Accounts by *INE* began. On the other hand, both the domestic savings rate and net capital transfers are expected to have decreased. The drop in net external borrowing requirements of the economy likely reflects a sharp decline in the private sector's borrowing requirements, in tandem with a very substantial worsening in the general government sector.

The external borrowing requirements of the total economy in 2009, as measured by the combined current and capital account deficit, are estimated to have stood at 8.6 per cent of GDP (10.5 per cent in 2008), broadly in line with the value reported in the summer issue of the *Economic Bulletin* (Table 7.1.1). The decline in the external deficit in 2009 reflects an improvement in the current account, given that the capital account surplus seems to have decreased. The smaller current account deficit mirrors developments in the goods and services accounts and, to a lesser extent, the income account. The decrease in the goods and services deficit seems to have resulted from improving volume, price and terms of trade effects, which are estimated to be positive in 2009, contrary to 2008. In turn, the reduction in the income account deficit may be mainly associated with a decline in financing costs against a background of continuing deterioration of the international investment position.

Chart 7.1.1

ECONOMY FINANCING



Sources: *INE* and Banco de Portugal.
Note: (a) Includes acquisitions less disposals of non-financial non-produced assets.

Table 7.1.1

CURRENT AND CAPITAL ACCOUNTS
Balance as a percentage of GDP

				1st half of the year [a]		
	2007	2008	2009 [b]	2007	2008	2009
Current and capital accounts	-8.1	-10.5	-8.6	-7.9	-10.6	-9.1
Current account	-9.4	-12.1	-	-9.0	-12.4	-10.2
Goods and services accounts	-6.8	-8.9	-6.7	-6.6	-9.2	-7.0
Goods	-10.8	-12.8	-	-9.7	-12.5	-9.8
Services	4.0	3.9	-	3.1	3.2	2.8
of which:						
Travel and tourism	2.8	2.7	-	2.1	2.1	1.8
Income	-4.2	-4.7	-	-4.1	-4.6	-4.2
Current transfers	1.6	1.5	-	1.7	1.5	1.1
of which:						
Emigrants/immigrants remittances	1.2	1.1	-	1.2	1.0	1.0
Capital account	1.3	1.7	-	1.1	1.8	1.1

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, 6-month Banco de Portugal estimates of nominal GDP were used. (b) Banco de Portugal projections.

7.2. The balance of payments in the first half of 2009

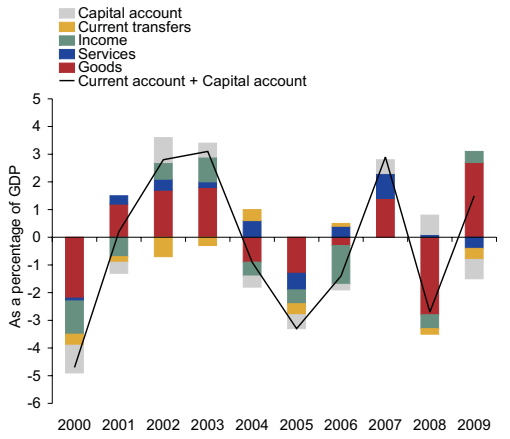
In the first half of 2009, the combined current and capital account deficit stood at 9.1 per cent of GDP, decreasing by 1.5 percentage points compared with the same period in 2008 (Table 7.1.1). Against a background of lower surpluses in the capital account and current transfers account, developments in the Portuguese external deficit have largely reflected an improvement in the goods and services account and, to a lesser extent, the income account (Chart 7.2.1). In turn, developments in the goods and services deficit have mirrored a significant fall in the goods deficit, since the services surplus has decreased.

In the first half of the year, the capital account surplus decreased when compared with the same period of 2008, to a figure similar to that of 2007. These developments mainly reflect the behaviour of the public transfers component, which seems to have been strongly influenced, in the first half of 2008, by the time overlap of projects funded under the Third Community Support Framework with projects covered by the National Strategic Reference Framework. In turn, the income account interrupted the deteriorating downward trend of recent years, reflecting, to a large extent, a decrease in financing costs amidst strongly declining interest rates.

The goods and services account balance improved significantly in the first half of 2009 compared with the same period in the previous year, with the deficit standing at 7.0 per cent of GDP. These developments reflect a decline in the energy account deficit and, to a lesser extent, the behaviour of goods excluding fuel, whereas the services surplus decreased (Chart 7.2.2). The substantial improvement in the energy account reflected a positive price effect and, to a lesser extent, volume effect (Chart 7.2.3). Given the structural deficit in the energy account, the sharp decline in oil prices in year-on-year terms during the first half of the year gave rise to a very positive price effect. Although fuel exports have recorded, in real terms, a higher reduction than imports, the volume effect was also positive. The improvement in goods excluding fuel account mirrors, to a large extent, a positive effect in both terms of trade and volume (Chart 7.2.4). The positive terms of trade effect reflects a smaller decrease in export prices than in import prices (changes of -3.1 and -4.9 per cent, in year-on-year terms, respectively).

Chart 7.2.1

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

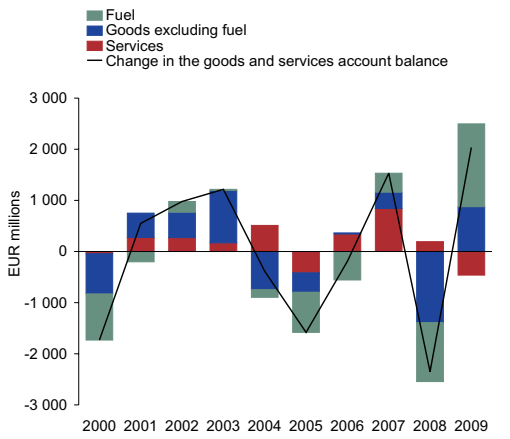


Sources: INE and Banco de Portugal.
Note: For the calculation of ratios of the various Balance of Payments components to GDP over the first half of each year, 6-month Banco de Portugal estimates of nominal GDP were used.

Chart 7.2.2

CHANGE IN THE GOODS AND SERVICES ACCOUNT - 1ST HALF OF THE YEAR

Breakdown into services, fuel, and goods excluding fuel

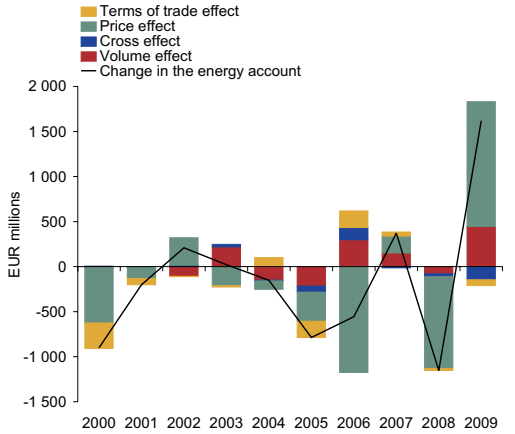


Sources: *INE* and Banco de Portugal.

Chart 7.2.3

CHANGE IN THE ENERGY ACCOUNT - 1ST HALF OF THE YEAR

Breakdown into volume, price and terms of trade effects

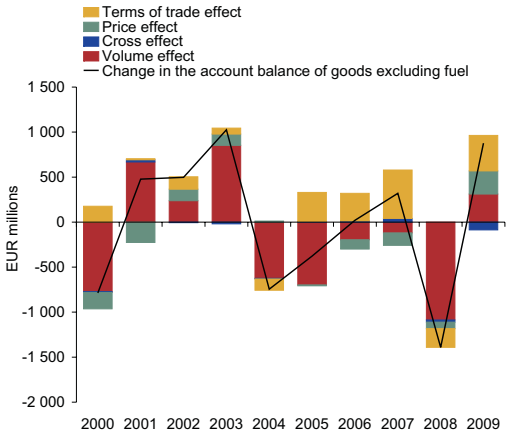


Sources: *INE* and Banco de Portugal.
Note: A positive (negative) change means an increase (decrease) in the energy account balance. The change in the energy account balance may be broken down into four effects:
- volume effect - effect of the change in imported and exported volumes;
$[X_{t-1} . vx_t] - [M_{t-1} . vm_t]$
- price effect - effect of average growth of external trade prices;
$[X_{t-1} . p_t] - [M_{t-1} . p_t]$
- terms of trade effect - effect of the relative change in export and import prices;
$[X_{t-1} . (px_t - p_t)] - [M_{t-1} . (pm_t - p_t)]$
- cross effect - effect of the interaction between changes in volume and prices of exports and imports.
$[X_{t-1} . vx_t . px_t] - [M_{t-1} . vm_t . pm_t]$
where: X_{t-1} and M_{t-1} denote the exports and imports in year t-1 at current prices; vx_t and vm_t denote the rates of change in export and import volume in t; px_t and pm_t denote the rates of change of export an import prices in t; p_t is the average rate of change of external trade prices in year t $((px_t + pm_t)/2)$.

Chart 7.2.4

CHANGE IN THE GOODS EXCLUDING FUEL ACCOUNT- 1ST HALF OF THE YEAR

Breakdown into volume, price and terms of trade effects



Sources: *INE* and Banco de Portugal.
Nota: A positive (negative) change means an increase (decrease) in the goods excluding fuel account balance. For a detailed description of the methodology used to calculate the various effects, see footnote to Chart 7.2.3.

Regarding the volume effect, although the decline in exports, in real terms, was higher than that of imports (-21.1 and -17.0 per cent, in year-on-year terms, respectively), the volume effect was positive reflecting the deficit of this account.

In contrast to recent years, the services surplus recorded a fall in the first half of 2009, to 2.8 per cent of GDP. The decline in the services surplus reflected a sharp fall in exports, namely tourism and transports, which was only partly offset by a broadly based decrease in imports of services.

7.3. Financial account and international investment position in the first half of 2009

In the first half of 2009, net inflows in the financial account stood at 8.6 per cent of GDP, compared with 11.3 per cent of GDP in the same period of the previous year (Table 7.3.1).[27] This must reflect a decline in net borrowing requirements of the private sector, as a significant deterioration is expected in the overall general government deficit in 2009. In effect, in the first half year, the focus was on very significant net acquisitions of Portuguese public debt securities, especially Treasury bonds, by non-residents. Moreover, this period saw an increase in foreign investment in debt securities of resident non-financial corporations, in line with more favourable developments in international financial markets.[28]

In the first half of 2009, the Portuguese economy resumed its normal pattern of external financing, characterised by rising foreign assets and liabilities, albeit to a lesser extent than in the period prior to the outbreak of the international financial crisis in the summer of 2007. Since then, external financial flows had gradually been less intense, culminating in an abrupt change in the direction and size of the external financial flows that had been registered in the second half of 2008 (Chart 7.3.1).

As regards other monetary financial institutions, flows of net external financing declined markedly from 12.0 per cent of GDP in the first half of 2008 to 1.9 per cent of GDP in the first half of 2009. This decline mainly reflected the fall in net flows of portfolio investment, but also a cut in net flows of other investment. As to portfolio investment, net liability inflows decreased when compared with developments in the first half of 2008. Nonetheless, access to financing in international wholesale debt markets recovered considerably in the first half of 2009, chiefly when compared with the last quarter of 2008. Finally, and similarly to developments in the second half of 2008, there was a sharp increase in net investments of the Portuguese banking system in medium-and long term securities issued by non-residents, when compared with the first half of 2008. This was chiefly associated with credit securitisation operations.[29] These operations have positively contributed to liquidity management of the institutions, given that these securities are eligible as collateral in monetary policy operations of the Eurosystem.

Moreover, there was a significant reduction in other investment liabilities of monetary authorities, related with the Target position. This evolution was associated with the Portuguese banks' participation in the Eurosystem liquidity injection operation with a one-year maturity at the end of June. At first, the funds raised through this operation were, to a large extent, deposited in the central bank. In the subsequent months, according to available information, Portuguese banks invested the liquidity deposited in

(27) Similarly to previous years, financial account records have been affected by temporary end-of-year operations between banks and monetary authorities, with impact only in the breakdown of the external position of the economy into these two sectors, but not affecting the overall financial account balance. This type of operation has an impact on flow statistics of other investment in these two sectors, not allowing for a direct reading of the relevance of banks in the financing of the economy. Given the temporary nature of such operations, the analysis below is based on the values adjusted for these operations. The table shows, in brackets, the values corresponding to the flows adjusted for these operations.

(28) For further details on issues of debt securities by non-financial corporations see "Section 3.1 *Monetary and financial conditions in the Portuguese economy*".

(29) These operations have been consubstantiated in the issue of securities by non-monetary financial institutions, which are typically taken by non-residents. In the financial account, it corresponds to an increase in portfolio investment liabilities of these institutions. Acquisitions by lending banks (or by other resident banks belonging to the same banking group) of securities issued by non-resident securitisation vehicles are recorded in the financial account as an increase in portfolio investment assets of other monetary financial institutions. In this case, it does not imply a change in the nature of bank lending to resident sectors, which remains in the banks' portfolios, although now segregated, in the form of external securities.

Table 7.3.1

FINANCIAL ACCOUNT
As a percentage of GDP

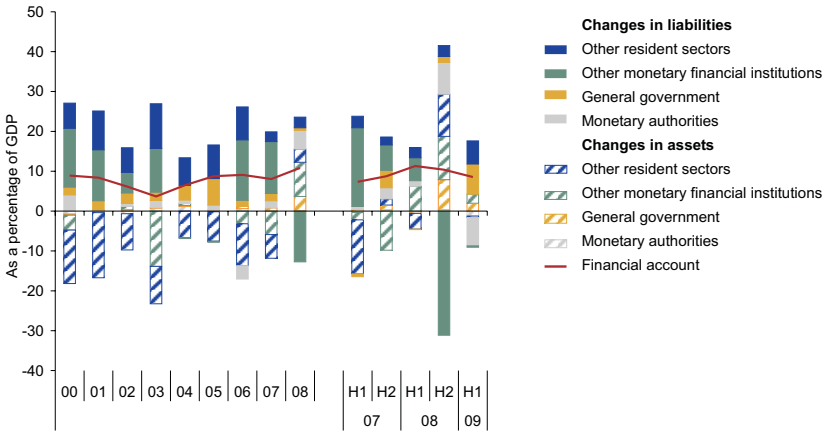
	Jan-Jun 2008			Jul-Dec 2008			Jan-Jun 2009		
	Change in		Net	Change in		Net	Change in		Net
	Liabilities	Assets	change	Liabilities	Assets	change	Liabilities	Assets	change
Current plus capital account			**-10.6**			**-10.4**			**-8.9**
Financial account	**16.0 (9.5)**	**-4.7 (1.8)**	**11.3**	**-19.5 (-18.9)**	**29.8 (29.3)**	**10.4**	**6.5 (5.9)**	**2.1 (2.6)**	**8.6**
Direct investment	1.6	-1.1	0.4	1.3	-0.6	0.7	1.5	-1.3	0.2
excl. off-shores	*0.9*	*-0.6*	*0.3*	*0.9*	*-0.3*	*0.6*	*0.6*	*-0.6*	*0.0*
Portfolio investment	16.3	-4.9	11.5	15.1	-10.0	5.2	25.6	-13.0	12.7
Financial derivatives	-9.0	8.7	-0.2	-18.5	19.0	0.5	-11.1	11.2	0.2
Other investment	7.0 (0.6)	-7.2 (-0.7)	-0.1	-17.4 (-16.9)	21.2 (20.7)	3.8	-9.6 (-10.1)	5.0 (5.5)	-4.6
Reserve assets		-0.2	-0.2		0.1	0.1		0.1	0.1
By institutional sector of resident investor:									
Monetary Authorities [(a)]	**7.8 (1.3)**	**-0.1**	**7.7 (1.2)**	**7.5 (8.0)**	**0.3**	**7.8 (8.3)**	**-6.6 (-7.1)**	**-1.3**	**-7.8 (-8.3)**
Portfolio investment	0.0	1.4	1.4	0.0	-6.0	-6.0	0.0	-1.8	-1.8
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investment	7.8 (1.4)	-1.3	6.5 (0.1)	7.5 (8.0)	6.1	13.6 (14.1)	-6.5 (-7.1)	0.3	-6.2 (-6.7)
Reserve assets		-0.2	-0.2		0.1	0.1		0.1	0.1
General Government	**-0.1**	**-0.5**	**-0.6**	**1.5**	**7.6**	**9.0**	**7.6**	**2.0**	**9.5**
Direct investment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
excl. off-shores	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Portfolio investment	3.0	-1.0	2.0	8.3	0.4	8.8	10.0	-0.9	9.1
Financial derivatives	-0.7	0.5	-0.2	-7.0	7.6	0.6	-2.5	2.6	0.1
Other investment	-2.4	0.0	-2.4	0.1	-0.4	-0.3	0.0	0.3	0.3
Other Monetary Financial Institutions [(a)]	**5.8**	**-0.2 (6.3)**	**5.6 (12.0)**	**-31.1**	**11.4 (10.9)**	**-19.8 (-20.3)**	**-0.3**	**1.8 (2.3)**	**1.4 (1.9)**
Direct investment	0.0	-0.4	-0.5	0.3	0.5	0.7	0.0	-0.2	-0.2
excl. off-shores	*0.0*	*-0.4*	*-0.5*	*0.3*	*0.5*	*0.7*	*0.0*	*-0.2*	*-0.2*
Portfolio investment	12.8	-4.4	8.3	1.9	-12.7	-10.8	9.1	-7.3	1.8
Financial derivatives	-7.5	7.3	-0.2	-10.0	9.9	0.0	-7.5	7.6	0.1
Other investment	0.5	-2.6 (3.9)	-2.1 (4.3)	-23.3	13.7 (13.2)	-9.7 (-10.2)	-1.9	1.6 (2.2)	-0.3 (0.2)
Non-Monetary Financial Institutions	**0.1**	**0.3**	**0.4**	**6.5**	**7.6**	**14.1**	**4.3**	**-2.2**	**2.1**
Direct investment	0.3	-0.1	0.2	0.3	-0.1	0.2	1.3	-0.1	1.2
excl. off-shores	*0.2*	*-0.1*	*0.1*	*0.2*	*-0.1*	*0.1*	*1.0*	*-0.1*	*1.0*
Portfolio investment	0.2	0.7	0.9	6.5	6.7	13.1	3.2	-2.9	0.3
Financial derivatives	-0.2	0.3	0.1	-0.3	0.3	0.0	-0.3	0.2	-0.1
Other investment	-0.2	-0.7	-0.9	0.1	0.7	0.8	0.1	0.6	0.6
Non-Financial Corporations	**3.0**	**-2.7**	**0.3**	**-2.9**	**0.3**	**-2.6**	**2.0**	**1.6**	**3.6**
Direct investment	1.3	-0.6	0.7	0.8	-1.0	-0.2	0.2	-1.0	-0.8
excl. off-shores	*0.7*	*0.0*	*0.8*	*0.5*	*-0.7*	*-0.2*	*-0.4*	*-0.3*	*-0.7*
Portfolio investment	0.3	-0.4	-0.1	-1.6	0.1	-1.5	3.3	0.2	3.5
Financial derivatives	-0.2	0.2	0.0	-0.4	0.3	-0.1	-0.3	0.4	0.0
Other investment	1.5	-1.8	-0.4	-1.7	0.9	-0.8	-1.2	2.0	0.9
Households	**-0.5**	**-1.5**	**-2.0**	**-0.9**	**2.7**	**1.9**	**-0.5**	**0.2**	**-0.2**
Direct investment	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
excl. off-shores	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*
Portfolio investment	0.0	-1.1	-1.1	0.0	1.5	1.5	0.0	-0.3	-0.3
Financial derivatives	-0.4	0.4	0.0	-0.8	0.9	0.1	-0.4	0.4	0.0
Other investment	-0.1	-0.8	-0.9	-0.1	0.2	0.2	0.0	0.1	0.1
Errors and omissions			**-0.8**			**0.0**			**0.4**

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)** Madeira and Santa Maria (Azores) off-shores. **(b)** 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.

Chart 7.3.1

FINANCIAL ACCOUNT

Balance and changes in assets and liabilities by institutional sector



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. Figures for "Other investment of monetary authorities and 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.

the central bank in external assets (debt securities and other investment), reversing the Target position of the monetary authorities.

Also as regards portfolio investment, mention should be made of the increase in liability flows of non-monetary financial institutions, which have largely reflected the acquisition of equities by non residents, associated with the abovementioned credit securitisation operations. In the first half of 2009, the amount of securities issued within the scope of credit securitisation and acquired by non-residents reached 4.5 per cent of GDP, *vis-à-vis* 1.7 per cent of GDP in the same period of the previous year. In turn, and in contrast to developments in the first half of 2008, insurance corporations and pension funds resumed their investments in foreign debt securities, in line with more favourable developments in international financial markets in 2009.

Contrary to recent years, there were net inflows directly to non-financial corporations in the first half of 2009, as a result of the acquisition by non-residents of debt securities issued by a group of large companies. Approximately two thirds correspond to long-term debt securities.

In the first half of 2009, direct investment operations corresponded to virtually nil net inflows (0.2 per cent, compared with 0.4 per cent in the first half of 2008).

The Portuguese economy's debtor position *vis-à-vis* the rest of the world, as assessed by the international investment position, continued to increase, standing at 105.2 per cent of GDP in the first half of 2009, compared with 97.1 per cent of GDP in 2008 (Table 7.3.2). The increase in Portugal's external debtor position reflected essentially the considerable amount of Portuguese public debt acquired by non-residents in the first half of 2009 (5.0 p.p. of GDP), as well as an increase in the net debt external portfolio investment position of non-financial corporations.

Table 7.3.2

INTERNATIONAL INVESTMENT POSITION

End-of-period positions

As a percentage of GDP

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009H1 [d]
International investment position	**-41.1**	**-48.8**	**-57.3**	**-59.2**	**-64.0**	**-70.2**	**-80.9**	**-91.4**	**-97.1**	**-105.2**
Direct investment [a]	-10.8	-12.1	-16.4	-14.9	-11.7	-12.1	-16.8	-19.8	-15.6	-16.8
Portfolio investment [b]	-13.2	-16.3	-18.4	-15.2	-14.2	-14.0	-16.6	-23.0	-31.7	-40.2
Financial derivatives	0.5	0.7	0.4	0.0	-0.4	0.0	0.1	0.1	0.1	-0.4
Other investment [c]	-30.2	-34.3	-35.4	-36.4	-43.6	-49.9	-52.5	-53.3	-55.0	-53.2
Reserve assets	12.5	13.2	12.5	7.3	6.0	5.9	4.8	4.8	5.2	5.5
By institutional sector of resident investor:										
Monetary authorities	**12.6**	**12.8**	**11.6**	**14.2**	**8.4**	**6.5**	**9.9**	**10.4**	**2.9**	**7.1**
Portfolio investment	5.4	4.8	4.2	7.8	6.8	7.3	6.9	5.9	8.2	9.1
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investment	-5.4	-5.3	-5.1	-0.9	-4.4	-6.7	-1.8	-0.4	-10.5	-7.5
Reserve assets	12.5	13.2	12.5	7.3	6.0	5.9	4.8	4.8	5.2	5.5
General government	**-25.3**	**-28.4**	**-34.2**	**-34.3**	**-38.1**	**-44.2**	**-43.3**	**-44.3**	**-49.2**	**-54.3**
Direct investment	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Portfolio investment	-26.0	-30.7	-35.6	-37.0	-39.9	-46.8	-45.6	-44.4	-50.7	-55.7
Financial derivatives	0.3	0.3	0.1	0.2	-0.2	-0.2	0.0	0.0	0.0	0.0
Other investment	0.2	1.8	1.3	2.5	1.9	2.7	2.3	0.0	1.5	1.3
Monetary financial institutions	**-29.2**	**-40.7**	**-43.6**	**-46.0**	**-38.9**	**-37.8**	**-50.7**	**-57.6**	**-45.4**	**-47.0**
Direct investment	-1.4	-1.2	-1.7	-2.0	0.6	0.9	0.9	1.1	2.5	2.5
Portfolio investment	-3.5	-5.0	-2.9	0.9	5.2	9.1	4.8	-0.4	3.1	2.2
Financial derivatives	0.2	0.3	0.3	-0.2	-0.2	0.2	0.2	0.1	0.1	-0.4
Other investment	-24.6	-34.8	-39.3	-44.7	-44.5	-48.0	-56.6	-58.5	-51.2	-51.4
Non-monetary financial institutions	**16.2**	**19.3**	**19.5**	**15.2**	**13.7**	**17.3**	**19.7**	**17.0**	**3.2**	**1.3**
Direct investment	-2.9	-3.2	-2.4	-1.4	-2.7	-3.3	-3.4	-3.9	-6.2	-6.7
Portfolio investment	18.9	21.2	21.4	16.4	16.2	20.5	23.5	20.7	9.5	8.5
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investment	0.2	1.2	0.5	0.2	0.2	0.1	-0.4	0.1	-0.1	-0.5
Non-financial corporations	**-19.1**	**-18.5**	**-19.1**	**-18.7**	**-20.3**	**-23.7**	**-29.5**	**-30.4**	**-20.3**	**-24.2**
Direct investment	-6.8	-8.1	-12.7	-11.8	-10.0	-10.1	-14.7	-17.5	-12.5	-13.1
Portfolio investment	-10.7	-10.2	-10.2	-10.0	-10.3	-13.0	-15.4	-13.8	-8.4	-11.2
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investment	-1.6	-0.2	3.7	3.1	0.0	-0.6	0.5	0.9	0.6	0.1
Households	**3.8**	**6.8**	**8.4**	**10.5**	**11.3**	**11.9**	**13.0**	**13.7**	**11.8**	**12.0**
Direct investment	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4
Portfolio investment	2.7	3.7	4.7	6.8	7.8	9.0	9.1	8.9	6.6	6.8
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investment	1.0	2.9	3.5	3.4	3.3	2.6	3.6	4.5	4.7	4.7

Sources: *INE* and Banco de Portugal.

Notes: (a) Includes quarterly estimates by Banco de Portugal based on the accumulation of monthly flows and on the available annual data obtained from Direct Investment Surveys. (b) Includes quarterly estimates by Banco de Portugal based on the accumulation of monthly flows and on the available annual data obtained from the "Survey on stocks of foreign securities held by residents". (c) Includes, in some components, quarterly estimates by Banco de Portugal, based on the accumulation of monthly flows. (d) The GDP for the year ended in June 2009 was used.

8. CONCLUSION

The current economic and financial crisis added further to the disappointing performance of the Portuguese economy in the past decade, which translated into a sustained reduction of trend growth. At this juncture, the challenge posed to Portugal is even greater, insofar as historical evidence shows that financial crises tend to have a permanent impact on the output level, as well as a negative impact on the growth rate of productivity. The challenge of macroeconomic and structural policies includes promoting medium to long-term macroeconomic stability and sustained potential output growth. In this context, there is a series of elements worth highlighting.

Firstly, a high level of financial integration, in the context of participation in the euro area, characterised by the absence of exchange rate risk and long financing maturities, renders the economies' gradual adjustment processes easier. This occurs because if, on the one hand, financial integration makes it possible to widen the range of choices to economic agents, on the other hand it allows positive differentials between domestic supply and demand to be maintained for longer periods, which translates into current and capital account deficits. The financial integration of the Portuguese economy thus allowed the maintenance of the upward trend of indebtedness in the different institutional sectors and for consequently the increase in the economy's sustained external indebtedness level. However, the high indebtedness meanwhile reached puts pressure on the present decisions of economic agents and may translate into low domestic demand growth in the future, should there be no productivity-enhancing restructuring at the sectoral and corporate levels.

Secondly, fiscal developments must lead to the maintenance of sustainable public accounts. In this vein, it is important to establish a medium-term fiscal consolidation strategy that is consistent with the commitments taken within the scope of the Stability and Growth Pact. Furthermore, the counter-cyclical properties of fiscal policy must be reinforced, without prejudice to adequately promoting an efficient allocation of resources, *i.e*. limiting distortions on agents' incentives. Also, population ageing will weigh strongly on public finances, insofar as it reduces labour market participation rates, and has also a negative impact on potential output. Promoting active ageing and greater participation requires the adoption of policies – at the fiscal, qualifications levels – that are coherent from an intertemporal point of view.

Thirdly, one of the most striking features of the recent period of slow growth in the Portuguese economy is the decline in the investment rate, which stands at an unprecedented level compared with the recent past. This is particularly relevant given the crucial importance of quality investment for the promotion of future economic growth, by incorporating new technologies and knowledge into the production process. Therefore, the institutional framework should foster investment in R&D, as well as in physical and human capital. Within this scope, sectoral and corporate restructuring plays a key role, given that unconditional financial support measures targeted at specific sectors of activity or enterprises may pave the way for inefficient resource allocation. The maintenance of credit flows directed to solvent economic agents with profitable investment projects also plays a key role. For this, it will continue to be crucial to maintain financial stability and overall robustness in the Portuguese banking system.

Finally, promoting enhanced welfare standards includes reducing structural unemployment, through reforms that raise employability and foster worker qualification. The Portuguese economy will not develop to its full extent if the new unemployed do not rapidly return to the labour market. Measures to be taken should reduce labour market segmentation, giving workers and enterprises the adequate incentives to an improvement in productivity associated with each job. Moreover, introducing degrees of

flexibility and efficiency in nominal and real adjustment processes is of paramount importance. Given that Portugal is a small open economy, it is important that wage negotiations take into account productivity and inflation differentials with the main trading partners. From the viewpoint of the Portuguese economy's competitiveness, promoting efficient employment and wage adjustments is key to avoiding further reductions in corporate profit margins, with the consequent obstacles to their investment capacity and their ability to create better quality jobs. However, challenges posed to the Portuguese economy can only be overcome if the necessary reforms are extended to the goods and services markets and there is a commitment to improve the functioning of the global institutional framework, stress being laid on the level of human capital in the economy and the functioning of the justice system.

Box 1. Determinants of the recent pass-through of money market rates to interest rates on loans to the non-financial private sector

The pass-through of money market interest rates to interest rates on loans to the non-financial private sector is a relevant subject from the perspective of monetary policy and financial stability. In effect, the way in which the monetary authority is able to influence bank interest rates is crucial for the correct assessment of the macroeconomic impact of changes in intervention rates, both in terms of final magnitude and as regards the path leading to such adjustment. On the other hand, behind bank interest rate developments are the interest rate margins applied by banks in their operations with customers, making it possible to evaluate the extent to which risk and liquidity are remunerated, thus contributing to determine their profitability and, ultimately, their financial soundness. This box presents some regularities in the pass-through of interbank interest rates to the interest rates on loans in Portugal, focusing on the most recent period, characterised by the gradual increase in ECB (European Central Bank) key rates up to 2008, followed by a fast and sharp decline since October last year. This analysis is based on simplified macroeconomic models, also making it possible to characterise the recent developments of the interest rates on loans, in the light of the determinants under consideration, taking account of the present context of the international economic and financial crisis.

In October 2008 the ECB reversed the upward cycle of its key rates that had been started in late 2005. Up to May 2009 the ECB reduced significantly its rate applicable to open market operations by 325 basis points, and, over that eight-month period, introduced a range of significant changes to its operational framework.[1] In this context, and also benefiting from measures to support financial systems and non-financial sectors, that had been taken, usually jointly, by a vast number of national governments, money market interest rates dropped substantially. The pass-through of these rates to the interest rates on loans has been evident in the downward profile of the latter, albeit not homogeneous across the different segments (in terms of magnitude and speed of adjustment).

Indeed, a range of mixed factors have affected bank interest rates in the different credit segments, covering not only interbank money market rates and the structure of overall funding of the institutions, but also issues related to competition, the legal nature of the contracts and risk of the operations. These specific issues tend to affect not only the level of bank interest rates but also their dynamics and adjustment to shocks.

In Portugal, the prices of a major share of bank loans to customers are indexed to money market interest rates. Two main reasons are behind this: on the one hand, contracts with floating rate or rate re-fixation of up to one year prevail in some segments (where loans to households for house purchase are the main example); on the other hand, operations up to one year show a significant weight, namely operations with non-financial corporations. Therefore, developments in euro money market rates have passed through noticeably to the interest rates on bank operations with customers.

A quantitative evaluation of this impact may be obtained from an econometric model. In general terms, the following specifications were considered

$$\Delta i_t^{loans} = \beta_0 + \beta_1(L)\Delta i_{t-1}^{loans} + \beta_2(L)\Delta i_t^{mm} + \beta_3(L)\Delta un_t + \tau' ECM_{t-1} + \varepsilon_t \qquad (1)$$

where

$$ECM: i_t^{loans} = \alpha_0 + \alpha_1 i_t^{mm} + \alpha_2 fi_t + \gamma_t \qquad (2)$$

where Δ represents the first difference of the variables, L is the lag operator, i_t^{mm} is the money market rate (three months), fi_t is the default flow in the portfolio of loans to the non-financial private sector,[2] un_t is the unemployment rate,[3] ECM is the error-correction mode and τ measures the speed at which interest rates respond to deviations

(1) *The main changes were related to eligibility criteria of assets for collateral purposes in its operations, adopting a regime of fullallotment of liquidity at a fixed rate, and extending the maturity of the operations up to one year.*

(2) *This variable is defined as established in the Banco de Portugal Financial Stability Report, i.e. it is based on an estimation of the flow of new overdue credit and other non-performing loans as a percentage of loans adjusted for securitisation.*

(3) *In loans to households for house purchase, the coefficient associated with this variable was not statistically different from zero.*

from the long-term equilibrium. This model has also considered the interest rates on outstanding loans $\left(i_t^{loans}\right)$ *to households for house purchase, for consumption and other purposes and loans to non-financial corporations.*[4] *Some dummy variables have also been taken into account, for instance one variable corresponding to Portugal's participation in the euro area (as of 1999).*

In dynamic specifications such as the one under consideration, the lagged endogenous variable is also a function of the explanatory variables. Thus, the lagged endogenous variables have been recursively replaced, and, as a result, the contribution of the change in X *to the change in the interest rate* i_t^X *in period* t *is calculated as follows:*

$$i_t^X = \sum_{j=0}^{J} \theta_j^X X_{t-j} \qquad (3)$$

where X_{t-j} *is the change of the explanatory variable in period* $t-j$ *and* θ_j^X *is the impact on the interest rate change,* j *periods after a shock of 1 percentage point in the variable* X *in period* t*, calculated using regressions (1) and (2). Therefore, the change in the dependent variable is a weighted average of the lagged changes in the determinants.*

The analysis is based on partial equilibrium models, wherefore attention must be paid to the inherent limits, and the results must be interpreted with caution. Against this background, it should be added that one of the main limitations to this type of analysis is the impossibility of correctly evaluating the importance of a structural shock, given that some of the variables under consideration are endogenous and any possible feedback effects are not considered.

The results obtained indicate that the determinants under consideration essentially explain interest rate developments. Among these determinants, it is worth stressing the importance of the change in the money market interest rate, which is closely associated with the changes in bank interest rates. Nonetheless, mention should be made of some lag in the pass-through, which, in periods of significant decrease (increase) in the money market rate, accounts for a rise (decline) in lending spreads. This was quite apparent over 2009, particularly in loans to households for house purchase.

The most recent period also highlights the contribution of the actual increase in default, proxied by the default flow, and the unfavourable developments of economic activity, measured by the evolution of the unemployment rate (Charts 1 - A, B and C). The change in these determinants has contributed to mitigate the interest rate cuts in loans since the start of the year,(more significantly so in loans to non-financial corporations and to households for consumption and other purposes), which may be due to demands of higher remuneration of credit risk.

The non pass-through of credit risk to the change in interest rates on outstanding amounts of loans for house purchase over the period in question is probably related to the fact that the predominating operations are those with longer maturities and conditions defined for the lifetime of the operations, wherefore banks (in general) cannot change the conditions of previously agreed contracts. This pass-through, in the most recent period, is also very dependent on historically low rates of change registered by the aggregate, wherefore only a very small share of outstanding loans was negotiated in the context of the tight conditions set by banks in the wake of the outbreak of the crisis in international financial markets.[5]

According to the models under consideration, up to the third quarter of 2008, thus including a period actually affected by the outbreak of the summer 2007 financial crisis, the interest rates on loans stood at lower levels than those associated with their long-term determinants (Chart 2 – A, B and C). This reflects the contribution of variables that are not explicitly considered, in particular the still relatively benign financial context in which banks conducted their business and that passed through to their relationships with customers. However, against the background of the intensifying crisis in international financial markets in the fourth quarter of 2008, and its interplay with the eco-

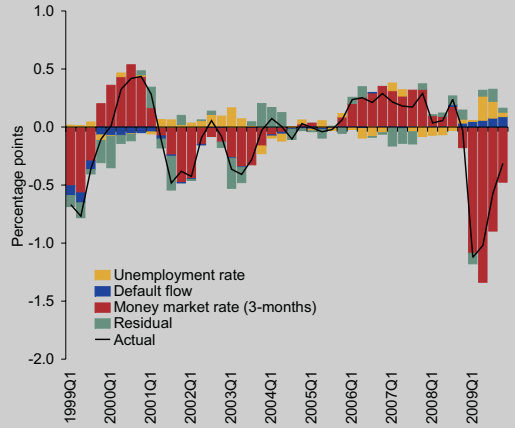
(4) *The choice of the interest rates depends on their relevance in the context of the analysis models and economic projections of Banco de Portugal.*

(5) *The increase in the default flow in this segment was clearly less marked than in consumer credit and other lending and loans to non-financial corporations, where such flow has reached values clearly exceeding those registered in the previous recession (for an analysis of credit risk see sub-section 4.4 Credit risk in "The Portuguese banking system in 2009" in this Bulletin).*

Chart 1-A

INTEREST RATE ON OUTSTANDING LOANS TO NON-FINANCIAL CORPORATIONS

Quarterly change and contributions of some determinants

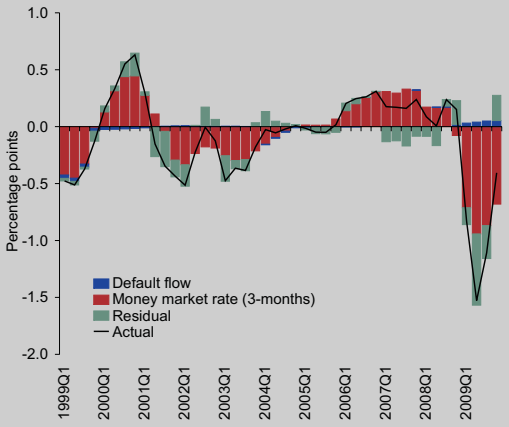


Source: Banco de Portugal.
Note: Estimate to 2009Q4.

Chart 1-B

INTEREST RATE ON OUTSTANDING LOANS TO HOUSEHOLDS FOR HOUSE PURCHASE

Quarterly change and contributions of some determinants

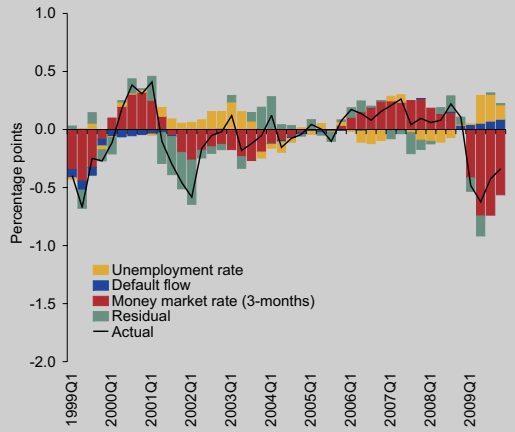


Source: Banco de Portugal.
Note: Estimate to 2009Q4.

Chart 1-C

INTEREST RATE ON OUTSTANDING LOANS TO HOUSEHOLDS FOR CONSUMPTION AND OTHER PURPOSES

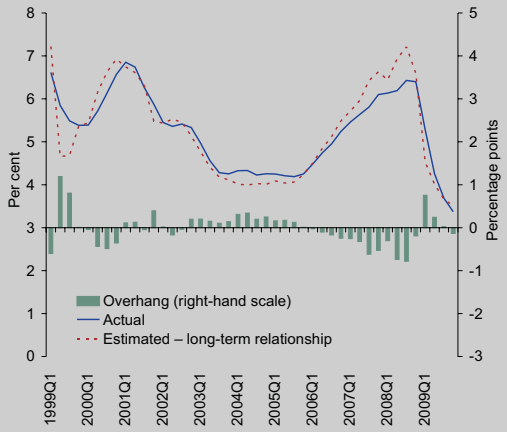
Quarterly change and contributions of some determinants



Source: Banco de Portugal.
Note: Estimate to 2009Q4.

Chart 2-A

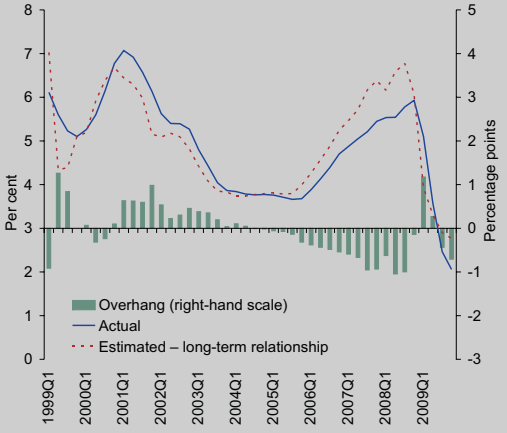
INTEREST RATE ON OUTSTANDING LOANS TO NON-FINANCIAL CORPORATIONS



Source: Banco de Portugal.
Note: Estimate to 2009Q4.

Chart 2-B

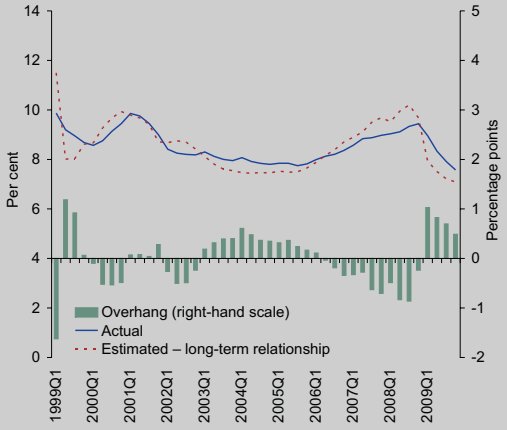
INTEREST RATE ON OUTSTANDING LOANS TO HOUSEHOLDS FOR HOUSE PURCHASE



Source: Banco de Portugal.
Note: Estimate to 2009Q4.

Chart 2-C

INTEREST RATE ON OUTSTANDING LOANS TO HOUSEHOLDS FOR CONSUMER CREDIT AND OTHER LENDING



Source: Banco de Portugal.
Note: Estimate to 2009Q4.

nomic activity, such behaviour has been changing. Therefore, lending interest rates in the first half of 2009 stood broadly in line with the level underlying long-term determinants, excluding the rates on loans to households for consumption and other purposes, which have stood above that level.

The financial crisis observed since mid-2007 has not been paralleled by any other historical period available, when determining the empirical regularities underlying the models used. It may nonetheless be concluded that, in forthcoming quarters, bank interest rates on new business will likely continue to be constrained by the materialization of credit risk, wherefore spreads underlying lending operations will be higher than those observed before the outbreak of the crisis in international financial markets.

Box 2. Recent developments and determinants of bank loans to the non-financial private sector

Over recent months, bank loans to the non-financial private sector have slowed significantly. The analysis of the factors underlying these developments, such as expenditure and interest rate variables, is particularly relevant, either for the conduct of economic policy or for macro-prudential analysis purposes.

The utilisation of an econometric model makes it possible to obtain impact estimations associated with changes in the determinants explicitly under consideration, based on the historical developments of the variables. However, since the econometric analysis is unable to capture all factors that may determine credit aggregate fluctuations (i.e. deviations from the econometric specification, regarding both the long-term relationship and the short-term dynamics), it points to the need to supplement such analysis with additional data, which cannot be explicitly envisaged in a model. Likewise, the specifications usually included in the analysis of credit aggregate developments consider as determinants the variables chiefly associated with credit demand, instead of credit supply. This approach is deemed satisfactory in most situations. However, in episodes such as the recent financial crisis, it may limit the explanatory power of the specifications followed. In fact, evidence indicates that credit supply by institutions has been undergoing some changes, affecting, inter alia, rates, amounts, maturities and collateral requirements, which are also relevant when determining equilibrium quantities.

Talking account of these limitations, the analysis below evaluates the measure in which the recent developments in loans in the different segments, in the context of the current economic and financial crisis, is in line with the usual determinants, chiefly associated with credit demand. For this purpose, we have quantified the impact of the main determinants of dynamics in bank loans to the non-financial private sector. We have therefore calculated the contributions of a selected set of variables to loan growth, based on the estimation of simple econometric models. Three segments have been considered for bank loans: loans to non-financial corporations, loans to households for house purchase, and consumer credit and other lending. The explanatory variables identified are in line with those usually considered in relevant literature, i.e. the determinants considered for each segment are a credit cost variable and an expenditure aggregate. Three econometric models of error correction mechanisms were estimated individually, by resorting to Ordinary least squares, where each model corresponds to a credit segment. It is important to note, however, the limitations inherent in the utilisation of a partial equilibrium model, wherefore the results must be interpreted with caution. It should also be mentioned that one of the main limitations of this type of analysis is the impossibility to correctly evaluate the importance of a structural shock, given that the explanatory variables under consideration are, to a large extent, endogenous and any possible feedback effects are not yet known.

The estimated model is of the following type:

$$\Delta c_t = \beta_1(L)\Delta c_{t-1} + \beta_2(L)\Delta y_t + \beta_3(L)\Delta i_t - \beta_4\left(c - \alpha_0 - \alpha_1 y + \alpha_2 i\right)_{t-1} + \varepsilon_t \qquad (1)$$

where Δ represents the first order difference operator, L is the lag operator, ct represents the credit stock (at end of period) in the abovementioned three segments, and i and y represent the interest rate and the expenditure aggregate respectively, associated with each credit segment (the expenditure aggregates considered were: in loans to non-financial corporations – business investment; in loans to households for house purchase – housing investment; and finally in consumer credit and other lending – private consumption).[1] The estimation of the previous equation has required a unit coefficient for the expenditure aggregate in the long-term relationship, i.e. α_1=1. As regards the interest rate coefficient, α_2, the sign obtained in the long-term relationship is in line with theory, i.e. an interest rate increase implies a decline in credit demand. Finally, the values estimated for the â4 coefficient, which is one of the determinants of the speed of adjustment of the credit stock to long-term equilibrium, are statistically significant and bear the expected sign, pointing to the existence of speeds of adjustment that are significantly different, depending on the credit segment considered. In particular, it should be mentioned that the housing loans segment has a longer adjustment period, whereas consumer credit and other lending show higher speed of adjustment to long-term equilibrium.

(1) *Credit and the variable associated with expenditure are expressed in nominal terms. The relative stability of the rate of change of the expenditure aggregate deflators considered in both loans to non-financial corporations and consumer credit and other lending over nearly the whole period in question limits the information content of the decoupling of the real component and the deflator. Therefore, the breakdown of the contribution of the change in the real component and the deflator is only presented in the case of loans to households for house purchase. In 2009, the deflator rate of change is significantly different from that observed since the mid-1990s across the three segments. This compares with the developments of the real component of expenditure aggregate.*

In dynamic specifications such as the one under consideration, the lagged endogenous variable is also a function of the explanatory variables. Therefore, lagged endogenous variables have been recursively replaced, and as a result the contribution of growth of variable X to credit growth C_t^X in period t is calculated as follows:

$$C_t^X = \sum_{j=0}^{J} \theta_j^X X_{t-1} \qquad (2)$$

where X_{t-j} is growth of the explanatory variable in period $t-j$ and θ_j^x is the impact on growth of the credit aggregate, j periods after a shock of 1 per cent/percentage point in variable X in period t, derived from regression (1). The rate of change of each credit aggregate is thus a weighted average of the previous rates of change of the determinants.[2]

The Charts below present the contributions to growth of loans to non-financial corporations and to households over the past ten years. Considering the changes observed in the determinants in the most recent period, namely the marked falls in both expenditure aggregates (in real and even nominal terms) and interest rates (reflecting the monetary policy response to the economic and financial crisis), we have decided to focus on the contributions of the changes in the determinants over the last four quarters, which are therefore taken from the total contribution. These results show that, on the whole, the dynamics of the macroeconomic variables adopted as explicative variables contributes significantly to the developments of credit to the non-financial private sector. The impact of the fall in expenditure aggregates on the developments of credit aggregates is apparent particularly over the most recent quarters. That impact has been partly countered by the significant decline in bank interest rates. The charts also show the importance of other factors, not considered in the specification adopted, to explain the developments of the credit aggregates under analysis.

Over the past few years, the developments of loans to non-financial corporations have exceeded (increasingly up to early 2008) the developments underlying the behaviour of the determinants considered (Chart 1). This occurred in the context of a significant increase in borrowing requirements in the sector, in parallel with a fall in its savings, mainly reflecting the rise in income paid by the sector as remuneration of the invested capital, against the background of unfavourable profitability performance of corporations. Overall, and in spite of the slight increase in investment, loan developments seem to be chiefly associated with inventory and working capital funding and debt restructuring situations. It should be recalled that even after the outbreak of the crisis in international financial markets in the summer of 2007, Portuguese banks have continued to evince their capacity and availability to, in a context of adverse conditions in international financial markets, accommodate the financing demands of corporations, in view of the unexpected and strong fall in demand, thereby allowing for an additional support of credit, when compared with historical developments in cyclical downturns. This situation underwent some changes only in most recent quarters. This, together with the significant investment retrenchment (in real terms and through the deflator developments), seems to be contributing to a sharp deceleration of loans.

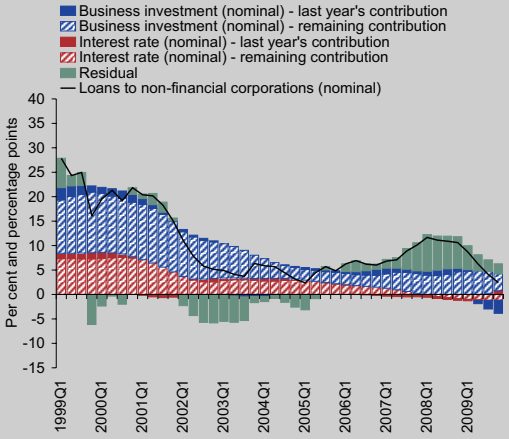
Consumption is less volatile than business investment, which reflects the smoother change in the contribution of this expenditure aggregate to the change in consumer credit and other lending (Chart2). This contribution has decreased gradually over the last decade, and the interest rate developments have also induced some easing in the credit aggregate. Similarly to developments in the non-financial corporation segment, the trend of consumer credit and other lending between 2006 and 2008 exceeded the trend underlying the behaviour of the determinants under consideration, reflecting the particularly favourable credit supply conditions then observed. This situation has been subsequently reversed. Whereas the previously observed positive residual may have reflected, inter alia, an increase in household participation in this credit market segment, (according to the results of the Household Wealth and Indebtedness Survey, and in line with the increase in multi-purpose personal credit supplied by banks), the marked slowdown in the most recent period may have been associated with the tightening of bank credit supply for purposes/segments in which default has increased quite significantly.

(2) *The weighting factors associated with each 'dependant – determinant variable' combination change in line with the segment in question, in such manner that even though the long-term impact may be similar, the adjustment trend shows differences that are sometimes significant.*

Chart 1

LOANS TO NON-FINANCIAL CORPORATIONS

Year-on-year rate of change and contributions of some determinants

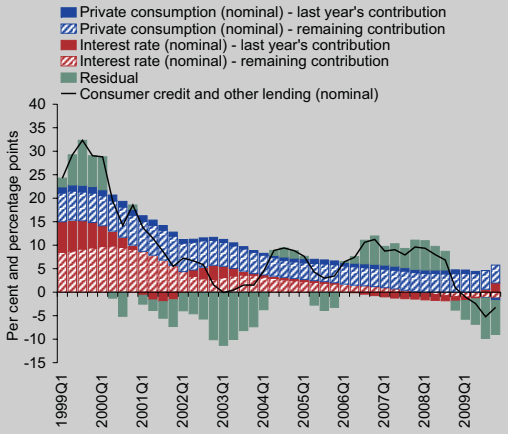


Source: Banco de Portugal.
Note: Estimate to 2009Q4.

Chart 2

LOANS TO HOUSEHOLDS FOR CONSUMPTION AND OTHER PURPOSES

Year-on-year rate of change and contributions of some determinants



Source: Banco de Portugal.
Note: Estimate to 2009Q4.

Over the current decade bank loans to households for house purchase have evolved broadly in line with their determinants (Chart3), reflecting lower contributions of interest rate changes since the mid-decade, as well as a downward trend of (real) housing investment. Nonetheless, growth from 2005 to 2008 systematically exceeded, albeit to a lesser extent than in consumer credit and other lending, growth associated with the determinants under consideration. These developments may have been partly related to the fact that, in the context of the upward trend of ECB interest rates (from the end of 2005 to the third quarter of 2008), banks have provided credit contracts to their customers, seeking to adjust the debt burden to the debt service capacity of the counterparties. This has led to an extension of maturities, an increase in the loan-to-value ratio, i.e. the ratio of the amounts of loans granted to the value of the property, and the implementation of payment schemes allowing for an easing of the household debt burden in the short term.[3] These developments have reflected the competition climate in credit operations and the particularly favourable context prevailing in international financial markets up to the outbreak of the current financial crisis. This situation has changed subsequently, and, in the most recent period, credit has grown more in line with the usual determinants.

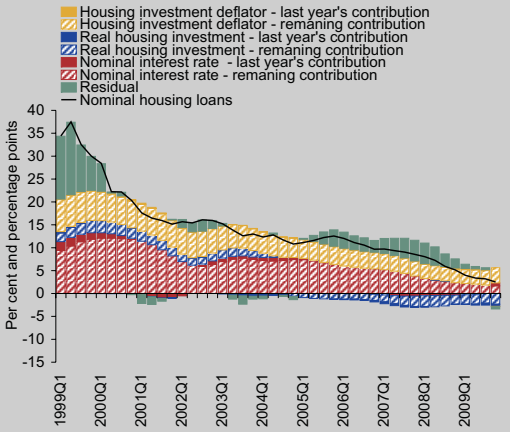
In sum, the results show that, overall, the dynamics of the variables adopted as explanatory variables have significantly contributed to the developments of credit to the non-financial private sector. In particular, the most recent quarters show the impact of the drop in expenditure aggregates (private consumption, housing and business investment) on the developments of credit aggregates, which is countered by the marked fall in bank interest rates. The results also show the importance of other factors, namely those related to credit supply conditions, for loan dynamics. In effect, in the context of the current economic and financial crisis, credit supply conditions have undergone significant changes in the different segments considered, with a deterioration of the conditions under which banks approve credit to the non-financial private sector, even though gradually less markedly in the course of 2009. This has partly countered the effect of the decline in key ECB and money market interest rates. It is also evident, however, that, even after the outbreak of the crisis in international financial markets, banks have continued to accommodate corporate financing needs, against the unexpected fall and strong demand in the sector. This has been changed only recently, and, together with a fall in investment, has contributed to the recent deceleration in loans to corporations. In the light of the methodology followed, against a background of very gradual and limited re-

(3) *See "Box 4.2 The main characteristics of loans to households for house purchase in Portugal", Banco de Portugal, Financial Stability Report 2008.*

Chart 3

LOANS TO HOUSEHOLDS FOR HOUSE PURCHASE

Year-on-year rate of change and contributions of some determinants



Source: Banco de Portugal.
Note: Estimate to 2009Q4.

covery of the economy, and considering the abovementioned bank interest rate cut[4] over the most recent period, it may be projected that credit aggregates will continue to grow at low levels over the next quarters.

(4) *This cut took place alongside a widening of the interest rate spreads. In the most recent period, spreads have been narrowing, but expected to remain at higher levels than those observed in the period prior to the outbreak of the financial crisis, taking into account the materialisation of credit risk and the situation in international financial markets (see "Box 1 Determinants of the recent pass-through of money market rates to interest rates on loans to the non-financial private secto r" in this Bulletin.*

Box 3. Sustainability of public finances: Portugal in the context of the EU

The European Commission published last October the provisional version of the 2009 Sustainability Report. In this document, the Commission services updated their assessment of the sustainability of public finances in all EU Member-states. These ones are ultimately grouped according to the unsustainability risks of the respective public finances, based on the S1 and S2[1] synthetic indicators and on a number of other relevant factors, not easily quantifiable.

The values calculated for the S1 and S2 indicators depend chiefly on the initial budgetary position and on the projected increase of ageing-related public expenditure. In the Commission's recent exercise, the starting point was last spring structural primary balance forecast for 2009. Long-term ageing-related expenditure was based on the 2009 Report of the Ageing Working Group.[2] Table 1 shows the results obtained for the 27 Member-states. In the Portuguese case, in spite of all the caveats and uncertainty surrounding such approach, prospects are similar to those projected for the euro area and slightly more favourable than those for the EU as a whole. Additionally, it should be mentioned that Portugal is one of the four Member-states in which the evaluation of public finances sustainability improved vis-à-vis the results made public in the 2006 Sustainability Report, essentially due to the expected impact on public expenditure of the reform of public pension systems. Overall, Portugal should improve the primary balance on a permanent basis by 4.7 p.p. of GDP by 2010 in order to achieve a debt ratio equal to 60 per cent in 2060, or by 5.5 p.p. of GDP in order to fulfil the intertemporal budget constraint, to be compared with 4.8 and 5.5 p.p. of GDP for the euro area. The breakdown of the indicators clearly suggests the importance of both a significant fiscal adjustment in the short/medium term and the continued implementation of policies warranting moderate growth of ageing-related expenditure, with particular focus on pensions.

This scenario of the European Commission does not take into account any long term effects of the current economic and financial crisis. The latter are illustrated in alternative scenarios, with a special emphasis on those based on the "lost decade" and "permanent shock" assumptions. In the first case, potential growth would take ten years to return to the pre-crisis level, subsequently resuming the same path that would have been observed in the absence of the crisis. According to the second scenario, more pessimistic, potential output growth would be permanently affected, as employment and labour productivity developments would be more unfavourable than in the baseline exercise. The results of this sensitivity analysis show, in the Portuguese case, an increase in the S2 indicator by 1.3 and 2.1 p.p. of GDP in the "lost decade" and "permanent shock" scenarios, respectively.

The prospects resulting from the evaluation of public finances sustainability depend on the macroeconomic scenario, but also on the assumptions for key parameters affecting demographic developments and ageing-related expenditure. According to the sustainability analysis included in the 2009 Report of the Ageing Working Group, the assumptions regarding migration flows are particularly critical. Therefore, considering a scenario with nil net immigration, the S2 indicator for Portugal would increase by 3 p.p. of GDP. The evolution of health-related expenditure is also an important risk factor in Portugal and in almost all other Member-states, chiefly due to the possible materialisation of an income elasticity and cost growth exceeding those incorporated in the baseline scenario.

As regards to other factors relevant to assess the unsustainability risk, not easily quantifiable, the Commission stresses two for Portugal. Firstly, the relatively high public debt ratio, which may lead to an additional rise of interest rates on government-issued debt. Secondly, the possible difficulties in maintaining the present rules applicable to public pensions systems, given an unfavourable evolution over time of the ratio of average pensions to average wages in the economy.

The European Commission breaks down Member-states into three groups, taking into account the different risks regarding the unsustainability of public finances. Portugal is included in the medium-risk group, together with a set of countries with rather different characteristics as regards the initial budgetary position and growth prospects of ageing-related expenditure. Indeed, whereas in Belgium, Germany and Austria the strong expansion projected for expenditure associated with demographic developments will most likely require important reforms, in spite of the

(1) *Both indicators measure the magnitude of the permanent fiscal adjustment required (i.e. a change in the ratios of general government revenue and/or primary expenditure to GDP), so that, in the case of the S1 indicator, the public debt ratio attains 60 per cent of GDP at a distant horizon (2060 according to the most recent European Commission calculations), and, in the case of the S2 indicator, the discounted value of future primary balances equals the public debt current value.*

(2) *See "Box 2..1 Update of projections of age-related public expenditure: Portugal in the EU context", Banco de Portugal, Annual Report - 2008.*

Table 1

SUSTAINABILITY INDICATORS

	S1				S2		
	Total	IBP [a]	DR [b]	LTC [c]	Total	IBP [a]	LTC [c]
Belgium	**4.5**	0.5	0.6	3.5	**5.3**	0.6	4.8
Bulgaria	**-0.6**	-0.7	-0.5	0.6	**0.9**	-0.6	1.5
Czech Republic	**5.3**	3.6	-0.3	1.9	**7.4**	3.7	3.7
Denmark	**-0.6**	-1.9	-0.5	1.8	**-0.2**	-1.6	1.4
Germany	**3.1**	0.8	0.2	2.1	**4.2**	0.9	3.3
Estonia	**0.3**	1.0	-0.6	-0.2	**1.0**	1.1	-0.1
Ireland	**12.1**	8.2	0.2	3.7	**15.0**	8.3	6.7
Greece	**10.8**	2.4	0.7	7.7	**14.1**	2.6	11.5
Spain	**9.5**	5.9	-0.1	3.6	**11.8**	6.1	5.7
France	**5.5**	3.8	0.4	1.4	**5.6**	3.8	1.8
Italy	**1.9**	-0.2	0.7	1.4	**1.4**	-0.1	1.5
Cyprus	**4.6**	0.2	-0.3	4.7	**8.8**	0.5	8.3
Latvia	**9.4**	8.8	-0.2	0.9	**9.9**	8.9	1.0
Lithuania	**5.4**	3.7	-0.3	2.0	**7.1**	3.9	3.2
Luxemburg	**6.2**	-0.6	-0.8	7.5	**12.5**	-0.4	12.9
Hungary	**-1.1**	-1.9	0.4	0.4	**-0.1**	-1.6	1.5
Malta	**4.7**	1.1	0.2	3.4	**7.0**	1.4	5.7
Netherlands	**5.2**	1.6	0.0	3.7	**6.9**	1.9	5.0
Austria	**3.8**	1.5	0.2	2.2	**4.7**	1.6	3.1
Poland	**2.9**	4.2	0.0	-1.2	**3.2**	4.4	-1.2
Portugal	**4.7**	3.4	0.3	1.0	**5.5**	3.7	1.9
Romania	**6.9**	4.1	-0.4	3.2	**9.1**	4.3	4.9
Slovenia	**9.2**	3.8	-0.3	5.7	**12.2**	3.9	8.3
Slovakia	**5.7**	4.3	-0.3	1.6	**7.4**	4.5	2.9
Finland	**2.6**	-0.8	-0.3	3.7	**4.0**	-0.5	4.5
Sweden	**0.5**	-0.1	-0.3	0.8	**1.8**	0.2	1.6
United Kingdom	**10.8**	8.6	0.2	2.0	**12.4**	8.8	3.6
EU-27 average	**5.4**	3.1	0.2	2.0	**6.5**	3.3	3.2
Euro area average	**4.8**	2.1	0.3	2.4	**5.8**	2.3	3.5

Source: 2009 Sustainability Report of the European Commission.
Notes: (a)The initial budgetary position (IBP) represents the change required in the primary balance from its present level, in order to maintain the debt ratio at its current level . (b) The requirement of a given debt level (DR) reflects the change in the primary balance, in addition to that required by the initial budgetary position, so that the debt ratio would reach 60 per cent by 2060. (c) The long-term ageing-related cost (LTC) represents the change required in the primary balance in order to finance the projected increase in ageing-related expenditure until 2060, in the case of S1, or over an infinite horizon, in the case of S2.

relatively sound initial position, in France, Poland and Portugal the main issue is the need for consolidation in the medium term, as reforms introduced in public pension systems in recent years would imply a moderate growth of ageing-related expenditure. Italy and Hungary are also included in this group, even though their initial fiscal imbalance and long-term ageing-related expenditure growth are not particularly worrying, given that their debt ratio is currently very high.

THE PORTUGUESE BANKING SYSTEM IN 2009

1. OVERVIEW

Following the developments at the end of 2008, 2009 was characterised by an intensification of the interaction between the financial crisis and economic activity, translating into a growing materialisation of credit risk, with its negative consequences on banks' profitability. This is an international trend which has also been observed in the Portuguese economy. The economic situation in 2009 can be described as comprising the deepest recession of the last few decades, notwithstanding signs that the rate of decline in economic activity is increasingly lower. Unprecedentedly concerted policy actions, including huge cuts in interest rates, which contained the global systemic risk, reduced uncertainty and increased the confidence of economic agents were put into place. A 2.7 per cent contraction of GDP is expected in the specific case of the Portuguese economy. Notwithstanding the fact that the increase in the materialisation of credit risk in Portugal is transversal to the various credit segments, it was particularly marked in the case of consumer and other loans in addition to lending to non-financial corporations and was much more mitigated in the case of mortgage lending. This differentiation reflects various factors.

As regards mortgage lending, households with lower income levels account for a very low share of this market. In addition and notwithstanding the high level of aggregate indebtedness, the median value of Portuguese households' debt servicing ratio, including for the youngest ones and generally more vulnerable, is lower than in euro area countries for which available information exists. This derives from the fact that the maturities on mortgages tend to be longer in Portugal, making it possible to smooth out the debt servicing commitments over a longer time period. Many mortgage loans, in addition to real guarantees have other associated guarantees such as family guarantees on young people's loans, thus contributing towards lower risk on such loans. Finally, available information suggests that aggregate house prices have not been overvalued.

The situation regarding consumer and other loans, which represent around 20 per cent of loans to individual borrowers, is different, as there has been an intensification of access to this market by households with intermediate income levels and those with a relatively young household head. The higher credit risk normally associated with these loans has been incorporated by the banks in the interest rate spreads on such loans and higher commissions.

In the case of lending to non-financial corporations, higher default rates, albeit across-the-board, were not uniform over all sectors of activity and were particularly marked in the construction and real estate sectors which represent around 40 per cent of lending to non-financial corporations. These sectors are particularly sensitive to the economic cycle and have relatively high debt levels. Defaulting companies tend to have higher debt levels and lower returns, which profile is transversal to different sectors of activity (see "Box 1 *Profitability, indebtedness and default of non-financial corporations*" in this Bulletin). One of the characteristic aspects of Portuguese banks' credit portfolios is their concentration on very high exposure levels, associated with large corporations which tend to have lower default levels. Such corporations, however, also tend to have a smaller propensity to default for idiosyncratic reasons for which individual defaults by any corporation tend to be more correlated with aggregate default levels. It is worth emphasizing, in this context, that the Basel II Accord establishes more demanding capital requirements for larger corporations (to identical levels of other risk parameters). This is a particularly important factor in terms of financial stability, given the systemic risk associated with such exposures.

Expectations for the evolution of the Portuguese economy are a gradual and limited recovery, resulting in the maintenance of a low level of capacity utilization and high unemployment with negative consequences for the materialisation of credit risk. In particular, prospects for household income levels will remain vulnerable to pressures on the financial situation of non-financial corporations.

In the context of the outbreak of the crisis in international financial markets in the summer of 2007 whose intensity heightened in the last quarter of 2008, liquidity risk and its interaction with the risk of wholesale debt markets finance have assumed a central role in the assessment of financial stability on an international level. Starting March 2009 there was a gradual normalisation of international financial markets against a backdrop of less volatility and risk aversion, reflecting inter alia the measures implemented by governments and central banks, earnings announcements by several non-financial corporations and banks, in addition to the upward revision of projections for the world economy. A marked recovery of stock markets and lower spreads on private and public debt have also been witnessed.

This environment was favourably reflected in Portuguese banks' balance sheets, permitting some recovery both in the value of their securities portfolios and of the pension funds of bank employees and in income related with financial operations and contributed, albeit to a limited extent, to the improvement of own funds. At the same time and in line with global trends Portuguese banks resumed their issues of debt securities in wholesale markets in progressively less unfavourable conditions and to a large extent without any state guarantee. Accordingly, in first half 2009, the issue of debt securities net of redemptions over longer maturities was the main source of finance for the activity of Portuguese banks after the fall occurring in second half 2008. Customer resources, however, continue to be a relevant source of banking activity finance although showing a slowdown which is expected to continue in the near future. In line with the occurrence of events since the outbreak of the financial crisis in summer 2007, Portuguese banks have maintained competitive customer resource taking strategies, evidenced by higher interest rates on deposits than those provided by the money market, which was not the case in the former recessionary period. There has also been a significant acceleration of deposits by individual customers for maturities of more than two years, in addition to banks' placements of significant amounts of debt securities issued by banks with their customers. These are favourable developments from a viewpoint of liquidity risk, owing to the greater stability of such resources. Accordingly, the trend towards the reduction of the ratio between credit and customer resources, beginning with the outbreak of the financial crisis in summer 2007, was furthered in first half 2009. There was also an improvement in liquidity gaps for maturities of up to 3 months. These indicators establish a relationship between highly liquid assets and volatile liabilities. The improvement noted in the up to one month bracket was particularly evident, with a positive gap common to the main banking groups. The evolution was the opposite for the one year bracket i.e. the gap became more negative, essentially reflecting the higher volume of debt securities maturing in this period. This is a relevant situation for almost all of the domestic banking groups, although reference should be made to the fact that it compares favourably with the end of 2007. It should also be highlighted that it will tend to be temporary, *i.e.* reversible in the context of the maintenance of the favourable evolution of international wholesale debt markets, which will permit the continuation of the lengthening of the average wholesale market debt stock.

As stated in former articles, Portuguese banks have been able to adapt to the particularly negative context deriving from the current international economic and financial crisis. Accordingly, available evidence suggests that Portuguese banks have continued to perform their financial intermediation function without any major disruptions. The evolution of bank lending to the non-financial private sector in 2009 was globally in line with the usual determinants governing demand for credit - interest rate and aggregate demand components - (see "Box 2 *Recent developments and determinants of bank loans to the non-financial private sector*" in this Bulletin). Banks even succeeded, to a certain extent, in providing for the greatest financing needs of companies against a backdrop of particularly adverse financ-

ing conditions in international markets and a sudden, unexpected drop in demand, in last quarter 2008 and first quarter 2009. The banks have also been reinforcing their own funds in the context of the economic and financial crisis, particularly in first half 2009. The reinforcement of their capital position was particularly visible in their Tier 1 capital adequacy ratio, which recorded a significant concentration at around 8 per cent, which corresponded to the minimum value among the main banking groups in June 2009. Most institutions have, therefore, brought forward Banco de Portugal's recommendation for the Tier 1 ratio to be at least 8 per cent starting September 2009.

The reinforcement of capital ratios made it possible to increase the domestic banking system's capacity to absorb unexpected adverse shocks, without implying the appearance of significant constraints on the development of their financial intermediation activity. Notwithstanding the fact that current economic growth prospects are, both globally and nationally, less negative than at the end of 2008 and early 2009, there are still downward risks on economic recovery and global financial stability, particularly given the uncertainty over the impact of an eventual progressive reversal of economic and financial system support measures. In addition, the implementation of these measures, in conjunction with the worldwide economic recession, has given rise to a significant deterioration of the public finances in most countries and a transfer of risks from the financial system to sovereign bodies. Medium and long term growth forecasts also indicate that potential world growth will be lower than estimated before the crisis, suggesting that the international financial crisis may have originated not only a permanent loss of GDP but eventually a reduction of its growth trend. Lastly there continue to be risks associated with the interaction between the financial system and the real economy which may intensify with the reversal of support measures. The Portuguese economy, in turn, continues to suffer from a series of structural weaknesses, notably as regards its high debt levels, low level of human capital and the functioning of the labour and product markets. These weaknesses may limit both the capacity to adjust to the current environment and the potential growth, with negative consequences for the banking sector. Positive aspects of the Portuguese economy particularly include the absence of overvaluation in the real estate market and the relatively favourable position of the banking system in the European context. A scenario putting world economic recovery at risk would, in any event, be doubly unfavourable to the international and domestic banking systems as not only would the materialisation of credit risk be more intense but there would also be a trend towards the occurrence of a new materialisation of market risk as a result of the reversal of expectations regarding the evolution of corporate profits. In such a scenario and depending upon the magnitude and duration of these shocks, Portuguese banks would have to make additional capital reinforcements.

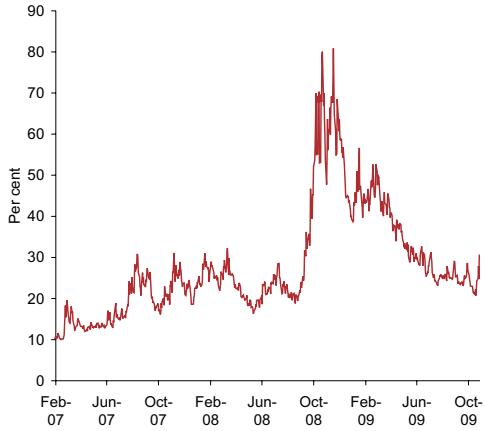
2. MACROECONOMIC AND FINANCIAL FRAMEWORK

The international financial crisis and worldwide economic recession, which produced an unprecedented contraction in international trade, had a negative effect on the Portuguese economy which, being small and open, is highly integrated in economic and financial terms. Accordingly, at the end of 2008 and early 2009, the activities of Portuguese banks were set against a backdrop of a significant deterioration in economic activity and continuation of tensions in the international financial markets, following the collapse of the Lehman Brothers investment bank. Starting, however, in the second quarter of 2009, prospects for global economic activity started to gradually become less negative with improved conditions in international financial markets, in a context of lower volatility and risk aversion (Chart 2.1). The support measures for the financial system and economy made an important contribution to this evolution. The current framework governing the activity of Portuguese banks, in this context, is globally much less unfavourable than at the end of 2008.

According to IMF forecasts, the world economy is likely to contract by 1.1 per cent in 2009, after having

Chart 2.1

IMPLICIT VOLATILITY INDEX VIX



Source: Bloomberg.
Note: Implicit volatility index based on market expectations on the volatility of the US stock market in the following 30 days, based on options prices.

grown 3.0 per cent in 2008. The IMF has forecast a return to positive levels of world economic growth, in 2010 (3.1 per cent).[1] The US economy has been showing several signs of stabilising, which will probably result in positive growth in the second half of 2009, as a result, inter alia of budget stimulus measures and improvements in housing market prospects. Unemployment, however, remains at historically high levels, access to credit remains relatively restricted, several banks continue to need to reinforce their capital basis and restructure their balance sheets and, lastly, the persistence of a certain degree of disarray and uncertainty in financial markets may condition the evolution of investment and consumption. IMF forecasts for the euro area indicate that the recovery trajectory will be more moderate than in the United States, reflecting the persistence of pressures in several countries' real estate markets, the turbulence which continues to affect several banks and the situation in labour markets. The recovery of emerging markets should, in turn, be fuelled by the growth of Asian economies, particularly India and China, partly deriving from budgetary stimulus measures. The Central and Eastern Europe economies and the Commonwealth of Independent States continue to face significant challenges, owing to a downturn in capital flows and to the persistence of disarray in domestic financial systems.

Portuguese economic performance has been conditioned by the international economic and financial crisis, in the form of a strong contraction of external demand, by a high level of uncertainty affecting economic agents' investment and consumption decisions and by disruptions in the international wholesale debt markets. The Portuguese economy's expected contraction of 2.7 per cent, in 2009, comprises the worst result of the last few decades.[2] This estimate nevertheless represents an upward revision of the projection published in the Summer Economic Bulletin and is particularly justified by the less unfavourable evolution of private consumption and, to a lesser extent, exports. This growth projection for the Portuguese economy in 2009 is based on an underlying acceleration profile in the second half of the year.

On both a global and domestic level, economic growth prospects are less negative than at the end of 2008 and early 2009. There remain, however, various risks attached to the recovery of economic activ-

(1) See "Section 2 *International framework"* in the text *"The Portuguese economy in 2009" in this Bulletin.*
(2) See "*The Portuguese Economy in 2009*" in this Bulletin.

ity and financial stability on a global level, particularly uncertainty concerning the impact of a progressive reversal of support measures for the economy and financial system. In addition, the implementation of such measures, in conjunction with world economic recession, has given rise to a deterioration of the public finances in most countries and transfers of risk from the financial system to sovereign bodies.[3] Based on IMF estimates, medium term growth forecasts indicate that potential growth of worldwide GDP will be lower than estimated before the crisis, suggesting that the international financial crisis may not only have originated a permanent loss of GDP but also an eventual reduction in its growth trend. Lastly, there continue to be risks associated with the effects of the interaction between the financial system and the real economy, which may intensify with the reversal of support measures. These risks reinforce the need to promote the stability of the financial system on an international level, owing to the persistence of fragilities and the recapitalisation requirements of several banks on a global level, and to improve financial system regulation. The Portuguese economy, in turn, continues to suffer from several structural vulnerabilities such as high debt levels, its human capital and the functioning of the labour and goods markets, which may constrain its capacity to adjust to the present framework and its potential growth, therefore conditioning real convergence.

Following the outbreak of major disruption, in September 2008, central banks in the advanced economies and emerging market economies, significantly reduced their reference rates. Monetary policy in 2009 remained globally accommodative, against a backdrop of a decrease in inflationary tensions and highly negative prospects for the evolution of economic activity. The ECB cut the interest rate on its main refinancing operations by 325 bp between October 2008 and May 2009 to a historically low level of 1 per cent. The US Federal Reserve, in turn, maintained its objective of keeping the Fed Funds interest rate at between 0 and 0.25 per cent in 2009 and the Bank of England made additional reductions to its reference rate, which also fell to minimum historical levels (at 0.5 per cent). Several central banks have also been implementing various measures to ensure across-the-board access to liquidity. Central banks in the advanced economies, followed at a later stage, by several others from emerging market economies, have been injecting liquidity into the financial system in the form of credit operations (including foreign currency operations) and changing the operational framework of monetary policy operations (*e.g.* by changing maturity periods on credit operations, eligible counterparties, collateral accepted as a guarantee, minimum cash reserves or, in the case of the Eurosystem, via the implementation of liquidity injection operations at fixed interest rates and the full allotment thereof for longer maturity periods). Several of these measures resulted from the concerted actions of several central banks. Some of the central banks also implemented non-conventional measures designed to inject liquidity directly into the economy, in the form of the acquisition of public and private debt securities. In May 2009, the ECB announced that the Eurosystem would be acquiring covered bonds in euros, issued in the euro area. The support measures implemented by the central banks were, in general, complemented by government support measures designed to ensure financial stability and to provide a budget stimulus. These measures included the provision of guarantees on banks' debt issues, capital injections, an increase in deposit guarantees or support measures for specific sectors of the economy. It should be noted that a high level of uncertainty still exists on the impact of an eventual gradual reversal of these support measures, which have played a relevant role in reinforcing confidence in the financial system on a global level during the course of the past year. This uncertainty derives, inter alia, from the difficulty in assessing the underlying evolution of economic activity on a global level and consequently, the financial system's situation.

International financial markets continued to be affected by a significant level of disruption in the first few months of 2009. A gradual normalisation of financing conditions together with the consolidation of

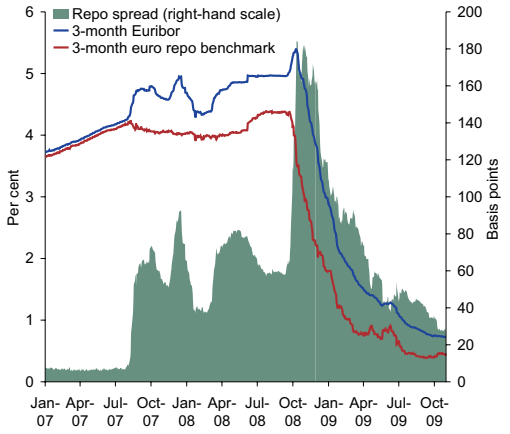
(3) See "Box 1.1 *Evolution of the sovereign bond yield spreads in the euro area in the context of the financial crisis*", Banco de Portugal, *Annual Report 2008* .

a more positive feeling in financial markets became evident from the second quarter of the year, reflecting inter alia the measures implemented by governments and central banks, profit announcements by several non-financial companies and banks and upward revision of worldwide economic growth estimates.

Interbank money markets have been at the epicentre of the financial turmoil since summer 2007. The collapse of the Lehman Brothers investment bank, in September 2008, gave rise to an unprecedented increase in the differential between interest rate spreads on non-collateralised and collateralised operations (Chart 2.2). This differential has been decreasing gradually since the end of 2008, accompanying the evolution of official interest rates and reflecting the impact of the financial system support measures on the confidence of financial institutions participating in these markets. However, at the end of October, the differential in the euro area was 26 bp, *i.e.* still higher than the amount prior to summer 2007, indicating the persistence of a certain disarray in the functioning of these markets. Taking into consideration expectations implicit in futures contracts, the risk premiums in this market are likely to remain very much in line with current premiums (Chart 2.3).

Chart 2.2

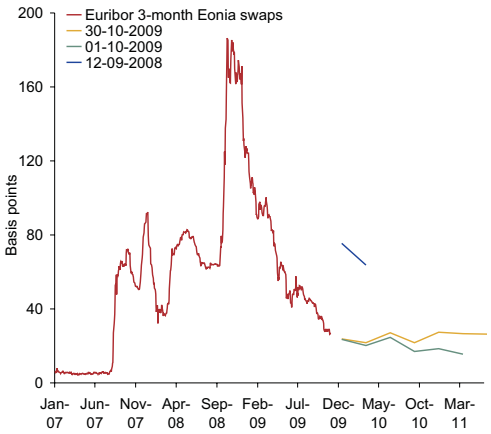
THREE MONTH INTEREST RATES IN MONEY MARKET – EURO AREA



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

Chart 2.3

OBSERVED AND EXPECTED SPREAD BETWEEN EURIBOR AND 3 MONTH EONIA SWAPS



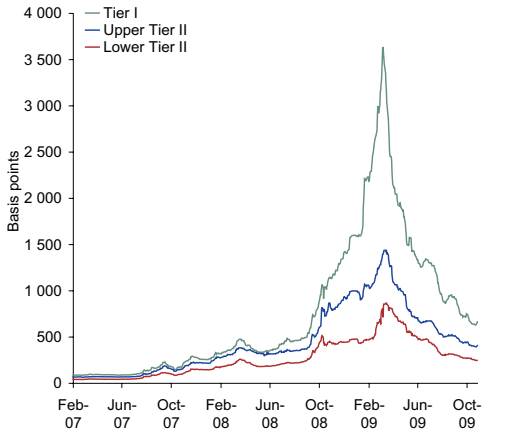
Sources: Bloomberg, Thomson Reuters and Banco de Portugal calculations.
Note: Expected spread measured by the difference between 3-month Euribor implicit in futures contracts and the average expected Eonia rate beginning on the date of the future's maturity.

Private debt securities markets were also severely affected during the international financial crisis, which conditioned Portuguese banks' access to finance in such markets, as in the case of other banks on an international level (see "Section 4.3 *Liquidity risk*"). Market conditions started to show gradual improvement, starting second quarter 2009, with an observable increase in issue volumes and lower risk premiums, which continued, nevertheless, to be much higher than before the crisis (Chart 2.4). In general terms, Portuguese banks' risk premiums kept pace with the trend in other European banks, with a gradual decrease since March 2009 (Chart 2.5). The improvement in debt market conditions was, probably, part related with the support measures for the financial system and the economy which were implemented on a global level, notably financial assets purchase programmes and provision of guarantees on debt issues.[4] Some of the Portuguese banks used Portuguese government's guarantees to issue medium term maturity securities in international debt markets at a substantially lower risk

(4) See "Box 1.3 *Government support measures to the financial sector and stabilisation of financial markets*", Banco de Portugal, *Annual Report 2008* .

Chart 2.4

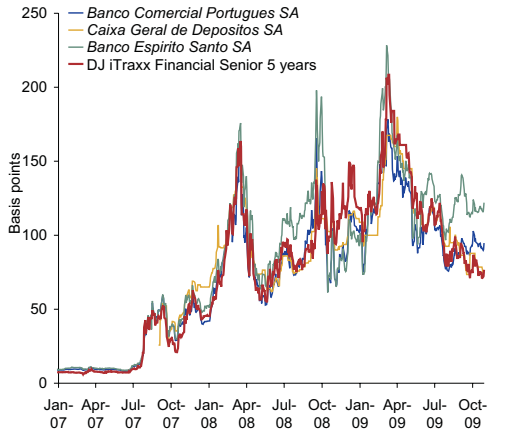
SPREADS ON SUBORDINATED BONDS ISSUED BY EUROPEAN BANKS



Sources: Bloomberg and JP Morgan.

Chart 2.5

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

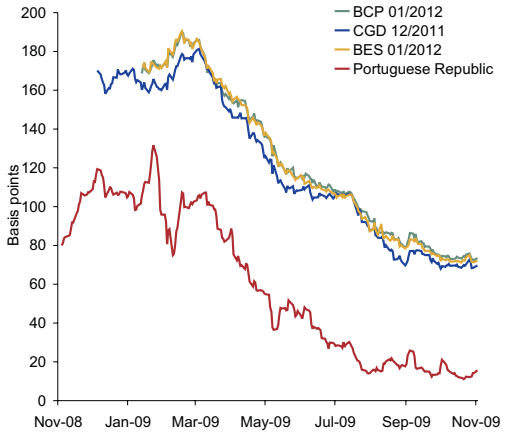


Sources: Bloomberg and Thomson Reuters.

premium than those on non-guaranteed issues[5] (Chart 2.6). Such measures contributed to the gradual re-establishing of confidence in the economy and the financial system, which may have strengthened demand for the securities issued by the banks even without a state guarantee. This was offset by the transfer of several risks from the financial system to the public sector as a consequence of the referred to support measures, implying an increase in risk premiums on public debt (Chart 2.7). There was a also a downturn in such risk premiums starting in the second quarter, although they were still higher than before the collapse of the Lehman Brothers investment bank.

Chart 2.6

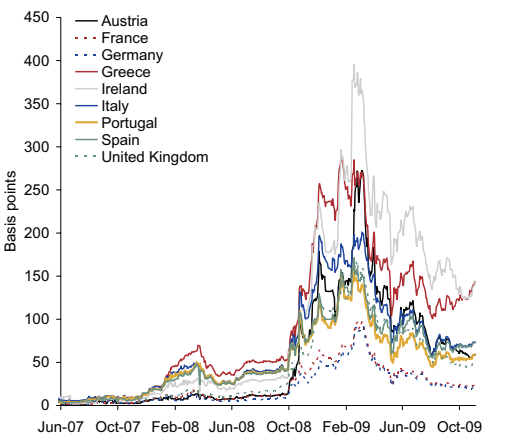
YIELD SPREADS ON PORTUGUESE BANK BONDS GUARANTEED BY THE STATE



Source: Bloomberg.
Notes: Spreads calculated on German treasury bond maturing in January 2012. For Portugal, the average of the Treasury bonds maturing in June 2011 and 2012 was considered. Information on the maturity of guaranteed bonds is set out in the legend.

Chart 2.7

CREDIT DEFAULT SWAPS OF EUROPEAN COUNTRIES (5 YEARS SENIOR)



Source: Thomson Reuters.

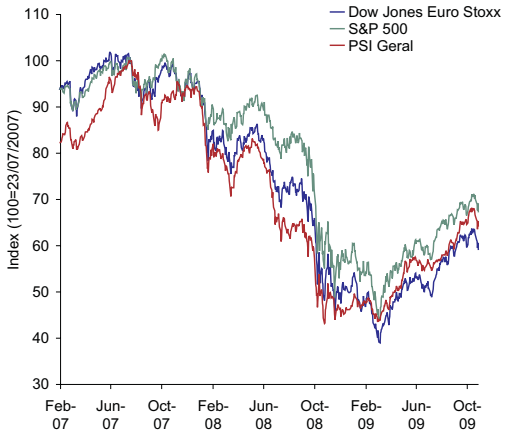
(5) It should, however, be noted that although access to this guarantee involves a risk premium which is generally lower than on non-guaranteed bonds, banks must pay the state a commission of 50 basis points, plus the premium on its credit default swap (or of similar banks, if there is no credit default swap for this issuer) if the security's maturity period is more than one year.

There were major falls in stock market prices between September and November 2008, followed by a period of a certain instability and uncertainty. However, a consistent and marked recovery in stock market prices started in mid-March, reflecting several corporate announcements of higher than expected profits and the implementation of support measures by domestic and international authorities and central banks. Between early March and end October 2009, the S&P 500, Dow Jones Euro Stoxx and PSI Geral indices were up by 48, 45 and 44 per cent, respectively (Chart 2.8). Taking into consideration the value of these indices in summer 2007, however, losses continue to exceed 30 per cent. The amplitude of such movements, involving value losses and latter recoveries, has been greater in the financial sector. Since the lowest values recorded in March, the indices for the US and European financial sector have grown by 107 and 123 per cent, respectively, as opposed to the 63 per cent appreciation of the PSI Financial Services index over the same period (Chart 2.9). In comparison to the start of the financial turmoil, these indices continue to accumulate losses of between 50 and 65 per cent. In the case of Portuguese banks, *BES* and *BPI* share prices have already recovered more than 65 per cent of their value against the minimums recorded in first quarter 2009, with BCP recovering around 52 per cent (Chart 2.10). Notwithstanding the above and as noted on an international level, the level of appreciation was not sufficient to offset the losses made since summer 2007 (down 55, 65 and 72 per cent for *BES*, *BPI* and *BCP*, respectively).

In global terms, Portuguese banks continued to face several adversities in 2009. In line with international trends, the interaction between disruptions in the global financial system and the real economy have been implying an increase in underlying credit risk on Portuguese banks' assets, notwithstanding the fact that recent improvements in financing conditions in wholesale markets have helped to alleviate some pressure on the banks. Lending, in such a context, continued to slow down, essentially reflecting moderation in demand for credit against a backdrop of falling investment and private consumption of durable goods, in addition to several supply-related restrictions, associated with the banks' perception of the economy and financing conditions in international wholesale debt markets. The activity of Portuguese banks decelerated to a certain extent in first half 2009, with a level of deceleration being expectable in the near future, as discussed in "Section 4.1 *Activity, international exposure and profitability*". Profitability indicators have remained globally stable over the second half of 2008, albeit significantly down over the previous year, particularly reflecting an increase in credit risk and downward pressure on net interest income associated with generally low interest rates. Notwithstanding the unfa-

Chart 2.8

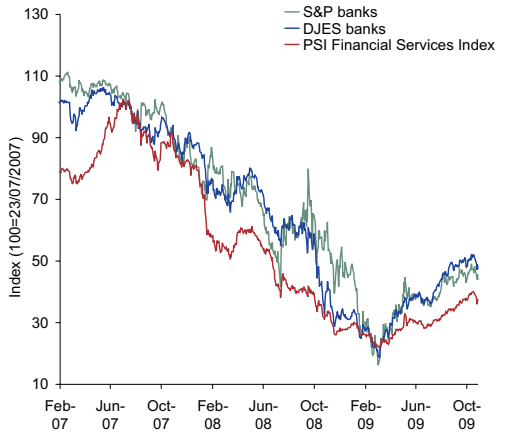
PRICE DEVELOPMENTS IN STOCK MARKETS



Source: Bloomberg.

Chart 2.9

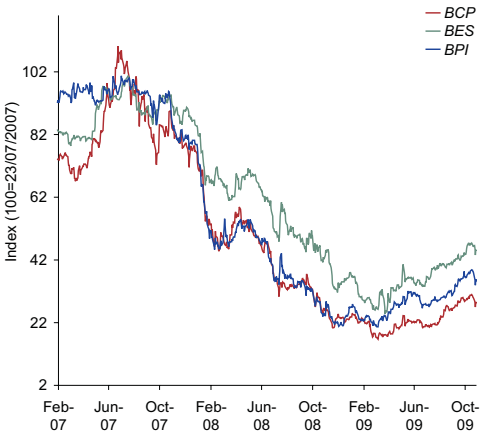
PRICE DEVELOPMENTS IN BANK STOCKS



Source: Bloomberg.

Chart 2.10

PRICE DEVELOPMENTS IN THE STOCKS OF PORTUGUESE BANKS



Source: Bloomberg.

vourable framework, Portuguese banks made significant increases in their own funds, reflected in increases in their capital adequacy ratios, with the majority having brought forward their fulfilment of Banco de Portugal's recommendation to the effect that Tier 1 should be at least 8 per cent in September 2009 (see "Section 4.2 *Own funds adequacy*"). The international financial crisis has also raised important challenges in access to bank finance in wholesale debt markets. Portuguese banks have, however, made several adjustments to their financing structure, preferring to secure deposits from customers and benefiting from the financial system measures implemented by the ECB, government and Banco de Portugal at the European level.[6] Improvements in international wholesale debt markets, in 2009, enabled Portuguese banks to issue substantial amounts of debt over longer maturities, while witnessing a slowdown in customer deposits. A globally positive evolution of Portuguese banking system liquidity indicators was therefore witnessed (see "Section 4.3 *Liquidity risk*"). This has been offset by an expressive deterioration of credit risk indicators as discussed in "Section 4.4 *Credit risk*". Higher default levels in the non-financial private sector essentially appear to reflect higher unemployment and lower internal and external demand, in conjunction with several companies' and individuals' high debt levels, whereas the strong reduction in interest rates to a historically low level is alleviating pressures on credit risk.

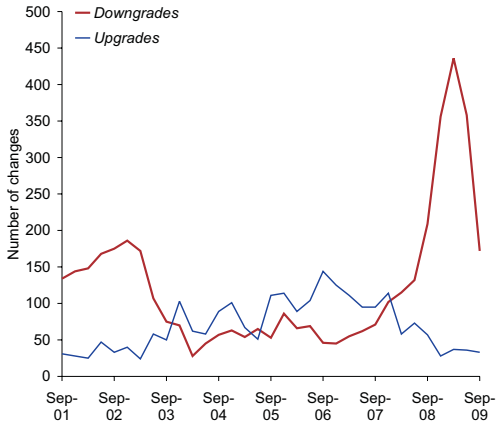
The international financial crisis has taken the form of across-the-board negative revisions of ratings on banks and non-financial companies, on a global level (Chart 2.11). In such a context, the ratings on several Portuguese banking groups were downgraded in 2009 viz: *CGD* (Moody's and S&P), *BCP* (Moody's and S&P), *BES* (Moody's), *Montepio Geral* (Moody's), *Santander Totta* (S&P), *BANIF* (Moody's). The rating agencies also attributed negative "outlooks" on their ratings of several institutions (*BPI*, *BCP*, *BES*, *Santander Totta*, *BANIF*, *Montepio Geral*, *CGD*, *Banco Popular*), in addition to the rating on the Portuguese Republic, reflecting the economic challenges of a structural nature.

In general terms, the less unfavourable evolution of the global economy and improvements noted in several international financial markets are propitious to a more favourable framework for the activity of Portuguese banks. A gradual recovery of losses on financial assets portfolios and improved financing conditions in wholesale debt markets have, accordingly, been noted. Conditions for reinforcing the

(6) See "Box 2.1 *Measures relative to the financial system taken by the Portuguese authorities in the sphere of the international financial crisis*", Banco de Portugal, *Financial Stability Report 2008*.

Chart 2.11

WORLDWIDE RATING CHANGES



Sources: Fitch ("Global Corporate Rating Activity Update – Third Quarter 2009").
Note: Difference between the number of upgrades and downgrades on rated issuers.

capital base have also been more favourable. Prospects for worldwide and Portuguese economic growth, however, continue to be dominated by a high level of uncertainty. An element of uncertainty in this context is associated with the impact of the progressive reversal of support measures for the financial system and domestic and global economic stimulus, which may condition economic recovery or affect the performance of several banking groups on a global level. The eventual materialisation of downward risks on economic growth is likely to translate into higher unemployment levels and lower growth in domestic and external demand, which will have an inevitable impact on the underlying credit risk on Portuguese banks' assets. Such risks will be more relevant in an eventual scenario of divergence with the euro area, which may be associated with an increase in short term interest rates at a time when economic recovery in Portugal is still at its beginning.

3. FINANCIAL SITUATION OF THE NON-FINANCIAL PRIVATE SECTOR

The intensifying crisis following the bankruptcy of the Lehman Brothers investment bank, in September 2008, and the resulting deteriorating global and domestic economic situation, evidenced by the marked recession in most world economies, translated into a deterioration of the financial situation of the non-financial private sector in Portugal. This fact reflected lower corporate profits and increased unemployment. In turn, in a context of a worsening economic situation and disruptions in the functioning of wholesale debt markets, even if improving, there has been a continued increase in the level of restrictions on lending albeit gradually less intense in 2009. The sharp fall in interest rates since the third quarter of 2008 has helped to attenuate the costs of high levels of debt taken on by individuals and non-financial corporations, contributing towards higher savings rates in both sectors. This improvement, associated with a significant decrease in fixed capital investment by the non-financial private sector, resulted in a significant reduction in the sector's borrowing requirements, in first half 2009 in comparison to the same half 2008. At the same time, defaults by households and companies worsened as a reflection of the downturn in economic activity and higher unemployment. A growing number of companies have also been facing liquidity and even economic feasibility problems owing to the negative developments in demand, particularly from abroad. Notwithstanding the improvement noted in the meantime in the banks' capacity to raise finance in wholesale markets, there continued to be dis-

ruptions in several of these markets with major uncertainty remaining over the trend of global economic activity in the short and medium terms. These are contributory factors to the banking system's continued restricting of credit supply conditions (albeit with less intensity than in 2008) in no longer facilitating debt renegotiations and restructuring operations which, in former times, made it possible to mitigate higher default levels in the non-financial private sector. However, credit to the non-financial private sector in 2009 showed across-the-board growth in accordance with the usual determinants (interest rates and aggregate demand components) as opposed to past years in which the growth of credit systematically exceeded the growth of these determinants (see "Box 2 *Recent developments and determinants of bank loans to the non-financial private sector*" in this Bulletin). Growing interaction between the international financial crisis and the global and domestic economic situation, starting in the fourth quarter of 2008, was a factor behind the adjustment of expenditure in the resident non-financial private sector to levels which are more consentaneous with domestic income generated in the economy in first half 2009.

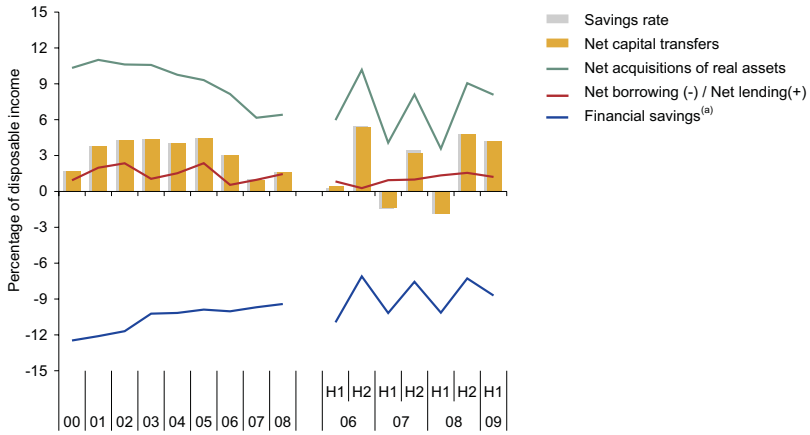
Short term prospects for economic activity remain uncertain. Notwithstanding the fact that the most probable scenario will be a gradual and limited recovery of domestic and external activity, there is downside pressure on the balance of risk. A major risk refers to the impact of the progressive reversal of support measures to the financial system and of economic stimulus. This could dampen the recovery of economic activity, owing to the high level of uncertainty over economies' and the financial system's underlying trend. The eventual materialisation of such downside risks would translate into a more unfavourable evolution of domestic and external demand and unemployment, with negative consequences on the financial situation of companies and individuals. Reference should be made to the across-the-board increases in defaults by non-financial companies, including major exposures, notwithstanding the fall in interest rates. Reference should also be made, in the case of individuals, to several factors contributing to the path of disposable income in 2009 – notably developments in real wages and fall in interest rates – which will no longer be the case in the near future. There is also a risk of Portuguese economic recovery being more limited and out of sync with the euro area. Against this background there could be an increase in ECB interest rates at a time when Portuguese economic recovery is at its very early stages, which, given the high levels of debt of the non-financial private sector, would tend to worsen its financial situation and default levels on credit.

Individuals

First half 2009 witnessed a recovery of savings rates and a sharp decrease in fixed capital investment by individuals, with a significant improvement in the sector's lending capacity (Chart 3.1). This represented 4.2 per cent of disposable income, in comparison to net borrowing requirements for the same half last year (estimated at 1.9 per cent of disposable income). This development, already visible in second half 2008, largely corresponds to an adjustment of expenditure by Portuguese households to the increased uncertainty over the path of their permanent income, in a context of unfavourable prospects for economic activity, significantly higher unemployment and globally more restrictive conditions in obtaining bank loans. Private consumption, in first half 2009, was significantly down, which associated with the increase in aggregate nominal disposable income over the same period, enabled individuals' saving rate to continue to climb as in 2008 (see "*The Portuguese Economy in 2009*" in this Bulletin). The substantial reduction in interest rates in conjunction with a virtual stabilisation of sector debt also enabled the net interest payable component to contribute positively to the increase in disposable household income, particularly affecting those with the highest levels of debt, thus interrupting the profile noted since mid 2007. In the present environment of recession, the evolution of disposable income in these strata had an attenuating effect on the number of defaults, particularly in the mortgage lending segment in which defaults remained limited. There was nevertheless a substantial increase in

Chart 3.1

SAVING, INVESTMENT AND NET LENDING OF HOUSEHOLDS



Sources: *INE* and Banco de Portugal.
Notes: (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 transactions. (b) Corresponds to the sum of GFCF, changes in inventories, acquisitions less disposals of valuables and acquisitions less disposals of non-produced non-financial assets.

credit overdue and other non-performing loans in the case of consumer credit and other loans whose respective default ratio was significantly up over the recessionary period of 2003 (see "Section 4.4 *Credit risk*).

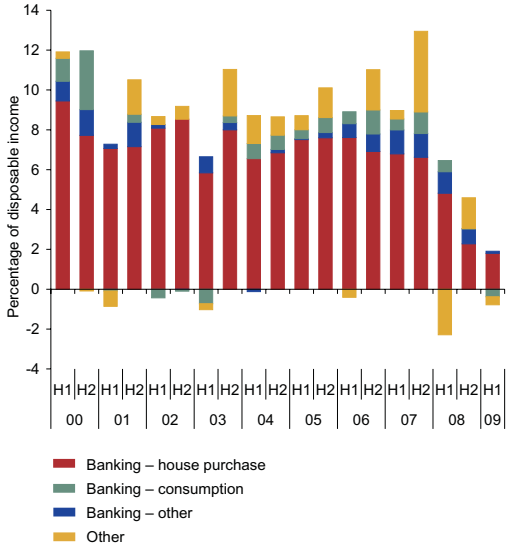
In first half 2009,developments in fixed capital investment by individuals were particularly influenced by the noticeable drop in house acquisitions, globally in line with the slowdown in mortgage lending since the start of the year. Reference should also be made to the sharp fall in consumer credit, associated with a substantial decrease in purchases of consumer durables (Chart 3.2).

In a macroeconomic context characterised by a fall in economic activity, both worldwide and domestic, a substantial deterioration in the confidence of economic agents, although improving from second quarter 2009, and very low interest rates, the financial debt of individuals in Portugal practically stabilised at 134 per cent of disposable income, at the end of June (Chart 3.3). This evolution reflected lower demand for loans from individuals and more restrictive criteria and conditions on the banks' approval of this type of credit, although gradually lessening in intensity during the course of 2009 (see "Section 4.4 *Credit risk*"). According to the Bank Lending Survey, demand for loans from households continued to fall in first half 2009, predominantly influenced by deteriorating consumer confidence and more unfavourable housing market prospects in the case of mortgage lending, and a fall in consumer spending on durables, in the case of consumer credit and other loans. The reduction of interest rates since last quarter 2008 made it possible to reverse the upward trend in mortgage loan repayments in force since 2006. In accordance with information compiled by *INE*, the average amount of overdue instalments was down by almost 12 per cent in the period between the start of the year and August 2009 (over the same period 2008). The decrease was, notwithstanding, even less than the decrease in the interest component. Considering a regime of constant payments during the period of application of variable interest rate loan agreements (which predominate in the mortgage lending segment in Portugal), the gains/losses associated with decreases/increases in reference rates are partly offset in terms of the amount of the total payment by increases/decreases in the part relating to the repayment of capital (Chart 3.4). In the period between January and August 2009, the increase in the size of this part was around 20 per cent.

In the case of financial assets held by individuals, since the outbreak of the turmoil in financial markets

Chart 3.2

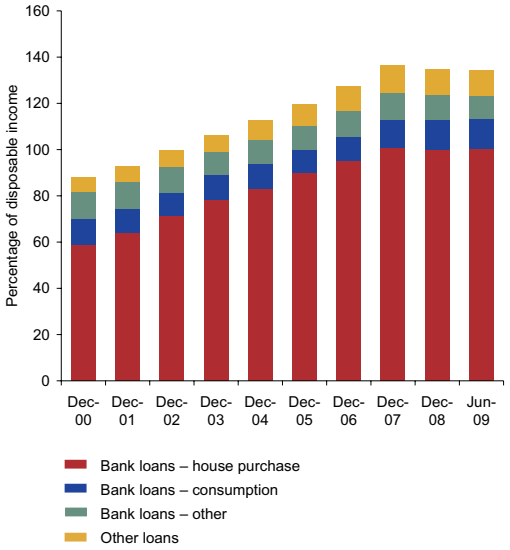
NET FLOWS OF LOANS TO HOUSEHOLDS [a]
Consolidated amounts



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

Chart 3.3

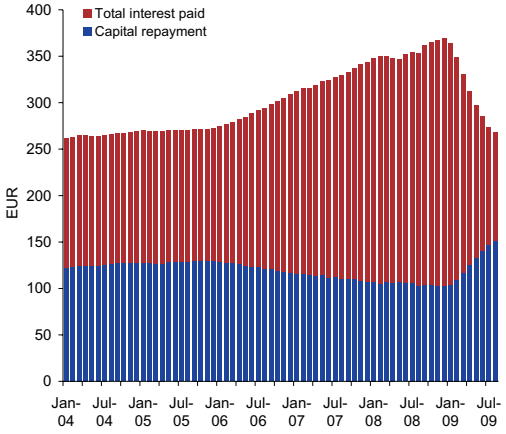
HOUSEHOLD FINANCIAL DEBT



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

Chart 3.4

AVERAGE MORTGAGE INSTALMENTS



Source: *INE*.
Note: Most recent figures: August 2009.

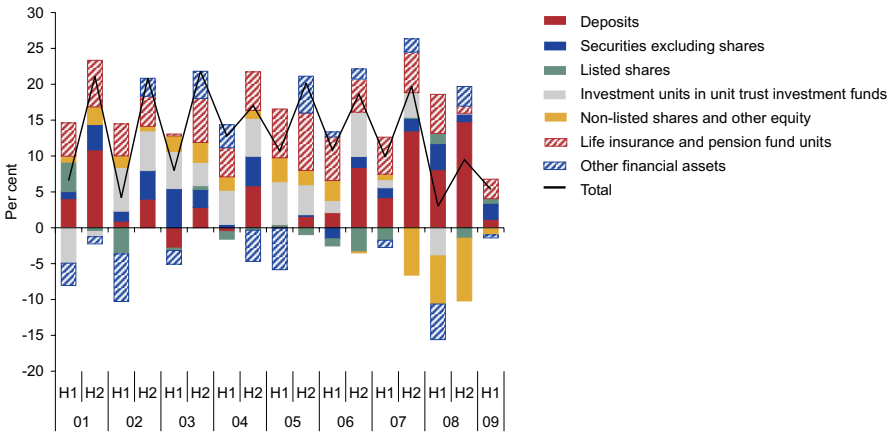
there has been a restructuring of portfolios in favour of assets which are less sensitive to market fluctuations, notably deposits. This movement was the result of individuals' greater risk aversion as investors and the impact of financial market instability on returns from different savings instruments. In a context of greater difficulties in raising finance on wholesale markets, individual portfolio adjustments were also influenced by greater competitiveness among banks (particularly domestic) in taking in customer resources, translating into higher interest on term deposits. Accordingly, second half 2007 and 2008 witnessed a sharp increase in deposits by individuals, mainly at the expense of units in invest-

ment funds, with a significant number of redemptions in net terms (Chart 3.5). Instability in the financial markets translated into highly significant fluctuations in the value of stocks and other portfolio investments held by individuals, particularly listed shares, contributing to the fall in the market value of the sector's financial wealth. The net value of financial assets transactions made by individuals, in first half 2009, was slightly up over the first half of the preceding year, although with a completely different composition. In first half 2009, financial investments made by individuals, predominantly comprised debt securities, life insurance and pension fund units. Particular reference should be made to the net acquisitions of debt securities issued by monetary financial institutions (representing more than 90 per cent of total net investments in debt securities by individuals). There was also an increase in the number of deposit accounts with an agreed maturity of more than two years, notwithstanding the fact that the net flow of total deposits almost stabilised. This development is probably a reflection of savers' greater risk aversion, in comparison to the period preceding summer 2007.

Chart 3.5

NET ACQUISITION OF FINANCIAL ASSETS BY HOUSEHOLDS

Transactions as a percentage of disposable income – consolidated amounts



Source: Banco de Portugal.

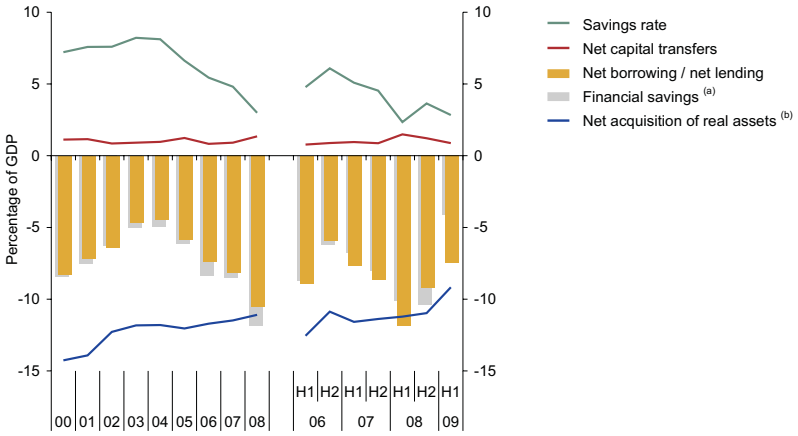
Non-financial corporations

Net borrowing of non-financial corporations in first half 2009 was down 4 percentage points over GDP in the first half of last year. This notable improvement essentially derived from the decrease of investment in real assets together with a slight increase in savings in the sector, when assessed as a percentage of GDP (Chart 3.6). There was an increase in the savings rate, notwithstanding the significant fall in corporate profits, which was strongly influenced by the lower returns on capital invested paid by the sector (interest and dividends) (Chart 3.7). According to quarterly information supplied by Banco de Portugal's Balance Sheet Database, the decrease in non-financial companies' operating income essentially reflected lower levels of economic activity, comprising a lower level of sales and services, in a context in which, employee costs were, nevertheless, up[7] (Chart 3.8). The operating surplus of non-financial corporations is estimated to be down as a percentage of GDP. In turn, the marked fall in interest rates and corporate profits, in 2008, translated into the payment of lower costs on capital in-

(7) For a detailed characterisation of the samples of participating companies in Banco de Portugal's Balance Sheet Database (annual and quarterly surveys) see Banco de Portugal, Supplement 5/2005 to *Statistical Bulletin*, December 2005 and Supplement 1/2008 to *Statistical Bulletin*, May 2008. It should be noted that, in the case of the quarterly sample and, to a lesser extent, the annual sample but only up to 2005, there is a major bias towards larger companies. Starting 2006, with the use of the Simplified Corporate Information, coverage improved considerably, and was close to 100 per cent in terms of the total gross value added of non-financial companies.

Chart 3.6

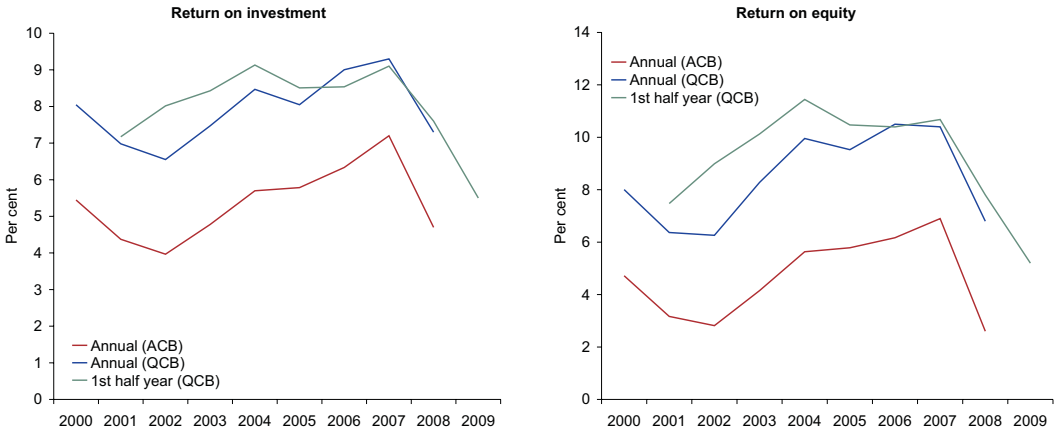
NET FLOWS OF LOANS OF NON-FINANCIAL CORPORATIONS



Sources: *INE* and Banco de Portugal.
Notes: (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) Corresponds to the sum of GFCF, changes in inventories, acquisitions less disposals of valuables and acquisitions less disposals of non-produced non-financial assets.

Chart 3.7

RATES OF RETURN IN NON-FINANCIAL CORPORATIONS



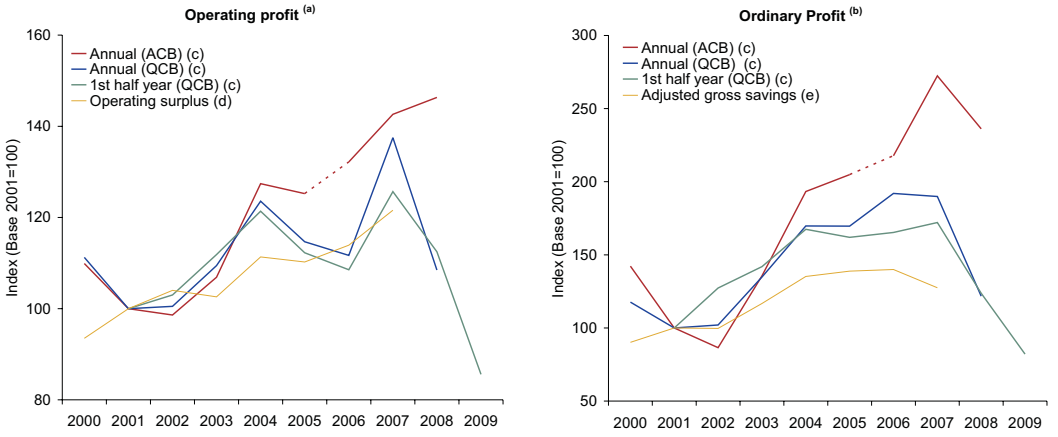
Source: Banco de Portugal.
Notes: Return on capital invested = (current income + interest paid) / (shares and other equity + financial debt). Return on shareholders' equity = current income / shares and other equity. ACB: Annual Central Balance Sheet Database. QCB: Quarterly Central Balance Sheet Database. In the case of the QCB, the ratios refer to the first half of each year and the year as a whole. The ratios are calculated by applying rates of changes calculated on the basis of common companies for two consecutive years to the last available amount. Starting (and including) 2006 the CBA ratio is calculated using the information in the Simplified Corporate Information Database.

vested (interest and dividends) than in the preceding year. This decrease, higher than the one noted in operating income levels, allowed the sector to retain a larger proportion of earnings and occurs in an environment involving high levels of uncertainty over short term developments affecting the world and Portuguese economies.

To a large extent, the borrowing requirements of non-financial companies, noted over the last few years, have been met by high amounts of debt secured from the banking system. Greater use of intra-sector loans was also noted in 2007 and 2008, particularly concentrated in the second half of the year. In first half 2009, credit institutions' loans to non-financial companies were down, to a certain extent offset by the volume of net issues of debt securities, mainly over the medium to long term a significant proportion of which continued to be taken up by resident banks (and by non-residents) (Chart 3.9)

Chart 3.8

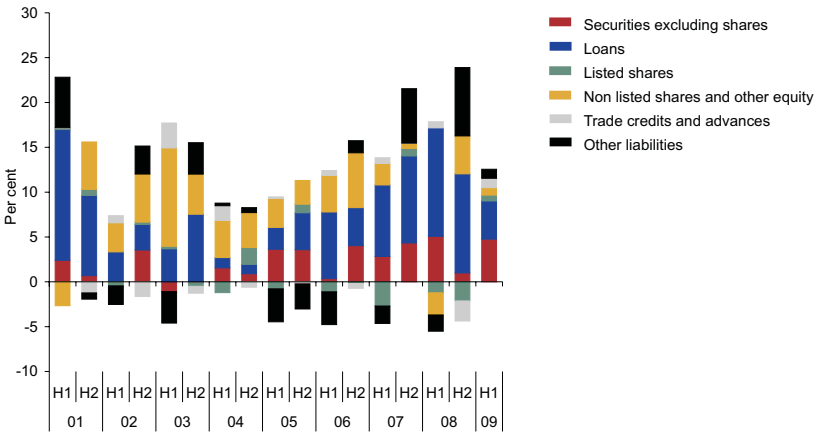
DEVELOPMENTS IN PROFIT AND LOSS OF NON-FINANCIAL CORPORATIONS



Source: Banco de Portugal.
Notes: (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

FINANCIAL LIABILITIES OF NON-FINANCIAL COMPANIES
Transactions as a percentage of GDP



Source: Banco de Portugal.
Note: Consolidated figures.

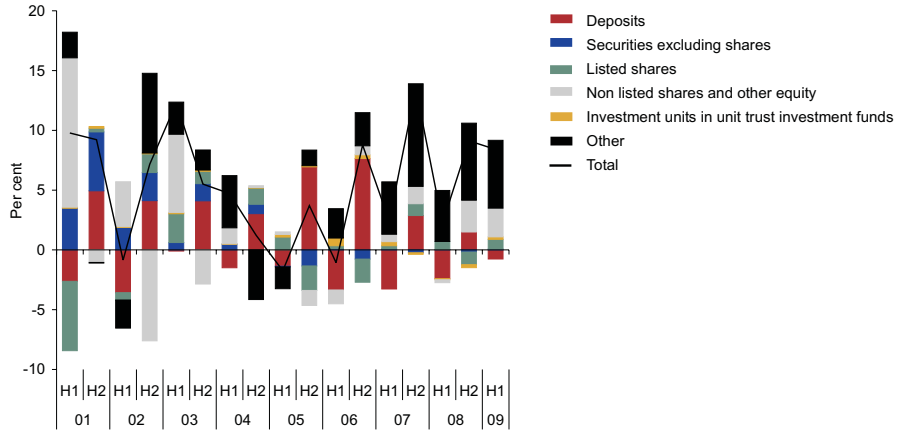
(see "Section 4.4 *Credit risk*). It should be noted that, according to banks' replies to the Bank Lending Survey, no major changes in demand for loans from non-financial companies in global terms were noted over first half 2009, with an increase in demand only being noted in the short term segment at the expense of demand for loans with longer maturities. This was accompanied by higher demand due to inventory and working capital requirements and for debt restructuring purposes, suggesting greater financial difficulties for companies. Loan demand for investment purposes, in turn, continued to be significantly down, in line with the sector's gross fixed capital formation.

Reflecting the seasonal pattern of deposits by non-financial companies in the first half year, there was a reduction in the sector's deposits albeit to a lesser extent than in past years (Chart 3.10). At the same

Chart 3.10

NET ACQUISITION OF FINANCIAL ASSETS BY NON-FINANCIAL CORPORATIONS

Transactions as a percentage of GDP



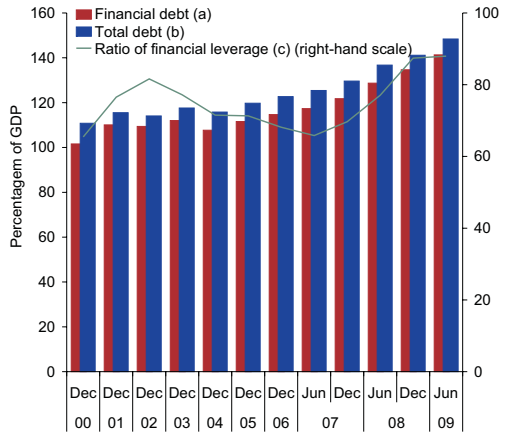
Source: Banco de Portugal.
Note: Consolidated figures.

time, amounts in net acquisitions of shares and other equity were expressive, translating an important increase in the sector's investments in financial institutions. This development contrasts with 2008, in which available information on the portfolio of shares and other equity of non-financial companies on a non-consolidated basis indicated that a significant part of the increase was associated with consolidation processes among companies in the non-financial sector.

The amount of net borrowing of non-financial companies recorded in first half 2009 increased sector debt to levels around 141 per cent of GDP (approximately 135 per cent at the end of 2008), with the sector's level of financial leverage remaining practically the same as at the end of 2008 (Chart 3.11).

Chart 3.11

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[8]

4.1. Activity, international exposure and profitability

Activity

The outbreak of the crisis in the international financial markets, starting summer 2007, heightened in intensity in the last quarter of 2008 and its interaction with economic activity on a global level continued to condition the evolution of the banking system during the course of 2009. There has, however, and in a particularly more evident form, since mid March 2009, been a progressive normalisation of conditions in the money and capital markets, on an international level, with an increase in share prices in stock markets and a reduction in spreads in securitised debt markets. Portuguese banks, as in the case of banks on a global level, have also continued to benefit from the extraordinary liquidity management measures adopted by the monetary authorities and support measures provided by states to the financial system on an international level.[9]

Year-on-year change in activity, in the Portuguese banking system, as measured by total assets, on a consolidated basis, was 5.9 per cent, in June 2009 (Table 4.1.1), showing a certain slowdown in comparison to the strong growth noted over the last few years. In a context of financial crisis, a further deceleration is expected in the near future. In global terms and particularly in comparison to second half 2008, reference should be made to the fact that the expansion of activity in the Portuguese banking system in the first six months of 2009 was fundamentally sustained on the basis of finance raised on international wholesale debt markets. The issue (net of redemptions) of debt securities, in the same period, was, once again, the main source of finance for the expansion of the activity of Portuguese banks, though a part of which was placed with customers. Customer resources also continued to be a source of finance for the expansion of activity, on a consolidated basis, although marked by a significant slowdown during the course of first half 2009. Reference should, however, be made to the significant increase in deposits with a maturity of more than 2 years, as a favourable development in terms of liquidity owing to the greater stability of these resources (which characteristic is shared with debt securities placed with the customer base). The main sources of finance for banking activity, in second half 2008, had been the substantial increase in customer deposits and greater use of monetary policy operations.[10] The Portuguese banking system, in first half 2009, also recorded some increase in its capital position over the end of 2008, highly conditioned by the unfavourable evolution of financial markets in

(8) In the analysis set out in this article, the aggregate defined as being the Portuguese banking system refers to the credit institutions and financial companies operating in Portugal under the supervision of Banco de Portugal, with the exception of institutions with head office in the offshore zone in Madeira. These include financial groups, on a consolidated basis, whose consolidation perimeter includes at least one credit institution or an investment company, and credit institutions and investment companies, on an individual basis, which are not consolidated in Portugal (including the subsidiaries of credit institutions or investment companies). The analysis of this set of institutions is important to the extent that it is subject to the new Capital Adequacy Directive, being considered the benchmark universe in most European countries. It is not possible, however, to have data prior to 2007 for the said aggregate, as the adopting of the International Accounting Standards (IAS) was not transversal to all institutions, with different accounting systems coexisting in 2005 and 2006. Accordingly, the data set out in this article are based on institutions' different aggregates. In particular, up to 2004 the list of institutions refers to banks and savings banks with the exception of banks headquartered or operating exclusively in the Madeira offshore zone and/or operating mainly with non-residents. Subsidiaries of credit institutions headquartered in another European Union member state - excluding those not classified as monetary financial institutions – as well as subsidiaries of credit institutions in third countries were classified as banks. From December 2004 to June 2008, two sets of institutions were considered. A first set for the period December 2004 to December 2007, made up of thirteen banking groups which adopted the new IAS to prepare their respective financial statements in 2005 (representing, in December 2004, around 87 per cent of the total assets of the set of institutions analysed up to then). The second set, for the period March 2007 to June 2008. The period of superimposition of the different sets of institutions makes it possible to achieve a consistent analysis of changes. To facilitate the reading of this document, whenever necessary, the charts and tables set out in this chapter have a straight line indicating breaks in the series.

(9) For a description of the monetary policy and government support measures to the financial system see "Box 2.1 *Measures taken by the Portuguese authorities relating to the financial system during the international financial crisis*" in the 2008 *Financial Stability Report*.

(10) A more detailed analysis of the evolution of banking system financing and its articulation with liquidity risk can be found in "Section 4.3 *Liquidity risk*".

Table 4.1.1

BALANCE SHEET OF THE BANKING SYSTEM (to be continued)
On a consolidated basis

	EUR millions			Structure (as a percentage of total assets)			Year-on year rates of change (per cent)			Half-year rates of changes (per cent)	
	2008		2009	2008		2009	2008		2009	2008	2009
	Jun.	Dec.	Jun.	Jun.	Dec.	Jun.	Jun.	Dec.	Jun.	H2	H1
Cash and claims on central banks	7 920	9 920	9 424	1.7	2.1	1.9	38.0	5.8	19.0	25.3	-5.0
Claims on other credit institutions	4 205	4 666	4 926	0.9	1.0	1.0	10.7	4.2	17.1	11.0	5.6
Investment in credit institutions	38 288	29 756	37 750	8.3	6.2	7.7	-4.9	-22.7	-1.4	-22.3	26.9
of which: Central Banks	419	802	8 421	0.1	0.2	1.7	-43.6	-75.6	-	91.1	950.4
Financial assets at fair value through profit or loss	24 673	21 041	21 108	5.3	4.4	4.3	-8.7	-9.1	-14.4	-14.7	0.3
Equity	1 410	1 145	1 730	0.3	0.2	0.4	-9.2	-32.7	22.7	-18.8	51.1
Debt instruments	13 536	9 015	9 317	2.9	1.9	1.9	-23.0	-33.4	-31.2	-33.4	3.4
Other	9 727	10 881	10 061	2.1	2.3	2.0	23.1	37.5	3.4	11.9	-7.5
Available-for-sale financial assets	27 983	27 033	31 400	6.0	5.7	6.4	12.5	-0.7	12.2	-3.4	16.2
Equity	6 336	5 669	6 361	1.4	1.2	1.3	-20.0	-28.6	0.4	-10.5	12.2
Debt instruments	19 832	19 533	23 185	4.3	4.1	4.7	21.6	5.6	16.9	-1.5	18.7
Other	1 816	1 831	1 853	0.4	0.4	0.4	185.9	135.1	2.1	0.9	1.2
Investment held to maturity	2 296	5 009	6 052	0.5	1.1	1.2	40.6	245.3	163.6	118.1	20.8
Hedging derivatives	1 599	2 304	1 810	0.3	0.5	0.4	-22.4	66.4	13.2	44.1	-21.5
Investment in subsidiaries	3 293	2 763	2 868	0.7	0.6	0.6	-9.7	-26.7	-12.9	-16.1	3.8
Net credit to customers	308 816	321 466	318 406	66.6	67.4	64.9	13.5	9.6	3.1	4.1	-1.0
Gross credit	316 106	331 007	329 468	68.2	69.4	67.1	13.4	10.3	4.2	4.7	-0.5
of which: overdue credit to customers	6 213	7 144	10 041	1.3	1.5	2.0	23.7	41.9	61.6	15.0	40.6
Impairment and value adjustments in credit to customers	-7 290	-9 540	-11 062	-1.6	-2.0	-2.3	9.0	41.0	51.7	30.9	16.0
Securitised non-derecognised assets	23 018	28 260	32 893	5.0	5.9	6.7	20.4	42.2	42.9	22.8	16.4
of which: credit to customers	23 018	27 769	32 362	5.0	5.8	6.6	20.4	39.3	40.6	20.6	16.5
Tangible and intangible assets	5 581	5 916	5 906	1.2	1.2	1.2	6.2	7.0	5.8	6.0	-0.2
Other assets	16 058	18 771	18 323	3.5	3.9	3.7	-4.5	21.3	14.1	16.9	-2.4
Total assets	**463 730**	**476 905**	**490 867**	**100.0**	**100.0**	**100.0**	**9.8**	**7.5**	**5.9**	**2.8**	**2.9**

Table 4.1.1

BALANCE SHEET OF THE BANKING SYSTEM (continued)
On a consolidated basis

	EUR millions			Structure (as a percentage of total assets)			Year-on year rates of change (per cent)			Half-year rates of changes (per cent)	
	2008		2009	2008		2009	2008		2009	2008	2009
	Jun.	Dec.	Jun.	Jun.	Dec.	Jun.	Jun.	Dec.	Jun.	H2	H1
Resources from central banks	6 898	14 407	13 046	1.5	3.0	2.7	191.2	151.4	89.1	108.8	-9.4
Resources from other credit institutions	74 729	74 305	73 405	16.1	15.6	15.0	2.6	2.7	-1.8	-0.6	-1.2
Resources from customers and other loans	203 277	217 889	217 312	43.8	45.7	44.3	13.3	11.4	6.9	7.2	-0.3
Liabilities represented by securities	105 403	94 219	108 696	22.7	19.8	22.1	9.9	-3.2	3.1	-10.6	15.4
Subordinated liabilities	11 455	11 842	12 098	2.5	2.5	2.5	6.9	1.3	5.6	3.4	2.2
Financial liabilities held for trading	12 060	17 152	17 491	2.6	3.6	3.6	22.0	71.4	45.0	42.2	2.0
Hedging derivatives	2 432	2 493	1 488	0.5	0.5	0.3	-12.4	23.7	-38.8	2.5	-40.3
Liabilities for non-derecognised securitisation operations	4 501	4 076	3 817	1.0	0.9	0.8	-18.6	-21.1	-15.2	-9.4	-6.3
Other liabilities	14 571	14 199	14 214	3.1	3.0	2.9	-5.7	-7.1	-2.4	-2.6	0.1
Total liabilities	435 327	450 580	461 566	93.9	94.5	94.0	10.2	8.5	6.0	3.5	2.4
Capital	**28 403**	**26 325**	**29 300**	**6.1**	**5.5**	**6.0**	**3.6**	**-6.9**	**3.2**	**-7.3**	**11.3**
Total equity and liabilities	**463 730**	**476 905**	**490 867**	**100.0**	**100.0**	**100.0**	**9.8**	**7.5**	**5.9**	**2.8**	**2.9**
Memo:											
Credit to customers including non-derecognised securitisation operations	339 124	358 776	361 830	73.1	75.2	73.7	13.8	12.1	6.7	5.8	0.9
Credit to customers not represent by securities including non-derecognised securitisation operations	330 052	342 421	345 700	71.2	71.8	70.4	13.1	9.5	4.7	3.7	1.0
Domestic credit to customers not represent by securities including non-derecognised securitisation operations	280 890	290 270	293 288	60.6	60.9	59.7	10.1	8.3	4.4	3.3	1.0

Source: Banco de Portugal.

the same year.[11]

The credit to customers aggregate considered in the banking system's balance sheet, on a consolidated basis, includes credit not represented by securities, provided by resident banks and the foreign subsidiaries of Portuguese banks and other credit and receivables securitised. Credit to customers' portfolio, over the recent period, was affected by several accounting reclassifications made by domestic banking groups, from debt securities to customers' securitised credit portfolios, which distort the evolution of the referred to credit aggregate. If only the credit to customers aggregate not represented by securities, including non derecognised securitisation operations, is considered, the year-on-year rate of change in June 2008 is 4.7 per cent (9.5 per cent in December 2008). It should be noted that the deceleration, noted in 2009, was common to the domestic and external lending operations of Portuguese banks. The trend on bank loans to the resident non-financial private sector in the domestic market continued to be one of deceleration, as noted in second half 2008, particularly at the end of the year (9.9 per cent at the end of 2007, 7.1 per cent at the end of 2008 and 2.8 per cent in September 2009).[12] This evolution should be considered in light of the contraction of economic activity, translating into an estimated fall of 2.0 per cent in nominal GDP, in 2009 (year-on-year change of -2.8 per cent in first half 2009), after recording growth of 2.1 per cent in 2008 and, on the other hand, in a framework of the continued trend towards a more restrictive approach to lending, noted in the context of the international financial markets turmoil, although less marked than in 2009.[13] The evolution of lending to the non-financial private sector was more consentaneous with the usual determinants (interest rates and expenditure components) in 2009, with the exception of loans to households for consumption and other purposes which witnessed a reversal of the situation noted over the preceding two years, characterised by a higher level of growth than underlying the evolution of the usual determinants.[14] The slowdown in the rate of growth of loans to households up to September 2009 was part of the trend beginning mid 2006, accentuating since the second quarter of 2008, when the rate of change on loans for consumption and other purposes peaked during the year. In turn, the trend on loans to non-financial companies, up to September 2009, remained one of significant deceleration noted starting last quarter 2008, after the strong growth recorded over most of 2008. However, this slowdown was slightly compensated by the amount of debt securities issued by non-financial companies, mostly medium to long term, which continued to be, significantly, subscribed by Portuguese banks (and also by non-residents).[15]

There was a 2.4 per cent decrease in the value of Portuguese banks' securities and financial investments portfolios, in year-on-year terms, in June 2009.[16] The strong reduction in the portfolio value of financial assets at fair value through profit or loss contributed to this development. The reduction resulted, to a large extent, from the reductions in the portfolio value of foreign public debt securities and in the portfolio value of resident non-subordinated private issued debt. On the contrary, there was considerable growth in the value of the available for sale assets and held to maturity investments portfolios. In the former case, reference should be made to the increase in the value of Portuguese and foreign public debt instrument portfolios. In turn, to the increase in the value of held to maturity

(11) For more details on the evolution of the Portuguese banking system's own funds adequacy ratio see "Section 4.2 *Capital adequacy*".

(12) The evolution of lending to the non-financial private sector is underpinned by the information on the set 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 relationship between outstanding amounts of bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions (which are calculated using the outstanding amounts corrected for reclassifications, write- offs, exchange rate changes and price revaluations).

(13) For more details on the evolution of economic activity see article "*The Portuguese Economy in 2009*" in this Bulletin.

(14) For more details on the evolution of credit to customers see "Box 2 *Recent developments and determinants of bank loans to the non-financial private sector*" in this Bulletin.

(15) For more details on the evolution of non-financial companies funding see "Section 3 *The financial situation of the non-financial private sector*" and "Section 4.4 *Credit risk*".

(16) The securities and financial investments portfolio includes financial assets 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 subsidiaries and net hedging derivatives.

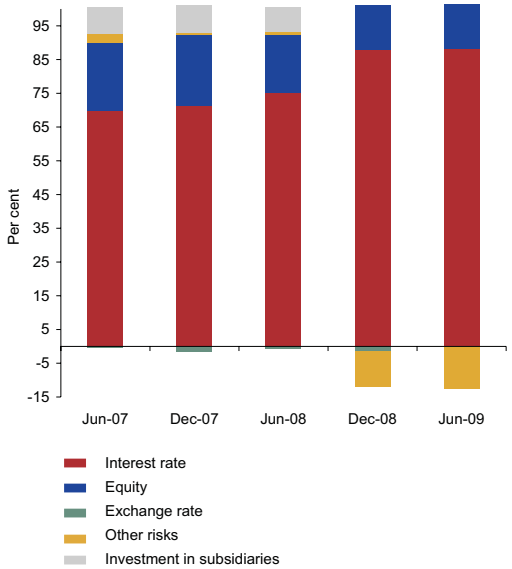
investments portfolio was particularly relevant the contribution made by the debt securities issued by private non-residents. It should be remembered that the strategy adopted by one of the main Portuguese financial groups made a particularly valuable contribution to the increase in the value of this portfolio. The more favourable behaviour of stock markets, from mid March 2009, contributed towards a certain recovery in the value of equity securities classified in the available for sale financial assets portfolio. It should be remembered that in 2008 and particularly in the second half of the year, there was a sharp drop in the value of the securities and financial investments portfolio, essentially reflecting the upheavals in financial markets and also the reclassification of financial assets from the available for sale financial assets to the securities customer portfolio by two Portuguese banking groups.

In terms of a breakdown of the financial assets portfolio by risk factor, financial instruments whose main source of risk comprises changes in interest rates, continue to represent the portfolio's largest component part, reflecting the proportion of debt securities in banks' portfolios (Chart 4.1.1). In the case of interest rate risk, reference should be made to securities issued by public entities, particularly Portuguese public debt securities and those of resident private issuers (Chart 4.1.2).

In June 2009, there was a huge increase in the value of central banks assets position. This evolution translated the use of the ECB's deposit facility, associated with Portuguese banks' participation in the

Chart 4.1.1

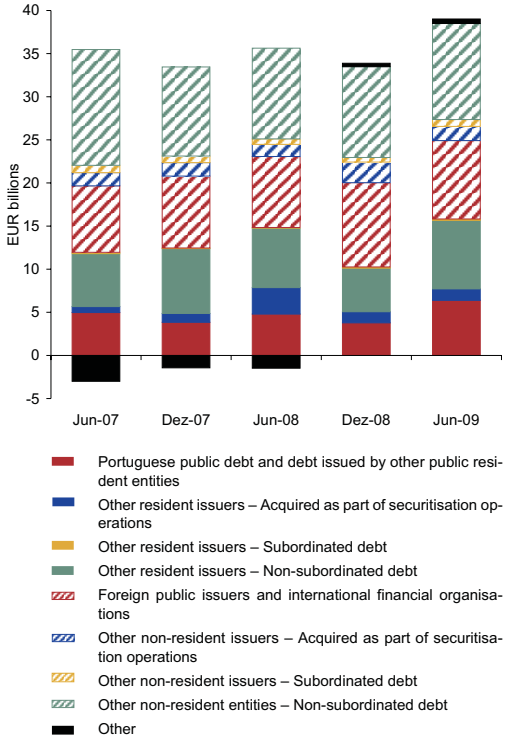
STRUCTURE OF FINANCIAL ASSET PORTFOLIO ACCORDING TO RISK SOURCE



Source: Banco de Portugal.
Note: The securities and financial investments portfolio includes financial assets at fair value through profit or loss, including trading derivatives (net of financial liabilities held for trading), available for sale financial assets, investments held to maturity, investments in subsidiaries and net amounts of trading derivatives.

Chart 4.1.2

INTEREST RATE RISK
Breakdown of portfolio



Source: Banco de Portugal.
Notes: The securities and financial investments portfolio includes financial assets at fair value through profit or loss, including trading derivatives (net of financial liabilities held for trading), available for sale financial assets, investments held to maturity, investments in subsidiaries and net amounts of trading derivatives.

liquidity injection operation for a maturity of more than one year, at the end of June 2009. According to information available for the post June 2009 period, the value of central banks assets position has been falling.[17]

A gradual recovery of financial markets has been witnessed during the course of 2009. Contributory factors were also the fall in interest rates, in several segments financed by the banks. In this context, there was a significant resumption of banks' issues of debt securities, particularly since the end of March, a proportion of which was placed with the customer base. First quarter 2009 still witnessed significant amounts of state-backed issues followed by sparing use of state guarantees, with an increase in the volume of non-guaranteed issues. Only around EUR 5 billion of the EUR 20 billion in state guarantees for Portuguese banks' issues of securitised debt in euros, has, to-date been taken up. Around 87 per cent of the said amount comprised guarantees issued up to mid January.[18] The year-on-year change in debt securities, in June 2009, was 3.1 per cent with a rate of change of 15.4 per cent over the end of 2008. It should be remembered that, at end 2008, in an environment of a worsening financial crisis, there was a significant fall in liabilities represented by securities, which led to a 10.6 per cent decrease in second half 2008. In the first six months of 2009, the issue of debt securities (net of redemptions) was, once again, the main source of finance for the expansion of the activity of Portuguese banks, not having been associated, in this period, with the increase in the balance associated with credit securitisation operations.

There was a year-on-year change of 3.2 per cent in the capital position in June 2009. In this context, there was a slight increase in the intensity of Portuguese banks' use of own funds, i.e. an increase of financial leverage defined as being the ratio between total assets and own funds. It should be stated that a consideration of the ratio between tangible capital and tangible assets leads to the same conclusion.[19] The evolution of own funds reflected the capital increases made by several institutions. The overall adequacy ratio of the Portuguese banking system, on a consolidated basis which takes assets' risk profile into consideration, was 10.3 per cent, in June 2009 whereas the ratio which only considers original own funds (Tier I) was 7.6 per cent. The core capital ratio, in turn, which comprises a more restricted indicator of institutions' regulatory capital (excluding hybrid instruments from basis own funds) was 6.4 per cent.[20]

There was a year-on-year rate of change in customer resources and other loans of 6.9 per cent, in June 2009, and a rate of change of -0.3 per cent over December 2008. Considering a broader aggregate which also includes securities issued by banks and placed with the customer base, the year-on-year rate of change was 8.0 per cent in June 2009 and 1.0 per cent over December 2008.[21] It should be remembered, in the context of financial market instability and associated difficulties in raising finance in the international wholesale debt markets that banks adopted more competitive strategies to take in customer deposits, translating into a smaller gap between deposit rates and money market interest rates. The slowdown in total deposits, in first half 2009, was, to a large extent, associated with the deceleration in the deposits of resident households, particularly deposits with an agreed maturity. It should, however, be stressed the significant acceleration in deposits with a maturity of more than 2 years which constitutes a favourable development in terms of liquidity owing to the greater sta-

(17) For more details on the evolution of central banks assets position see "Section 4.3 *Liquidity risk*".

(18) For more details on the evolution of state-backed securities issues see "Section 4.3 *Liquidity risk*".

(19) The tangible assets total excludes positive differences in consolidation (Goodwill) and other liquid intangible assets, among them those whose value may decrease in stress situations and can impact on normal banking operations and the banks' performance.

(20) It should, however, be noted that the banking system's own funds adequacy ratio continued to be negatively affected by the particularly adverse financial situation of the BPN and BPP banks. Excluding the amounts relating to such institutions, the overall adequacy ratio, Tier I and Core Capital ratios were 11.3, 8.6 and 7.4 per cent, respectively. For more details on the evolution of the Portuguese banking system's own funds adequacy ratio see "Section 4.2 Capital adequacy".

(21) For more details on the evolution of customer resources see "Section 4.3 *Liquidity risk*".

bility of these resources. The slowdown in total bank deposits should also be considered in line with the developments in terms of total individual households' investments. In first half 2009, these predominantly consisted of debt securities (mainly issued by the banks), life insurance and pensions funds. Such a development reflects greater risk aversion, in comparison to the period preceding summer 2007.[22] The most recent information suggests that there may have been a certain decrease in risk aversion, starting second quarter, with a positive level of net subscriptions to mutual funds, notably treasury and money market funds.

Resources obtained from central banks, in June 2009, remained relatively stable in comparison to the end of 2008. The credit operations balance from January to May 2009, was, however, clearly lower than at the end of 2008. June witnessed a significant increase in resources obtained to a level slightly lower than the level in December 2008. However, notwithstanding the virtual stability noted in a comparison between the end of first half 2009 and the end of the preceding year, there was a significant increase in the maturity of such resources and a clear reduction in the uncertainty associated with obtaining and renewing such resources. This situation reflected the ECB's changes to monetary policy operational procedures in the context of the current financial crisis, in which special reference should be made – owing to their impact in terms of the liquidity management of most financial institutions – to the broadening of assets eligible as collateral in liquidity injection operations, the guarantee of total liquidity at a fixed rate and, in 2009, a significant lengthening of the maturities of liquidity injection operations (of up to 1 year) and the start-up of a covered bonds acquisition programme. The participation of Portuguese banks in liquidity injection operations with a maturity of one year, particularly the operation which took place at the end of June 2009, should be assessed in light of the risk aversion which was present at the time and the absence of expectations concerning additional reductions of ECB interest rates.

Activity in the Portuguese financial system is expected to continue to be affected by an unfavourable macroeconomic scenario, characterised by a very low level of use of its production capacity and high unemployment. Available information suggests that economic recovery, if it happens in the next few quarters, will be very gradual and limited, in a framework still characterised by a certain level of disruption in financial markets. An additional deceleration in the activity of the banks is, accordingly, likely to occur. The most recent loan dynamics (assessed on the basis of annualised quarterly rates of change, calculated on the basis of non-seasonal values) clearly indicate an additional reduction in the annual rate of change in credit to non-financial companies, notwithstanding the fact that the indicators on loans to households suggest a stabilising of annual rates of change at reduced levels. In turn, a slowdown in customer deposits is also expected.

International exposure of domestic banking system

The value of Portuguese banking groups' foreign assets, on a consolidated basis, at the end of first half 2009, was up 7.2 per cent over June 2008 (Table 4.1.2).[23] In such a context and as noted at the end of 2008, reference should be made to the changes in the structure of international assets in terms of maturity and the international sector. There was, accordingly, a significant increase in the proportion of assets with a maturity of more than two years, with the value of such assets, at the end of first half 2009 being up by around 30 per cent over June 2008 and an increase in the proportion of the non-banking

(22) For more details see "Section 3 *Financial situation of the non-financial private sector*".

(23) External assets, according to the definitions established by the Bank for International Settlements (BIS) correspond to the assets held by residents outside the economy of the headquarters of the banks/banking groups under consideration (in this case outside Portugal). International assets are part of the external assets and correspond to cross-border assets (whether belonging to the headquarters or external subsidiaries of banks/banking groups) and to local assets of subsidiaries abroad denominated in a currency other than the local currency. For more detail on the concepts herein referred to see "Box 5.3 *International exposure of the banking system*", in the 2004 *Financial Stability Report.*

Table 4.1.2

CONSOLIDATED FOREIGN CLAIMS FROM THE PERSPECTIVE OF IMMEDIATE RISK – STRUCTURE
Per cent

	Dec. 2007	Jun. 2008	Dec. 2008	Jun. 2009 (p)
Total (10^6 €)	93 586	102 780	106 059	110 164
As a percentage of total assets	26.7	28.2	28.2	28.2
International claims	70.3	71.9	70.9	71.4
Maturity				
Up to 1 year	30.4	33.6	24.2	22.3
From 1 up to 2 years	2.4	4.0	4.7	4.2
Over 2 years	31.4	30.6	34.8	37.1
Other	5.9	3.8	7.3	7.7
Institutional borrower				
Banks	30.5	32.8	22.4	20.6
Public sector	3.3	2.8	2.3	2.8
Non-bank private sector	36.0	35.9	45.6	47.6
Other	0.5	0.4	0.7	0.3
Geographical borrower				
Developed countries	48.6	51.1	48.3	52.1
Offshore centres	6.9	6.0	7.6	6.2
Developing Europe	5.3	5.8	6.3	5.5
Other	9.4	9.0	8.7	7.5
Local claims in local currency	29.7	28.1	29.1	28.6
Geographical borrower				
Developed countries	21.3	20.1	21.0	20.8
Offshore centres	0.5	0.0	0.4	0.4
Developing Europe	5.1	5.2	4.8	4.4
Other	2.8	2.7	2.8	2.9
Memo:				
Local liabilities in local currency (10^6 €)	21 445	21 580	21 472	23 007

Source: Banco de Portugal.
Note: (p) provisional figures.

private sector. No significant differences were recorded in terms of geographical counterparty over June 2008, although there was a higher level of exposure to developed countries over December 2008, with the banking system's exposure to developing countries in Europe remaining limited and without any systemic impact.

Profitability

In first half 2009, the Portuguese banking system's income before tax and minority interests, on a consolidated basis, was down 28.0 per cent over first half 2008 (Table 4.1.3). This evolution is visible in the decrease of both return on assets (ROA) and return on equity (ROE) over the same period last year, with respective indicators of 0.51 and 9.0 per cent, at the end of the first half (Chart 4.1.3). Excluding the *BPN* and *BPP* banks, these indicators stood at 0.70 e 11.3 per cent, respectively. In comparison to second half 2008 the profitability indicators presented higher levels, as the increase in appropriations for provisions and credit impairment had already occurred in second half 2008, set against the backdrop of an intensifying financial crisis and its interaction with economic activity.

The return on assets distribution curve, in first half 2009, moved to the left in comparison to the same period 2008, accompanied by a significant dispersion of the indicator. In turn, it shifted slightly to the

Table 4.1.3

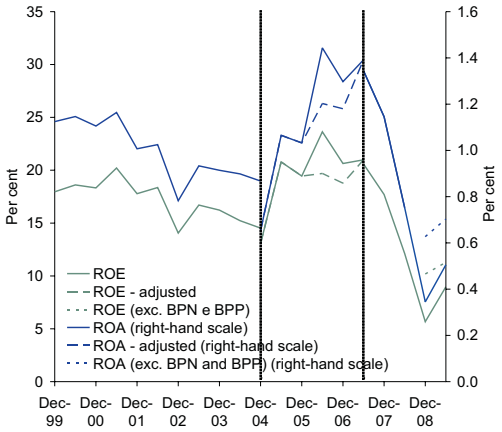
PROFIT AND LOSS ACCOUNT OF THE BANKING SYSTEM
Base consolidada

	EUR millions				Structure (as a percentage of average assets) [a]				Year-on-year rates of change (per cent)			
	2008	2008H1	2008H2	2009H1	2008	2008H1	2008H2	2009H1	2008	2008H1	2008H2	2009H1
1.Interest income	31 943	15 203	16 740	12 974	6.92	6.77	7.07	5.40	22.9	26.0	20.2	-14.7
2.Interest expenses	23 079	10 894	12 185	8 681	5.00	4.85	5.15	3.61	29.4	35.4	24.5	-20.3
3.Financial margin (1-2)	**8 864**	**4 309**	**4 555**	**4 293**	**1.92**	**1.92**	**1.92**	**1.79**	**8.6**	**7.1**	**10.0**	**-0.4**
4.Income from capital instruments	283	220	63	183	0.06	0.10	0.03	0.08	28.4	39.3	0.9	-17.1
5.Income from services and commissions (net)	3 346	1 637	1 708	1 660	0.73	0.73	0.72	0.69	4.2	11.8	-2.2	1.4
6.Income from financial assets and liabilities measured at fair value through profit and loss	27	-214	241	357	0.01	-0.10	0.10	0.15	-	-	-	-
7.Income from available-for-sale financial assets	537	406	131	88	0.12	0.18	0.06	0.04	-50.3	1.2	-80.7	-78.3
8.Income from foreign exchange revaluation	172	80	92	82	0.04	0.04	0.04	0.03	-57.1	-28.2	-68.2	2.4
9.Income from the sale of other financial assets	210	34	176	177	0.05	0.02	0.07	0.07	28.8	-82.3	-724.7	421.6
10.Other operating profit and loss	670	363	308	276	0.15	0.16	0.13	0.11	-5.6	12.1	-20.4	-23.8
11.Gross income (3+4+5+6+7+8+9+10)	**14 109**	**6 835**	**7 273**	**7 116**	**3.06**	**3.05**	**3.07**	**2.96**	**2.4**	**-2.0**	**6.9**	**4.1**
12.Staff costs	4 190	2 063	2 127	2 097	0.91	0.92	0.90	0.87	3.3	9.5	-2.0	1.6
13.General administrative costs	3 011	1 438	1 574	1 354	0.65	0.64	0.66	0.56	4.9	7.5	2.5	-5.8
14.Depreciation and amortisation	637	301	336	320	0.14	0.13	0.14	0.13	9.5	10.4	8.8	6.6
15.Provisions net of refunds and write-offs	615	36	580	282	0.13	0.02	0.24	0.12	176.4	-74.4	591.0	693.8
16.Impairment losses and other net value adjustments	4 062	1 360	2 702	1 859	0.88	0.61	1.14	0.77	135.2	65.6	198.4	36.7
17.Negative consolidation differences	0	-1	1	0	0.00	0.00	0.00	0.00	-	-	-	-
18.Appropriation of income from associates and joint ventures (equity method)	-2	48	-50	12	0.00	0.02	-0.02	0.00	-	-76.1	-	-75.2
19. Income before taxes and minority interests (11-12-13-14-15-16-17+18)	**1 592**	**1 687**	**-95**	**1 215**	**0.34**	**0.75**	**-0.04**	**0.51**	**-66.8**	**-38.1**	**-104.6**	**-28.0**
20.Taxes on profit	619	361	258	301	0.13	0.16	0.11	0.13	-21.1	-24.2	-16.4	-16.6
21.Income before minority interests (19-20)	**973**	**1 326**	**-353**	**914**	**0.21**	**0.59**	**-0.15**	**0.38**	**-75.8**	**-41.0**	**-120.0**	**-31.1**
22.Minority interests	474	294	180	305	0.10	0.13	0.08	0.13	-30.8	-24.4	-39.1	3.8
23.Net profit and loss (21-22)	**498**	**1 032**	**-534**	**609**	**0.11**	**0.46**	**-0.23**	**0.25**	**-85.0**	**-44.5**	**-136.3**	**-41.0**

Source: Banco de Portugal.
Note: (a) Half-year data are annualised.

Chart 4.1.3

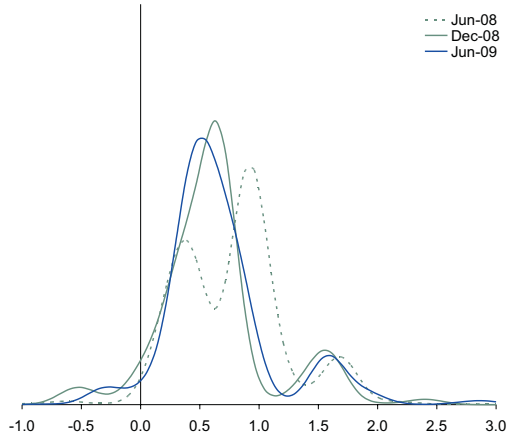
RETURN ON ASSETS (ROA) AND RETURN ON EQUITY (ROE)



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 an increase in the number of institutions under analysis. The adjusted profitability indicators are obtained after deducting the impact of the restructuring of participating interests in companies (namely, insurance companies) by one of the major banking groups considered from the profit and loss account.

Chart 4.1.4

RETURN ON ASSETS
Empirical distribution



Source: Banco de Portugal.
Note: Empirical distribution obtained by the use of a Gaussian Kernel in which institutions are weighted by assets; the indicator is calculated on the basis of results before taxes and minority interests.

right in comparison to the end of the preceding year (Chart 4.1.4).

The significant increase in provisions and losses through impairment, associated mainly with customer credit and the evolution of the financial margin were particularly relevant factors in the decrease in returns on assets in comparison to first half 2008, in the context of the current economic and financial crisis. Moving in the opposite direction, i.e. making a favourable contribution to the change in return on assets, were the evolution of income from financial operations and the evolution of operational costs.[24] Finally the remaining income-related elements made a negative contribution to the evolution of return, albeit relatively insignificant (Chart 4.1.5).

The year-on-year change in provisions and losses through impairment, in first half 2009, was 53.4 per cent, translating into a contribution of 27 basis points to the decrease in return on assets. The part relating to credit to customers contributed with 25 basis points to the decrease.[25] The significant increase in impairment losses associated with credit to customers essentially derived from the occurrence of developments in two major Portuguese banking groups. Gains from reductions of impairment on available for sale financial assets resulted, in turn, from the considerable decrease in impairment associated with the issue of equity instruments by resident entities. Owing to the highly unfavourable developments in stock markets, since the start of the financial crisis, several banks decided to recognise unrealised losses on available for sale share portfolios in the profit and loss account. This possibility is provided for in the International Accounting Standards (IAS 39). Data for first half 2009 are, accordingly, no longer affected by the preceding value losses in these positions and, additionally, the recovery of stock market prices, starting March 2009, enables such losses to be partly reversed.

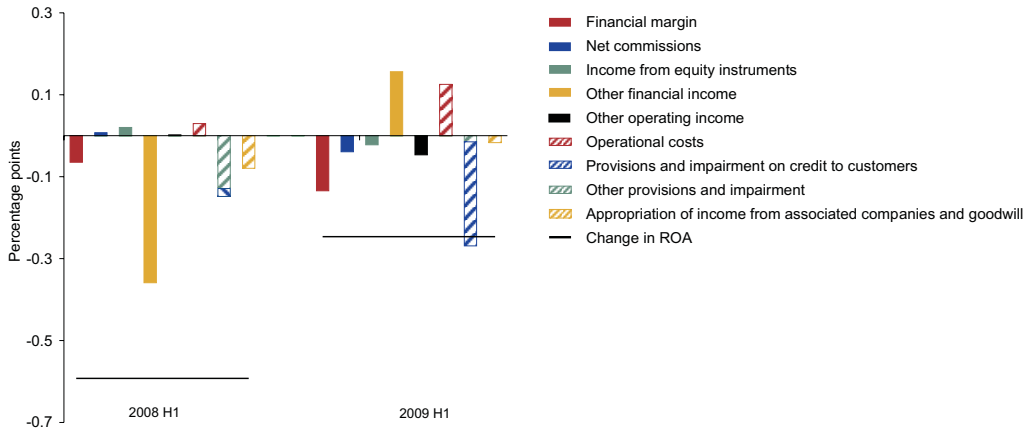
(24) Income from financial operations correspond to the sum of income from financial assets and liabilities at fair value through profit or loss, income from available for sale financial assets, income from foreign exchange revaluations and income from the sale of other financial assets.

(25) t should be noted that only potential gains and losses of financial assets and liabilities valued at fair value through profit or loss are recorded on the profit and loss account. Changes in the value of available for sale financial assets, despite being marked-to-market in the balance sheet, only affect income for the year when they are realised (*i.e.* sold) or through the recognition of impairment. Unrealised value changes on such assets are recorded in the own funds reserve accounts.

Chart 4.1.5

YEAR-ON-YEAR CHANGE IN RETURN ON ASSETS – ROA

Breakdown contributions



Source: Banco de Portugal.
Note: Return on assets is calculated by taking into account income before taxes and minority interests.

The financial margin negative evolution, as the main component part of income (comprising around 60 per cent of net operating income) also contributed (13 basis points) to the decrease in return on assets. Financial margin was down 0.4 per cent in first half 2009, in comparison to the same period 2008. As opposed to the preceding year, the unfavourable effect relating to the differential between lending and borrowing interest rates was the determining element behind this evolution, as the volume effect had the opposite effect, *i.e.* of increasing the financial margin. In turn, the decrease in the spread on implicit average interest rates in the outstanding amounts essentially reflected the sharp reduction in the differential between the implicit rates on credit and customer deposits (Table 4.1.4). This reduction was partially offset by the increase in the differential between implicit interest rates on lending and borrowing associated with securities, particularly resulting from the decrease in the implicit rate on debt securities. A contributory factor to this development was, essentially, the fact that the largest proportion of debt securities responsibilities continues to be at a variable rate with most of them being linked to Euribor.

The significant decrease in the differential between implicit interest rates on credit and customer deposits in first half 2009, is visible in the evolution of the differential between interest rates on lending and borrowing on customer operations as set out in the Monetary and Financial Statistics, which, up to September 2009 accentuated the downward trend noted since the end of 2008. The decrease, in the referred to period, reflected the increase, and in most recent months a certain stabilisation, of the spread on lending operations and the continual decrease of the spread on deposits operations[26]. Reference should also be made to the fact that, since April 2009, the spread on deposit operations has been negative, in contrast to the last ten years (Chart 4.1.6). It should also be noted that during the course of 2009, the level of interest rates on loans tended, in general terms, to be in line with those underpinning long term determinants, i.e. money market interest rates, taking into account the time-lags in the transmission thereof, except for interest rates of loans to households for consumption and other purposes which were higher than this level.[27]

(26) For more details on the evolution of spreads on lending and deposits operations see "Section 3.1 *Monetary and financial conditions of the Portuguese economy*", in the text "*The Portuguese Economy in 2009*" in this Bulletin.

(27) See "Box 1 *Determinants of the recent pass-through of money market rates to interest rates on loans to the non-financial private sector*" in this Bulletin.

Table 4.1.4

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

Per cent

	2001	2002	2003	2004	2005	2006	2007	2008	2007		2008		2009
									H1	H2	H1	H2	H1
Interest-bearing assets	5.44	4.24	3.88	3.30	4.22	4.56	5.48	5.93	5.23	5.72	5.83	6.04	4.42
of which:													
Interbank assets [b]	4.09	2.79	2.23	1.77	2.69	3.71	4.16	4.31	3.92	4.39	4.45	4.22	2.33
Non-interbank assets													
Credit	6.26	4.94	4.60	4.00	4.56	4.86	5.87	6.33	5.64	6.08	6.17	6.49	4.83
Securities	5.05	4.08	3.96	2.94	4.85	4.52	1.91	2.26	5.33	5.95	6.12	6.63	5.59
Interest-bearing liabilities	3.59	2.61	2.28	1.87	2.32	2.71	3.49	3.92	3.23	3.73	3.82	4.02	2.68
of which:													
Interbank liabilities [c]	4.42	3.00	2.42	2.02	2.89	3.58	4.39	4.64	4.13	4.66	4.65	4.64	2.45
Non-interbank liabilities													
Deposits	2.81	2.10	1.80	1.45	1.60	1.80	2.46	3.04	2.26	2.65	2.90	3.17	2.40
Securities	4.12	3.17	3.12	2.46	3.03	3.72	4.38	4.79	4.02	4.73	4.63	4.99	3.16
Subordinated liabilities	5.48	4.53	4.30	3.72	4.61	4.82	5.30	5.55	5.26	5.32	5.56	5.50	4.50
Spreads (percentage points):													
Interest-bearing assets – Interest-bearing liabilities	1.86	1.63	1.60	1.43	1.90	1.84	1.99	2.01	2.00	1.99	2.01	2.02	1.75
Credit-deposits	3.45	2.84	2.81	2.56	2.96	3.05	3.41	3.29	3.39	3.43	3.27	3.32	2.42

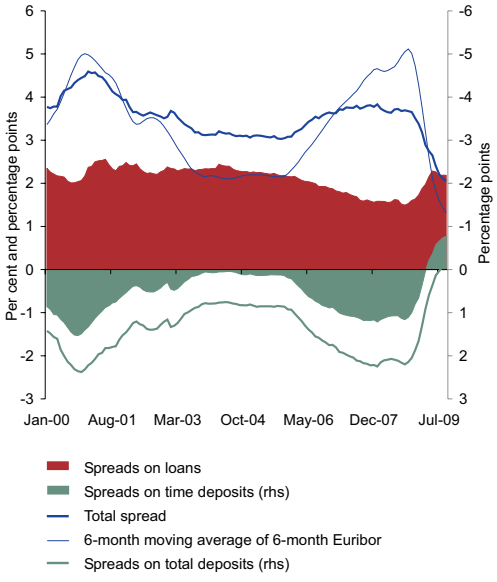
Source: Banco de Portugal.
Notes: The break in the series in 2004 corresponds to the implementation of the International Accounting Standards, which also implied a redefinition of the group of banking institutions under analysis. In turn, the break in the series in 2007 corresponds to a widening of the 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.

A gradual recovery in international financial markets was noted, starting March 2009, both with higher prices in stock markets and a compression of risk premiums in secondary securitised debt markets (assessed in terms of the differential between yields on debt issues by financial institutions and corresponding yields on sovereign debt). Government and monetary authority programmes in support of financial institutions continue to be available at the same time, with the aim of ensuring adequate liquidity conditions, facilitating banks' capacity to raise finance in securitised debt markets and providing financial institutions with the additional capital need to continue to meet the economy's borrowing requirements.[28] It should be pointed out, however, that Portuguese institutions' use of the support measures defined by the Portuguese government has been very limited.[29] Notwithstanding the greater or lesser use of these support schemes, the main effects of such measures has been to make markets aware of governments' willingness to help minimise the possibility of the occurrence of banking crises, in specific terms, and to support the real economy, in general terms, in a context of the sharp downturn in economic activity noted since last quarter 2008. In this context, there was a significant resumption in issues of debt securities, particularly since the end of the first quarter.

Up to third quarter 2008, higher interest paid on deposits with an agreed maturity was not immediately visible in the decrease in spreads on deposits with an agreed maturity of up to two years (Chart 4.1.7). In addition to the usual gradual approach to the transmission of changes in short term interest rates in

Chart 4.1.6

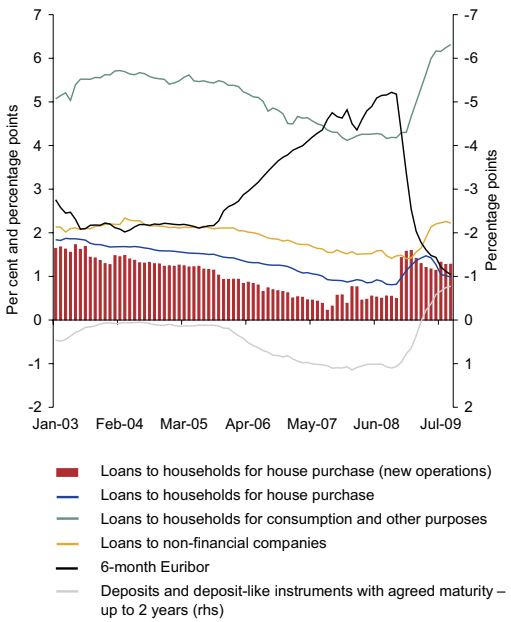
INTEREST RATE SPREADS IN OPERATIONS WITH CUSTOMERS



Source: Banco de Portugal.
Notes: The spread on lending operations was calculated as the difference between the interest rates on outstanding amount of loans (supplied by the Monetary and Financial Statistics) and the 6-months moving average of 6-month Euribor, whereas the spread on deposits operations is the difference between the 6-months moving average of 6-month Euribor and the interest rates on outstanding amounts of deposits. The total spread corresponds to the difference between the interest rate on loans and interest rate on deposits. Most recent figures: September 2009.

Chart 4.1.7

BANKING INTEREST RATE MARGINS OVER MONEY MARKET INTEREST RATES



Sources: ECB and Banco de Portugal.
Notes: The interest rate margin on loans is calculated as the difference between the interest rate on oustanding amounts and the 6-months moving average of 6-month Euribor. In the case of new operations, the interest rate margin is the difference between the interest rate on new operations and 6-month Euribor. In the case of deposit operations the spread is defined as the difference between the the 6-months moving average of 6-month Euribor and interest rate on deposits. Most recent figures: September 2009.

(28) For a description of monetary policy and government support measures to the financial system see "Box 2.1 *Measures taken by the Portuguese authorities relating to the financial system during the international financial crisis*" in the 2008 *Financial Stability Report*.

(29) For more details on financial institutions' use of the Portuguese government's support measures see "Section 4.3 *Liquidity risk*" and "Section 4.2 *Capital adequacy*".

the money market to banking interest rates on new operations, the higher rates benefited only a fraction of the total deposits, particularly new deposits made in the meantime or renewals, involving the renegotiation of a rate through customers' active involvement.[30] This was followed by a continual decrease in the spread on deposit operations with an agreed maturity of up to two years, with reference being made, as already stated, to the interest rate on deposits being higher than the money market rate since April 2009. Notwithstanding the progressive normalisation of international financial market conditions, taking in customer deposits remains an important source of funding for the Portuguese banking system, although this is slowing down.

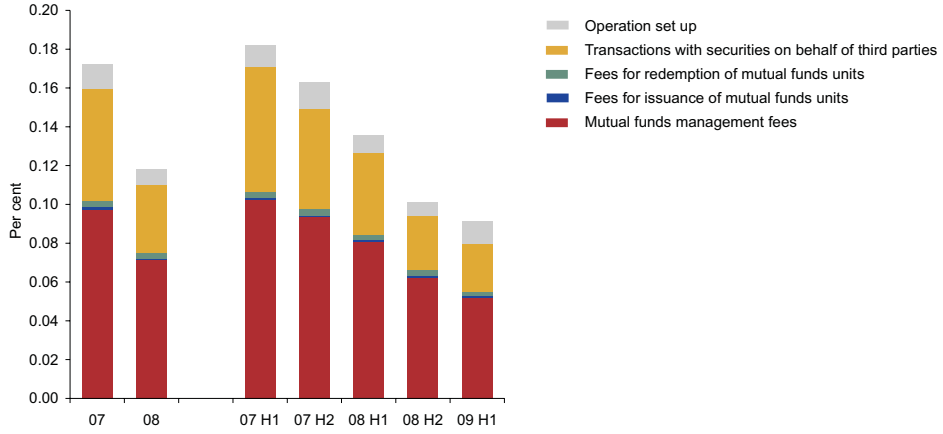
Similarly, the evolution of interest rate spreads on outstanding amounts of lending operations reflected such inertia factors.[31] Both spreads on mortgage lending and on consumption and other purposes broadened considerably starting from the end of 2008. There was also an increase in interest rate spreads on outstanding amounts of loans to non-financial companies during the course of 2009, totalling in September 2009 an amount of slightly less than the maximum observed over the last ten year period (March 2004). The upward evolution of spreads was, in the first instance, in line with the context of instability in financial markets and latterly with the significant increase in the materialisation of credit risk (illustrated by the increases in the default ratios, to markedly higher levels than noted during the last recessionary period, in the case of non-financial companies and of loans to households for consumption and other purposes). However, starting May 2009, there has been a certain adjustment in interest rate spreads on outstanding amounts of mortgage lending to lower levels, albeit slightly higher than those prior to the outbreak of the current financial crisis in summer 2007, but lower than in the recessionary period of 2003. The evolution of spreads in this segment reflects the type of rate indexing adopted in mortgage loans, moderation in the growth of this aggregate and fewer defaults by this households segment.

The year-on-year change of 1.4 per cent in income from services and commissions (net) in first half 2009, reflected in a slightly negative contribution to return on assets (Chart 4.1.8). This evolution

Chart 4.1.8

NET FEES ASSOCIATED WITH FINANCIAL OPERATIONS

As a percentage of average assets



Source: Banco de Portugal.
Note: Half-year (H1 and H2) data are annualised.

(30) These are the requirements defined for the statistical classification of a credit or deposit operation as a new operation. Situations of the automatic extending of already existing deposits and loan agreements i.e. when not requiring any active involvement by the customer and which do not involve any renegotiation of the terms of the agreement (including interest rates) and changes in interest rates deriving from automatic adjustments, as they do not constitute new agreements are excluded from this concept. It should also be noted that, in each month, only a fraction of the deposit balance comprises new operations constituted during the period. The fraction, throughout 2008, was slightly more than 10 per cent.

(31) For more details on the evolution of spreads on lending operations see "Section 4.4 *Credit risk*".

mainly derives from commissions associated with mutual funds management, essentially based on the performance of stock market operations on behalf of third parties. Such commissions are particularly sensitive to developments in the financial markets.

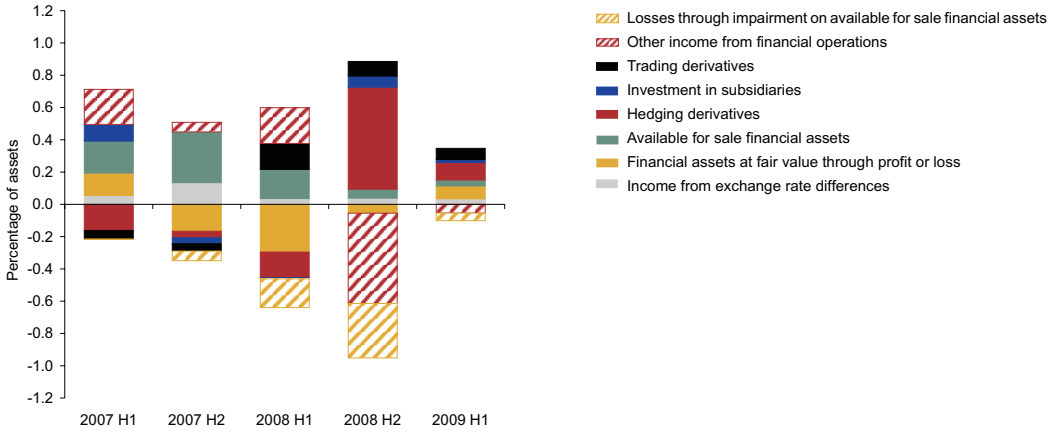
Income from financial operations practically more than doubled in year-on-year terms in first half 2009, contributing 16 basis points to the increase in return on assets. The positive evolution of stock markets and reduction in spreads on securitised debt markets noted, starting March 2009 resulted in significant gains on the assets measured at fair value through profit or loss portfolio (Chart 4.1.9).

Developments related with operational costs resumed their favourable contribution to the evolution of return on assets in first half 2009. Such costs were down 0.8 per cent in comparison to first half 2008, having a favourable effect on the evolution of ROA. This evolution essentially derived from the positive contribution to the change in return on assets of the general administrative costs component and, to a lesser extent, from the favourable contribution of the staff costs component related with employee remunerations. In this context, a slight improvement in the cost-to-income ratio to 53.0 per cent was observed (Chart 4.1.10).[32] It should, however, be noted that the year-on-year rate of change in staff costs (as the main component part of operational costs) was 1.6 per cent in June 2009. Contributory factors were essentially the significant increase in costs associated with pension funds.

Lastly, in first half 2009, income from the international operations for some of the main Portuguese banking groups was significantly down over the first half of the preceding year (-29.2 per cent), representing around 34 per cent of the consolidated income of the financial institutions under review, with a marked increase in impairment (Table 4.1.5).

Chart 4.1.9

INCOME FROM FINANCIAL OPERATIONS AND LOSSES THROUGH IMPAIRMENT ON FINANCIAL ASSETS IN ACCORDANCE WITH IAS CLASSIFICATION

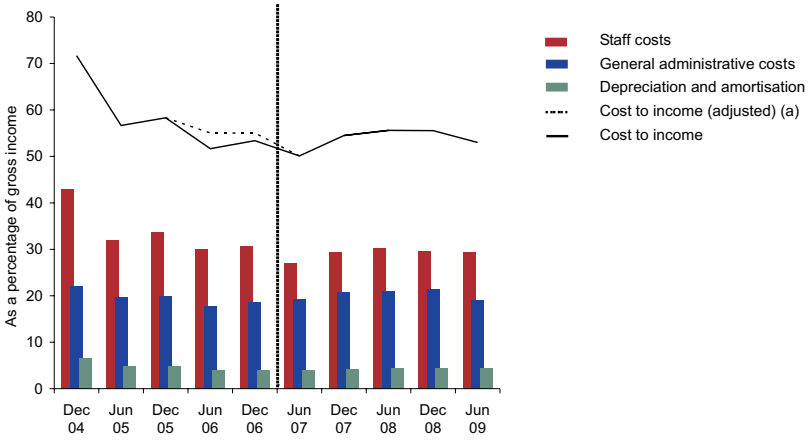


Source: Banco de Portugal.
Note: Half-year (H1 and H2) data are annualised.

(32) The cost-to-income indicator corresponds to the ratio of operational costs (defined as being the sum of staff costs, administrative costs and amortisation) and net operating income from banking activity.

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 increase in the number of the group of institutions under analysis. (a) The adjusted indicator is obtained after deducting the impact of the restructuring of participating interests in insurance companies by one of the major banking groups from the profit and loss account.

Table 4.1.5

INTERNATIONAL ACTIVITY - CONTRIBUTION OF THE AGGREGATE OF FOREIGN SUBSIDIARIES
Per cent

	Relative weight for total aggregate		Year-on-year rate of change
	1H 2008	1H 2009	1H 2009
Financial Margin	16.0	14.2	-11.8
Commissions	15.7	14.0	-10.0
Gross income	16.7	14.0	-12.8
Administrative costs	14.8	13.5	-9.5
of which: Staff costs	15.2	13.3	-10.7
Impairment	3.5	7.2	179.4
Income before taxes and minority interests	34.5	34.0	-29.2

Source: Banco de Portugal.

4.2. Own funds adequacy [33]

In line with the New Capital Accord, Basel II, several institutions coming under the prudential supervision of Banco de Portugal adopted more complex capital requirement assessment methodologies in 2009, in comparison to those applied in the preceding year, with reference being made to the application of the internal ratings based approach (based on assessment models developed by the institutions) for the calculation of several components of credit and counterparty risk.[34] Although less

(33) The set of financial institutions analysed in this section differs from the preceding section, as the branches of financial groups headquartered in European Union member countries are excluded.

(34) The main characteristics of the methods used to determine the capital requirements provided for in the New Capital Accord are set out in "Chapter 7 *Regulatory Framework*", Banco de Portugal, *Financial Stability Report* 2004. The application of the more sophisticated methods by the institutions requires the approval of the supervisory authorities.

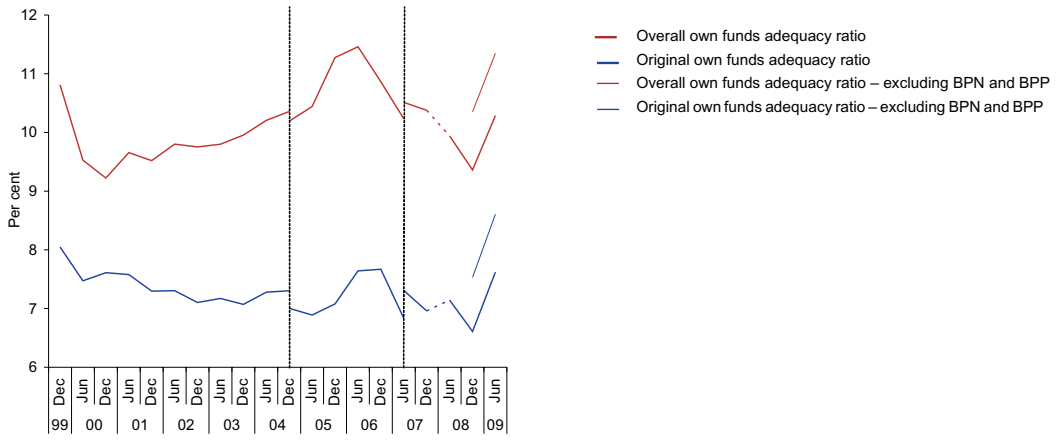
relevant in terms of total capital requirements, reference should also be made to the application of the standardised and advanced measurement approaches to determine the requirements for operational risk and the adoption of the internal model method for the calculation of several market risk components.

During the course of the first half of 2009, the Portuguese banking system reinforced its capital position over 2008 levels, which were highly conditioned by the unfavourable developments of financial markets in the referred to year (Chart 4.2.1). The significant growth of own funds was the crucial factor in this evolution, with capital requirements levels being slightly lower than recorded in December 2008 (Table 4.2.1). Accordingly, in June 2009, the global banking system's own funds adequacy ratio was 10.3 per cent, on a consolidated basis, while the original own funds adequacy ratio, Tier I, was 7.6 per cent. In turn, the Core Capital ratio, which constitutes a more restricted indicator of institutions' regulatory capital (excluding hybrid instruments from original own funds) was 6.4 per cent. It should, however, be noted that the banking system's own funds adequacy ratios continued to be negatively affected by the particularly adverse financial situation of the *BPN* and *BPP* banks, leading to direct intervention by the Portuguese authorities at the end of 2008. Excluding amounts related with these institutions, the global own funds adequacy ratio, Tier I and Core Capital ratios were 11.3, 8.6 and 7.4 per cent, respectively.

The increase in total own funds was underpinned by the expressive growth of original own funds, which were up 8 per cent in year-on-year terms and close to 15 per cent over December 2008. This growth essentially reflected the capital increases made by several institutions in first half 2009 and the issue of other capital-like instruments, totalling more than EUR 2 500 million as a whole (Chart 4.2.2).[35] It should be noted that the EUR 1 billion capital increase by *Caixa Geral de Depósitos* occurred under the terms of the recapitalisation plan presented by the Portuguese government.[36] The more favourable developments noted in financial markets since March 2009, particularly in stock markets, also made a

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 analysed. In turn, the break in the series in 2007 corresponds to increase in the number 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.

(35) The accumulated value of capital increases made by institutions since the outbreak of the crisis in summer 2007 was around EUR 5 billion.

(36) Given the turmoil in the international financial markets in 2008, the national authorities adopted a set of financial system support measures, several of which as part of concerted actions with other European countries. One such measure consisted of the creation of a recapitalisation plan for credit institutions headquartered in Portugal by the Portuguese government, in the fourth quarter 2008, for the amount of EUR 4 billion and available for use up to the end of 2009.

Table 4.2.1

CAPITAL ADEQUACY

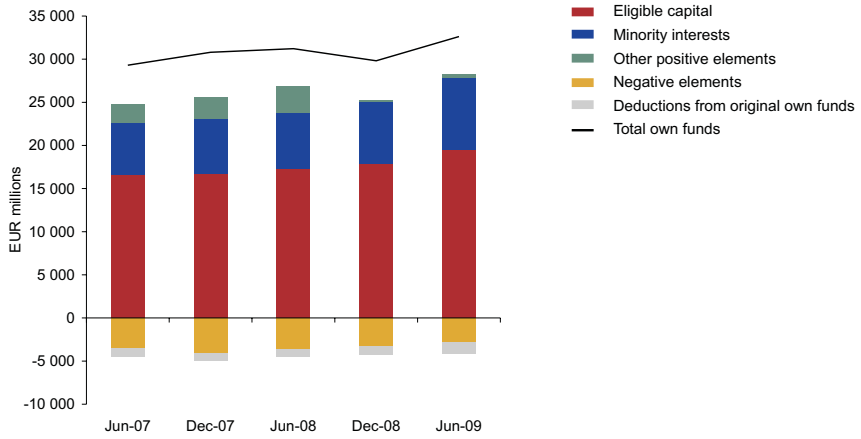
On a consolideted basis; EUR millions

	2007		2008		2009
	Jun.	Dec.	Jun.	Dec.	Jun.
1. Own funds					
1.1. Total original own funds for solvency purposes	20 372	20 653	22 436	21 044	24 163
1.1.1. Original own funds (gross)	21 305	21 549	23 310	21 983	25 490
1.1.2. Deductions from original own funds	933	897	874	939	1 327
1.2. Total additional own funds for solvency purposes	10 483	11 135	9 799	10 045	9 709
1.2.1. Additional own funds (gross)	11 409	12 015	10 649	10 949	10 924
1.2.2. Deductions from additional own funds	926	881	850	904	1 215
1.3. Deductions from total own funds	1 571	1 007	1 020	1 279	1 284
1.4. Total supplementary own funds eligible to cover market risk	20	17	0	0	34
Total of own funds	29 305	30 796	31 215	29 810	32 622
2. Capital requirements					
2.1. Capital requirements for credit risk, counterparty credit risk and free deliveries	21 344	22 941	22 492	23 001	22 921
2.2. Settlement risk	2	1	0	0	1
2.3. Capital requirements for position risk, foreign exchange risk and commodities risk	933	773	838	648	708
2.4. Capital requirements for operational risk	16	18	1 783	1 820	1 732
2.5. Capital requirements – Fixed overheads	6	6	5	5	5
2.6. Large exposures – Trading book	0	0	2	0	0
2.7. Other and transitional capital requirements	1	0	0	0	0
Total capital requirements	22 301	23 739	25 121	25 474	25 367
3. Ratios (per cent)					
3.1. Own funds/Total requirements	131.4	129.7	124.3	117.0	128.6
3.2. Own funds/(Total requirements x 12.5)	10.5	10.4	9.9	9.4	10.3
3.3. Original own funds/(Total requirements x 12.5)	7.3	7.0	7.1	6.6	7.6
Memo:					
Capital ratios excluding *BPN* and *BPP*					
Own funds/Total requirements	-	-	-	129.4	141.8
Own funds/(Total requirements x 12.5)	-	-	-	10.4	11.3
Original own funds/(Total requirements x 12.5)	-	-	-	7.5	8.6

Source: Banco de Portugal.
Notes: The break in the series shown in 2008 corresponds to the adoption of Basel II criteria by all institutions under analysis, which is mainly reflected in developments in the capital requirement components.

Chart 4.2.2

BREAKDOWN OF ORIGINAL OWN FUNDS -TIER I



Source: Banco de Portugal.

positive, albeit limited, contribution to the change in own funds. This evolution enabled some recovery of the value of equity securities classified in the available for sale financial assets portfolio, in addition to an increase in income related with financial operations. It should be remembered that the turmoil recorded in financial markets in 2008 was the cause of significant decreases in the value of financial instruments assessed at market prices.[37] The more recent market developments have also been reflected in increases in the value of pension funds, contributing to a certain reversal of accumulated actuarial losses. In this context, the application of Banco de Portugal's Notice no.11/2008 was also an important factor, as it allowed actuarial losses recorded in 2008, less the expected yield from pension fund assets in the same year, to be gradually recognised in own funds up to 2012.[38]

As regards capital requirements, some of the banking groups adopted alternative methods to determine some of their components in first half 2009, as mentioned previously.[39] According to available information, the application of such methods contributed to a decrease in risk-weighted assets. However, economic and financial factors also underpin the path of capital requirements during the half year. An analysis of capital requirements for credit risk, counterparty credit risk and free-deliveries, which represent around 90 per cent of total requirements, shows that the change was conditioned by the slowdown in credit noted over the last few months. The evolution of such requirements also reflected more demanding risk management strategies by institutions, owing to the particularly unfavourable economic and financial environment, regarding credit collateralisation.

(37) The changes in the value of instruments classified in the financial assets at fair value through profit or loss affected own funds via the income for the year. The changes in value of instruments in the available for sale financial assets portfolio, in turn, directly affected own funds, with the registration method being differentiated between the instruments recording the losses and those recording potential gains. In particular, 45 per cent of the latent gains are recognised as a positive element of additional own funds, whereas potential losses are totally recognised as a negative element in original own funds. It should, however, be stated that under the terms of Banco de Portugal Notice no.6/2008, issued in the fourth quarter 2008, the changes in the value of debt instruments classified in this assets portfolio ceased to be recognised as an element of own funds, in line with the rules applied in other European countries. When the changes in value in the available for sale financial assets portfolio imply the recognition of impairment, the impact on own funds occurs in the form of the income component.

(38) In accordance with the Notice, institutions were allowed to extend the limit established for the corridor determining the amount of the actuarial deviations to be deducted from own funds (10 per cent of pension fund liabilities or the value of the funds, whichever the higher) for a period of 4 years, between 2009 and 2012, which extension is progressively decreased.

(39) Considering the main banking groups, several components of credit risk are now determined by the internal ratings based approach in *Banco Santander Totta* and Espírito Santo Financial Group, whereas the operational risk requirements are calculated by the standardised approach in Millennium BCP, *Caixa Geral de Depósitos* and Espírito Santo Financial Group. General market risk requirements, in turn, are assessed in accordance with the internal models method in Millennium BCP Group.

There was an across-the-board improvement in the capital ratio among banking institutions, albeit with a higher level of dispersion among them, as illustrated by the empirical distribution of own funds adequacy ratios (Chart 4.2.3). Only one of the main banking groups failed to record an increase in the respective ratio (with a slight reduction, although the indicator remained above 11 per cent). The reinforcement of the capital position was particularly visible in the original own funds adequacy ratio which recorded a significant level of concentration at around 8 per cent, the minimum level recorded among the main banking groups (Chart 4.2.4). Therefore, most institutions appear to have anticipated the fulfilment of Banco de Portugal's November 2008 recommendation for the Tier I ratio to be at least 8 per cent, starting September 2009. The increase in the capital ratios of Portuguese institutions accompanied the trend denoted by the largest banking groups in the euro area.

To the extent that the evolution of own funds was highly related with institutions' capital increases, there was also an increase in the ratio between capital and total assets in the balance sheet in June 2009 in comparison to 2008 levels, even with the exclusion of intangible components (including goodwill) (Chart 4.2.5).

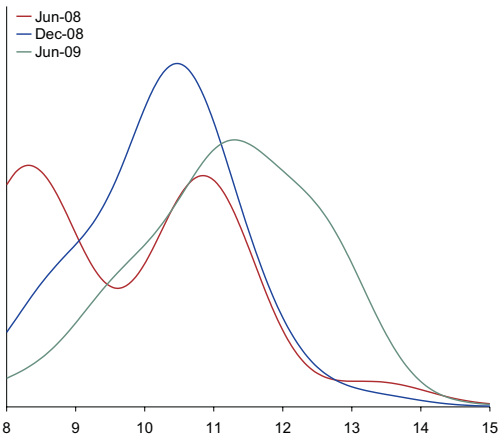
The reinforcement of capital ratios enabled the Portuguese banking system to absorb unexpected adverse shocks, without entailing significant constraints on the development of its activity. Notwithstanding the less unfavourable prospects for economic growth recorded over the last few months, considerable uncertainty still exists over the recovery trajectory. Similarly, the sustainability of the recovery of financial markets is still uncertain, particularly in the share segment, to which a substantial contribution was made by governments and international authorities' support plans for the financial system and economic activity. The behaviour of the real economy and financial system, in addition to the high level of interaction between them, will condition the activity and profitability of the banking system, and consequently, institutions' solvency.

Chart 4.2.3

CAPITAL ADEQUACY RATIO

Own funds/(Total requirements * 12.5)

Empirical distribution



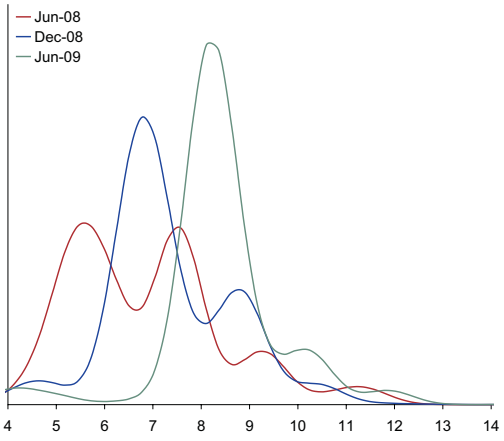
Source: Banco de Portugal.
Note: Empirical distribution using a Gaussian Kernel weighting institutions by total assets. Since 2008, the ratio has been calculated by applying the criteria defined in Basel II and by all institutions under analysis. Several regulatory changes to the criteria for determining own funds were made in 2008. Owing to the financial situation of the BPN and BPP banks, these institutions were not included in the distributions.

Chart 4.2.4

ADEQUACY RATIO OF ORIGINAL OWN FUNDS – TIER I

Original own funds/(Total requirements * 12.5)

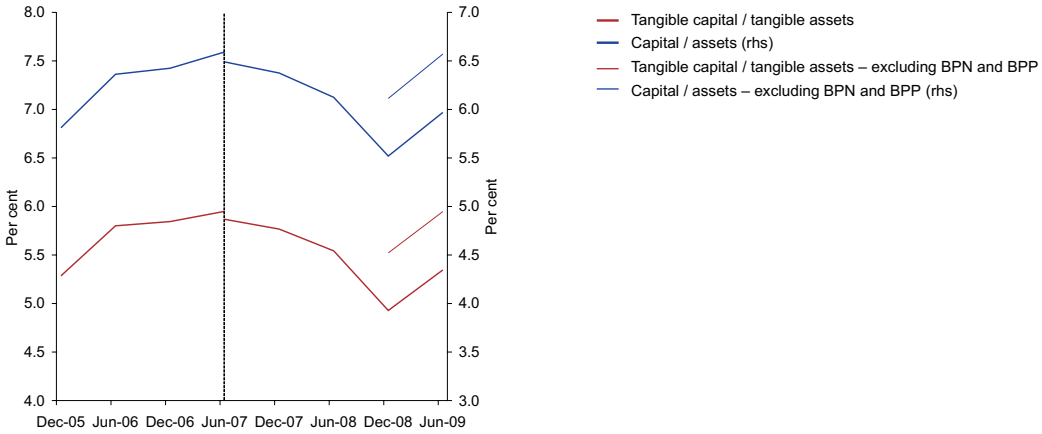
Empirical distribution



Source: Banco de Portugal.
Note: Empirical distribution using a Gaussian Kernel weighting institutions by total assets. Since 2008, the ratio has been calculated by applying the criteria defined in Basel II and by all institutions under analysis. Several regulatory changes to the criteria for determining own funds were made in 2008. Owing to the financial situation of the BPN and BPP banks, these institutions were not included in the distributions.

Chart 4.2.5

CAPITAL TO ASSETS RATIO



Source: Banco de Portugal.
Note: The break in the series in 2007 corresponds to an increase in the number of institutions under analysis.

In this context, reference should be made to the fact that the recapitalisation plan presented by the Portuguese government, at the end of 2008, is still in force. The available amount of EUR 3 billion comprises 9 per cent of total own funds, *i.e.* 0.9 percentage points of the capital ratio, based on June 2009 levels. In any event, the favourable evolution of financial markets has made it possible to launch new issues of instruments eligible as elements of own funds during the course of the third quarter of the year, in relatively more propitious conditions, both in terms of quantities and prices.

4.3. Liquidity risk

Liquidity risk is associated with a (real or perceived) decrease in an entity's capacity to finance its assets and meet its commitments, as and when they become liable. In the context of the outbreak of the crisis in the international financial markets, in mid 2007, which took a turn for the worst in the last quarter of 2008, liquidity risk has been assuming a central importance in terms of the assessment of the stability of international financial systems. In 2009 and particularly so from the end of the first quarter, a series of favourable developments in international financial markets, with higher prices on stock markets and a compression of risk premiums in secondary securitised debt markets has been noted. Government and monetary authority programmes in support of financial institutions, designed to ensure adequate liquidity risk conditions, providing banks with access to finance in securitised debt markets and financial institutions with the additional capital required to allow them to continue to fund the economy's borrowing requirements are also still available.[40] Notwithstanding the greater or lesser use of such support schemes, the main effect of this series of measures was to make markets aware of the fact that governments were ready and willing to avoid banking crises.

In this context, reference should be made to the fact that Portuguese institutions' use of the support measures defined by the Portuguese government has been very limited. To-date no private institution has made use of

(40) For a systemised presentation of the financial system support measures defined on a domestic and international level see: "Box 2.1 *Measures taken by the Portuguese authorities relating to the financial system during the international financial crisis*", Banco de Portugal, *Financial Stability Report 2008*

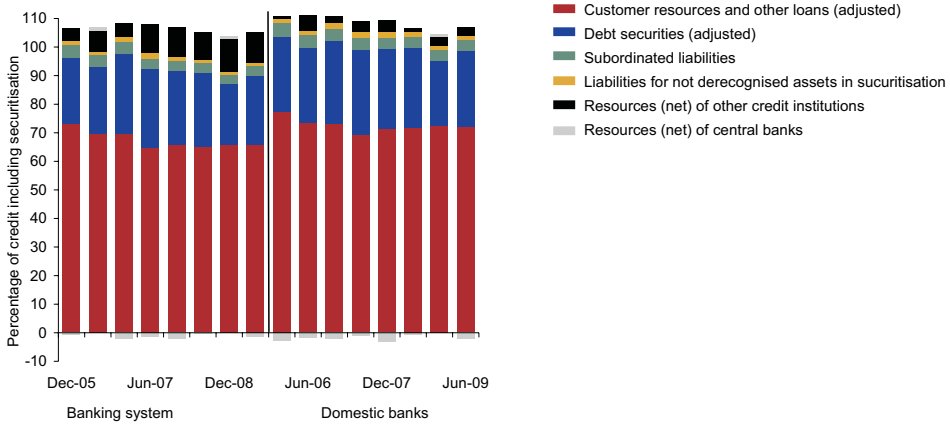
the credit institutions' recapitalisation plan based in Portugal (as defined in Law 63-A/2008)[41] and only some EUR 5 billion of the EUR 20 billion in state guarantees for the issue of securitised debt in euros by Portuguese banks, have, to-date been used.[42] Around 87 per cent of this amount comprised guarantees issued up to mid January. The use of state guarantees, since the date in question, has been for very insignificant amounts as opposed to a considerable build up of non-guaranteed issues.

The limited use of support measures, in Portugal, which does not mean that they have not been relevant, reflected the referred to positive evolution of international wholesale debt markets, changes to the operational framework of monetary policy in the euro area, designed to provide euro area institutions with adequate liquidity risk conditions, and the significant growth of customer resources, notwithstanding the slowdown in the most recent period, in a context of decelerating economic activity, affecting lending to the private resident non-financial sector.

The crisis in international financial markets, since mid 2007, has raised serious challenges to liquidity management in most financial institutions in advanced economies, notably banking institutions. It should be remembered that banks, as institutions, are inherently illiquid, in the sense that the role they play in terms of the transformation of maturity periods implies their inability to make immediate payments of the required liabilities, at least without making considerable losses on the early liquidation of assets. On the other hand, the crisis appeared after a long period of market stability, during which financial integration was reinforced, and also furthered by innovation in terms of financial products. Against this backdrop, Portuguese banks, in line with international developments, financed a significant part of the expansion of their activity through the issue of securities in international financial markets, particularly in euros and over the medium and longer maturities. In 1999, debt securities financed around 3 per cent of assets, with the proportion thereof having increased by around 20 percentage points up to the end of 2007 (Chart 4.3.1).[43] 2008 witnessed a decrease of 2 percentage points, reflecting the situation in international financial markets. In spite of the fact that a certain level of access to markets was preserved, particularly in the window of opportunity available in the second quarter of the

Chart 4.3.1

FINANCING SOURCES OF THE BANKING SYSTEM



Source: Banco de Portugal.
Notes: There is a break in the series in 2007 corresponding to an increase in the number of institutions analysed. Customer resources include debt securities issued by banks and placed with their customer base.

(41) Under this measure, a total amount of EUR 4 billion was provided to ensure that Portuguese credit institutions were in a position to reinforce their solvency ratios up to the end of 2009. So far, only Caixa Geral de Depósitos had used the measure (EUR 1 billion).

(42) This is also a temporary measure available for issues up to the end of 2009. The guarantees are available to all credit institutions headquartered in Portugal which, notwithstanding their compliance with the minimum regulatory amounts, may face temporary liquidity constraints.

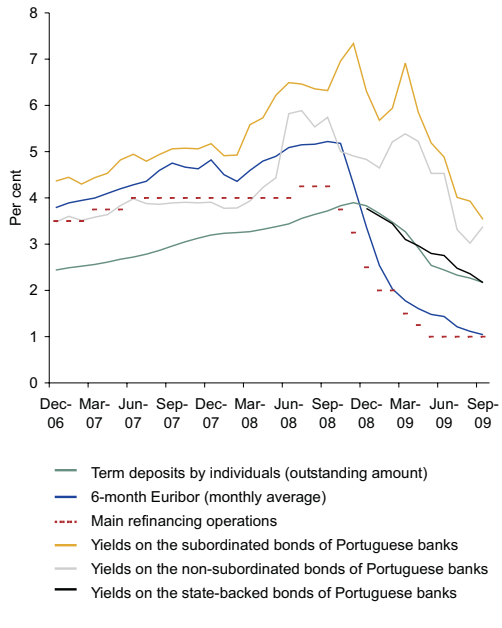
(43) A comparison between this value over the course of time is conditioned by changes to the accounting standards and reference universes under analysis since 1999. The conclusion, however, is qualitatively sound in the case of these changes.

year, net issues were negative, with Portuguese banks having been forced to reduce the maturities of their issues, meeting added financing costs (which was common in international terms - see "Section 2 *Macroeconomic and financial framework*"). The situation was particularly acute in the last quarter of the year, given the systemic implications of the mid September collapse of the Lehman Brothers investment bank. This context, in early December witnessed the first issue of debt guaranteed by the Portuguese state, by CGD.

Financial markets have been gradually recovering, in 2009, in which a contributory factor was also the reduction in the level of interest rates, in various segments in which banks source their borrowing requirements (Chart 4.3.2). This context witnessed a significant resumption in the issue of debt securities, particularly since the end of March (Chart 4.3.3). The first quarter also witnessed materially relevant state-backed issues. At a later stage, simultaneously benefiting from the reduced level of reference rates on public debt and compression of risk premiums (assessed in terms of the differential between the returns on debt issues by financial institutions and the corresponding yields on sovereign debt), Portuguese banks issued a considerable amount of debt securities without a state guarantee, having also succeded in extending the original maturities of their issues in comparison to 2007 (Chart 4.3.4).[44] Reference should, however, be made to the fact that, in the context of international financial market instability and, particularly, very reduced interest rate levels, the importance of the fixed rate component was highly relevant in terms of total issues in 2008 and 2009 (Table 4.3.1). In the first six months of 2009, the issue of debt securities (net of redemptions) was, once again, the main source of finance for the expansion of the activity of Portuguese banks, not having been associated, in the said period, with the increase in the size of the balance associated with credit securitisation operations (Chart 4.3.5).

Chart 4.3.2

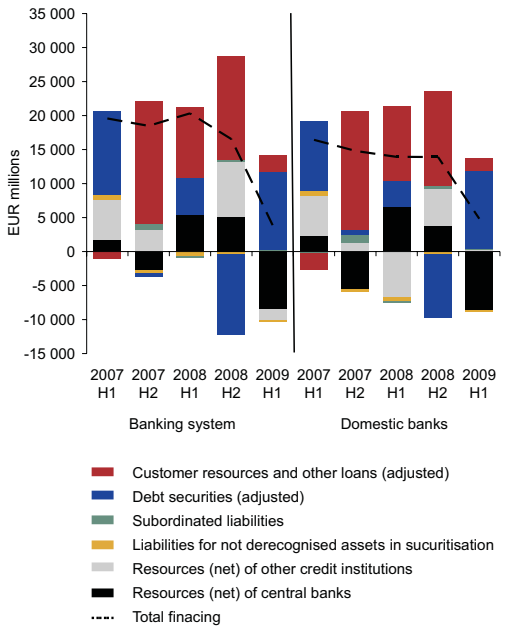
COST OF FINANCING FOR PORTUGUESE BANKS



Sources: Bloomberg and Banco de Portugal.
Notes: The series with yields on bonds issued by Portuguese banks refer to a weighted average of bonds from the BCP, BPI, BES and CGD banks. The lack of depth in the market has a strongly restrictive effect on bonds with comparable characteristics within each segment and the rates should therefore be considered merely indicative. Bonds issued with a state guarantee are subject to a commission to be paid to the government of 50 basis points, to which a risk premium for the credit default swap of the bank itself (or similar banks, if there are no CDSs for this issuer) if the maturity is longer than one year is added.

Chart 4.3.3

BANKING SYSTEM FINANCING FLOWS



Source: Banco de Portugal.
Notes: Estimates of securities issued by banks but placed with their customer base are included in the item 'Resources from customers'. There is a series break in June 2007 which corresponds to an increase in the number of institutions analysed.

(44) Up to the end of September, covered bonds comprised slightly more than 20 per cent of bond issues in 2009, in comparison to 40 per cent in 2008.

Table 4.3.1

BONDS ISSUED BY PORTUGUESE BANKING GROUPS

By type of rate; as a percentage of total

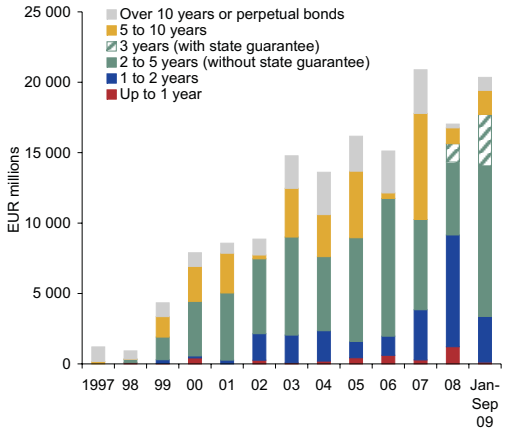
	2004	2005	2006	2007	2008	2009 (*)	End-September 2009 amount outstanding
Variable rate	87.8	98.1	82.7	75.9	49.7	23.6	61.6
Fixed rate and other	12.2	1.9	17.3	24.1	50.3	76.4	38.4

Source: Bloomberg, Dealogic Bondware and Thomson Reuters.
Note: * Includes observations until end-September.

Customer resources continue to be a source of finance for the expansion of activity on a consolidated basis, although there was a significant slowdown during the course of first half 2009. June witnessed a year-on-year change of 7 per cent, in comparison to 11 per cent at the end of 2008 (Chart 4.3.6). When debt securities issued by banks and placed with their customer base are also considered, the change at the end of the first half was 8 per cent (also slowing down 4 pp over the end of 2008). The slowdown in customer resources was more significant in the domestic banks sub-segment. It should be remembered that in the context of financial market instability and associated difficulties in raising finance in international wholesale debt markets, banks adopted more competitive strategies to take-in customer deposits, translating into a closing of the gap between their own and money market interest rates. The deceleration of bank deposits in first half 2009 was, to a large extent, associated with the lower growth of deposits made by individual resident borrowers, particularly deposits with an agreed maturity (Charts 4.3.7 and 4.3.8). Reference should, however, be made to the fact that the context of this slowdown witnessed a significant acceleration of term deposits with a maturity of more than 2 years, com-

Chart 4.3.4

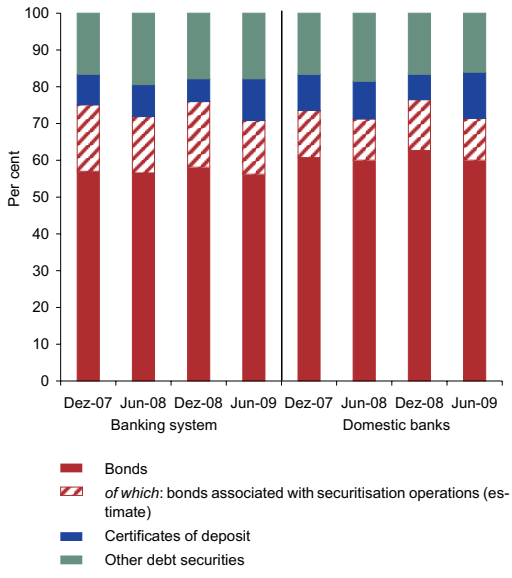
GROSS ISSUES OF BONDS BY PORTUGUESE BANKS BY ORIGINAL MATURITY



Sources: Bloomberg, Dealogic Bondware and Thomson Reuters.
Note: Includes issues of branches and the subsidiaries of Portuguese banks abroad.

Chart 4.3.5

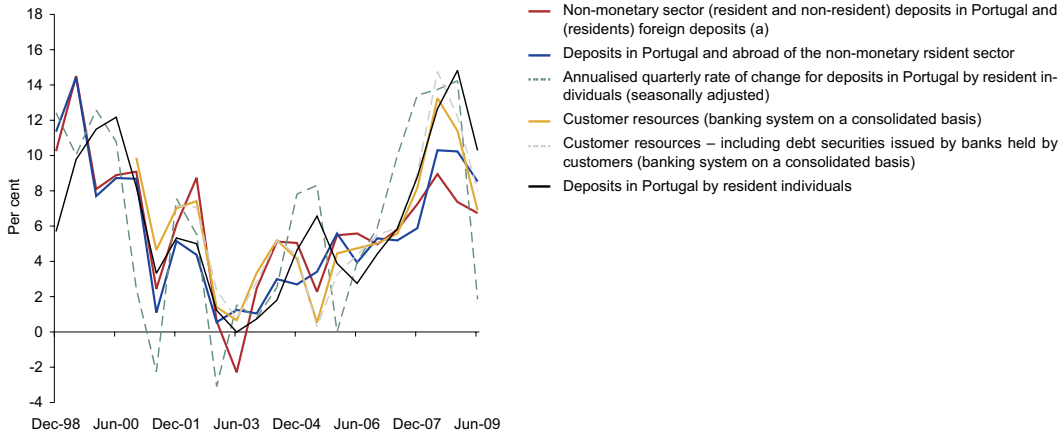
STRUCTURE OF LIABILITIES REPRESENTED BY SECURITIES



Source: Banco de Portugal.

Chart 4.3.6

YEAR-ON-YEAR DEPOSIT GROWTH RATES



Source: Banco de Portugal (Monetary and Financial Statistics; International Investment Position; Banking system on a consolidated basis).
Note: (a) Excluding liabilities recorded as a counterpart for non-derecognised securitisation operations, recorded as deposit (and deposit-like instruments) of other financial intermediaries and auxiliaries.

prising a favourable development in terms of liquidity risk, owing to the greater stability of the respective resources obtained from the use of this instrument (a characteristic shared with debt securities, a part of which were placed with the customer base). The evolution of customer resources should be analysed in terms of the developments on a global level of the individual customers financial investments portfolio. The net flow of such investments, in first half 2009, predominantly comprised debt securities, life insurance and pension funds, with a limited increase in deposits. Net acquisitions of debt securities particularly included securities issued by monetary financial institutions (representing more than 90 per cent of the net investments in debt instruments made by individuals). This development reflects savers' greater risk aversion in comparison to the preceding summer of 2007.[45] The most recent information suggests that, starting second quarter, there may have been a decrease in risk aversion, with positive net subscriptions to investment funds, notably cash and money market funds (Chart 4.3.9).

In first half 2009, the slowdown in customer resources (including debt securities issued by banks and placed with customers) coexisted with the decrease in the rate of change in credit to customers (data on a consolidated basis). The joint evolution of these aggregates globally resulted in the maintenance of the trend (noted since mid 2007) towards a reduction of the ratios between credit and customer resources (Charts 4.3.10 and 4.3.11). This conclusion remains valid even when considering the credit aggregate which includes securities, which aggregate, as already stated, was affected by accounting reclassifications in the debt securities portfolio made by domestic banking groups. This evolution of the ratio was more evident in the non-domestic institutions sub-segment which, as a whole, maintained a lower rate of change in credit and simultaneously higher growth in securing customer resources than domestic institutions. Notwithstanding, they maintain ratios between credit and customer resources which are significantly higher than those of domestic institutions.[46]

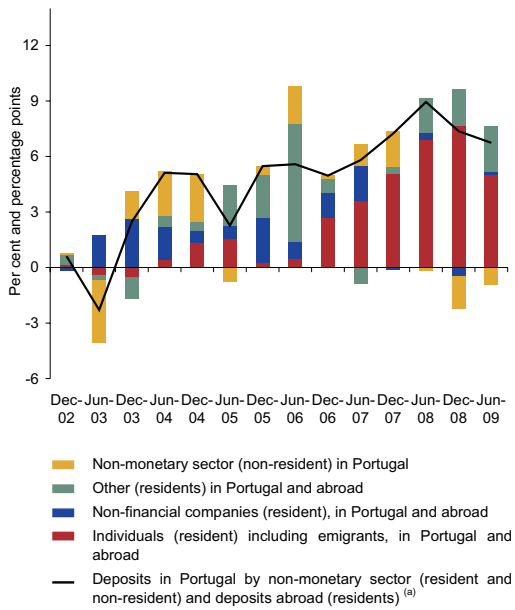
Given the favourable developments in international wholesale debt markets and the maintenance of a still significant rate of growth of customer resources, there was an inflexion in the evolution of

(45) See "Section 3 *Financial situation of non-financial private sector*".
(46) See "Section 4.1 *Activity, international exposure and profitability*".

Chart 4.3.7

DEPOSITS BY THE NON-MONETARY SECTOR

Year-on-year rate of change and respective contributions

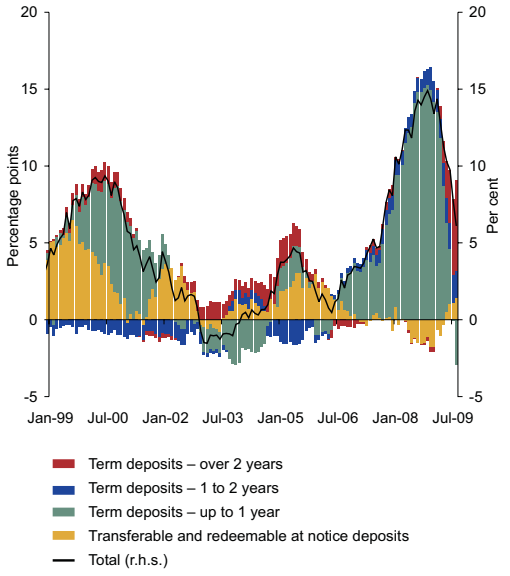


Source: Banco de Portugal (Monetary and Financial Statistics; International Investment Position).
Note: (a) Excluding liabilities recorded as a counterpart for non-derecognised securitisation operations, recorded as deposit (and deposit-like instruments) of other financial intermediaries and auxiliaries.

Chart 4.3.8

DEPOSITS BY RESIDENT INDIVIDUALS AND EMIGRANTS IN THE PORTUGUESE BANKING SYSTEM

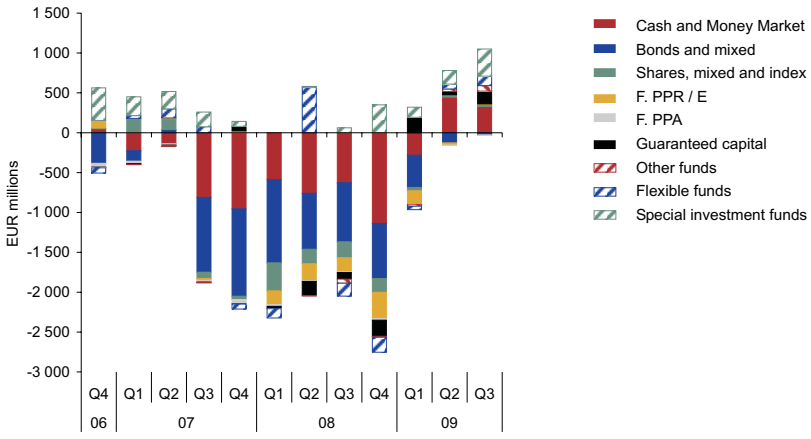
Year-on-year rate of change and respective contributions



Source: Banco de Portugal.

Chart 4.3.9

NET SUBSCRIPTIONS OF MUTUAL AND MONEY MARKET FUNDS

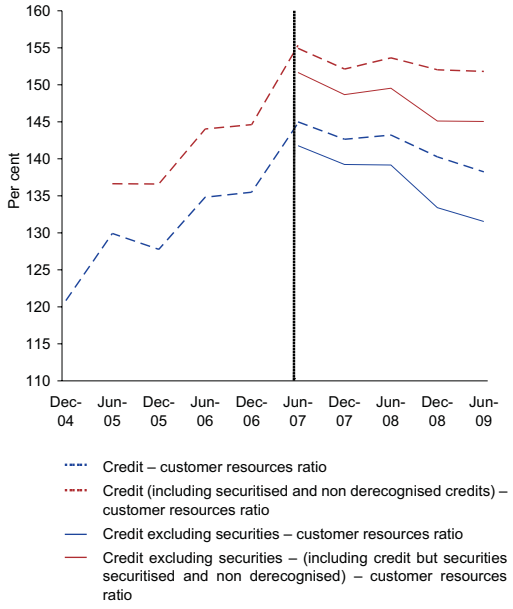


Source: *APFIPP*.
Note: Excluding groupings of funds and funds of funds, but including investment in other national funds.

Chart 4.3.10

RATIO OF CREDIT TO CUSTOMER RESOURCES [(a)]

Banking system

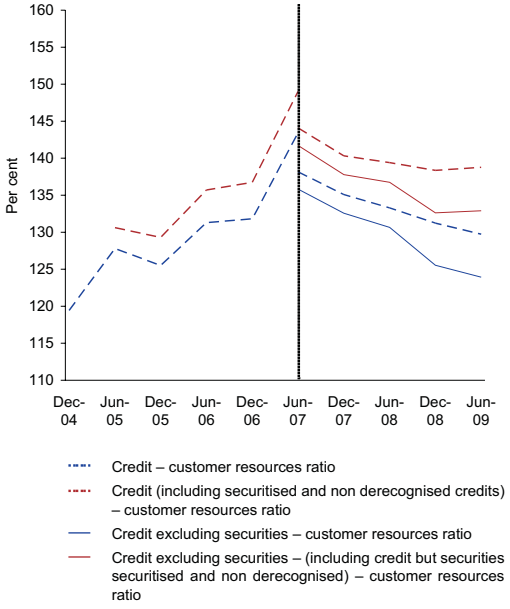


Source: Banco de Portugal.
Notes: The break in the series in 2007 comprises an increase in the number of institutions under analysis.(a) The concept of customer resources includes debt securities issued by the banks and placed with their customer base.

Chart 4.3.11

RATIO OF CREDIT IN RESOURCES FROM CUSTOMERS [(a)]

Domestic banks



Source: Banco de Portugal.
Notes: The break in the series in 2007 comprises an increase in the number of institutions under analysis.(a) The concept of customer resources includes debt securities issued by the banks and placed with their customer base.

the net position *vis-à-vis* the central banks in the Portuguese banking system, notably that of domestic institutions, relative to the two preceding half years (Table 4.3.2). From January to May, the balance on credit operations (resources obtained from the ECB) remained relatively stable at a clearly lower level than at the end of 2008 (as opposed to the euro area, in which the decrease noted was very slight) (Charts 4.3.12 and 4.3.13). June witnessed a significant increase in both resources taken (to a level similar to that of December 2008) and claims and investments to central banks. It should, however, be noted that, notwithstanding the quasi stability of the resources obtained from central banks (in a comparison between the end of the half year and the end of the preceding half year), there was a significant increase in the maturity of such resources and a clear reduction in the uncertainty associated with the obtaining and latter renewal thereof. This was a result of the changes made by the Council of the ECB to its monetary policy operational framework, in the context of the present financial crisis. The most important changes brought in by the Council of the ECB particularly include the broadening of assets eligible as a guarantee for liquidity injection operations, the adopting of a fixed rate on liquidity injection operations, the full allotment of liquidity at the said rate and, already in 2009, considerable extensions to the period of liquidity injection operations (up to one year), in a pre-announced series of operations and the start of a programme for the acquisition of covered bonds.[47] Portuguese banks' participation in liquidity injection operations for a period of a year, particularly the end of June 2009 operations, should be assessed in light of the risk aversion which was still in evidence and the absence of ex-

(47) The covered bonds acquisition programme, for a total amount of EUR 60 billion, is implemented over the course of a year starting 6 June last.

Table 4.3.2

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

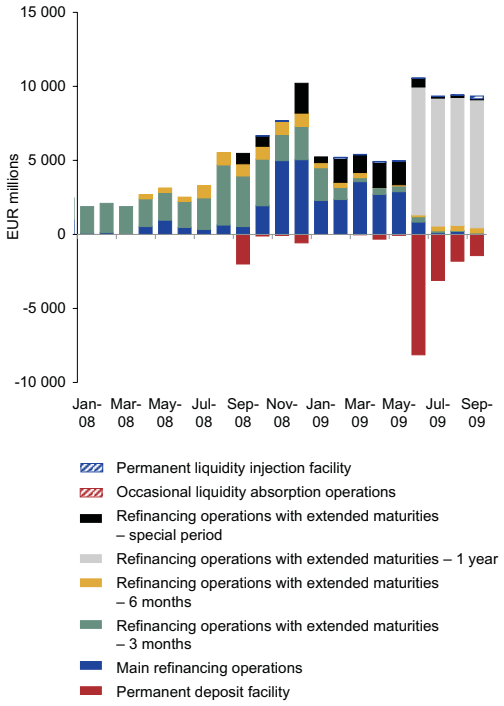
Banking system	Jun-07	Dec-07	Jun-08	Dec-08	Jun-09
(Net) resources from credit institutions	**25 369**	**25 739**	**31 214**	**44 370**	**34 351**
of which *vis-à-vis* central banks	-4 114	-6 931	-1 441	3 686	-4 798
Cash, claims and investment in central banks	**6 483**	**12 662**	**8 339**	**10 722**	**17 844**
Claims and investment in other credit institutions	**43 326**	**39 692**	**42 074**	**33 620**	**34 255**
in the country	7 461	8 539	8 676	11 922	11 041
abroad	35 865	31 153	33 398	21 698	23 214
head office and branches of the institution	2 649	3 216	1 622	1 033	911
Resources from central banks	**2 369**	**5 731**	**6 898**	**14 407**	**13 046**
Resources from other credit institutions	**72 809**	**72 362**	**74 729**	**74 305**	**73 405**
in the country	6 444	7 672	7 096	10 195	7 776
abroad	66 365	64 690	67 632	64 110	65 628
head office and branches of the institution	11 989	12 586	14 317	15 630	14 649

Domestic banks	Jun-07	Dec-07	Jun-08	Dec-08	Jun-09
(Net) resources from credit institutions	**5 917**	**1 654**	**1 559**	**10 763**	**2 362**
of which *vis-à-vis* central banks	-2 583	-8 099	-1 504	2 367	-6 265
Caixa, disponibilidades e aplicações em bancos centrais	**4 850**	**11 601**	**7 142**	**9 180**	**16 467**
Claims and investment in other credit institutions	**30 720**	**26 027**	**30 147**	**23 446**	**23 216**
in the country	5 452	6 112	6 190	9 282	8 711
abroad	25 268	19 915	23 957	14 164	14 505
head office and branches of the institution	1	1	0	0	0
Resources from central banks	**2 268**	**3 502**	**5 638**	**11 547**	**10 202**
Resources from other credit institutions	**39 220**	**35 780**	**33 211**	**31 841**	**31 843**
in the country	4 613	5 483	5 112	7 898	5 606
abroad	34 607	30 297	28 098	23 943	26 237
head office and branches of the institution	0	0	0	0	0

Source: Banco de Portugal.

Chart 4.3.12

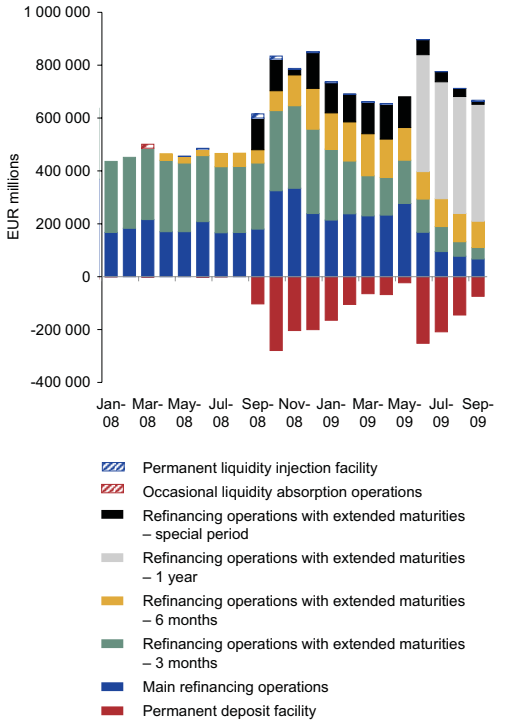
OUTSTANDING AMOUNTS ON CREDIT AND DEPOSIT OPERATIONS OF PORTUGUESE BANKS



Sources: ECB and Banco de Portugal.

Chart 4.3.13

OUTSTANDING AMOUNTS ON CREDIT AND DEPOSIT OPERATIONS OF THE EUROSYSTEM



Source: ECB.

pectations of additional reductions of ECB interest rates.[48] In this context, June witnessed substantial increases of investments in central banks which, in the meantime have been on the wane, as was, to a lesser extent, noted in the balance of credit operations, owing to the maturity of shorter term operations.

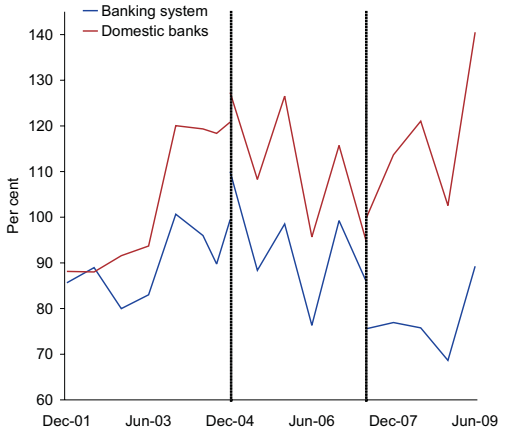
This evolution of the net position vis-à-vis central banks contributed to the increase in cover of interbank liabilities by highly liquid assets, which concept embraces interbank assets and debt securities eligible as a guarantee for monetary policy operations (Chart 4.3.14). Albeit to a lesser extent, this cover continued to benefit from the reinforcement of the portfolio of assets eligible as a guarantee in Eurosystem monetary policy operations.[49] In 2008, in line with other euro area banks, this reinforcement partly resulted in an increase in the pool of collateral with eligible bank loans (credit claims), covered bonds and particularly securities resulting from securitisation operations. Notwithstanding the fact that banks, in general, cannot submit assets which they have issued or guaranteed as collaterals, nor by any other entity with which they enjoy a "close relationship", the use of securities originated by an institution's own securitisation operations is

(48) In the second operation of its kind, at the end of September, EUR 75.2 billion were alloted by the Eurosystem. The amount of this operation was much lower than the first (when EUR 444.2 billion were placed) and was slightly less than expected by market participants. This was interpreted by several of them as being a sign of the "normalisation" of money market conditions. Resident counterparties in Portugal in this second operation obtained EUR 2210 million (against EUR 8645 million in the June operation).

(49) As defined in the document "The execution of monetary policy in the euro area: General documentation on Eurosystem monetary policy instruments and procedures", marketable assets eligible for Eurosystem monetary policy operations include debt instruments issued or guaranteed by central banks, public sector entities, private sector entities or international or supranational institutions. In addition, starting 2007 non marketable assets were accepted as collateral for Eurosystem monetary policy operations namely lending to non-financial corporations, public sector entities and financial international or supranational institutions and non-marketable retail mortgage-backed debt instruments. The quality of the non-marketable assets is assessed on the basis of the Eurosystem Credit Assessment Framework (ECAF).

Chart 4.3.14

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 2004 break in the series is due to the introduction of new accounting standards, which also implied a redefinition of the banking institutions under analysis. The 2007 break corresponds to an increase in the number of institutions analysed.

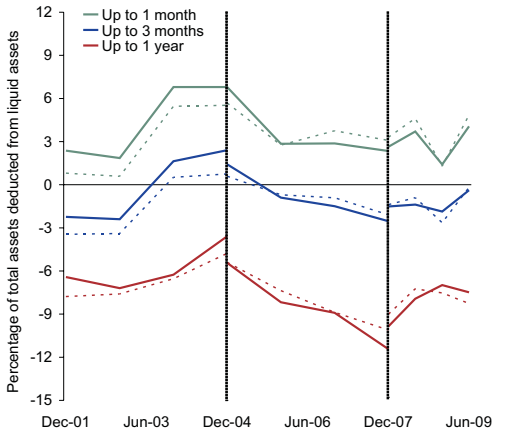
permitted provided that there is an effective and unconditional transfer to the securitisation vehicles involved of the assets underlying such operations, i.e. to the extent in which such assets are autonomous.[50] Accordingly, the performance of securitisation operations has been associated with the ceding banks' acquisition of the securities issued by the vehicles involved in such operations, particularly enabling them, in the current monetary operational framework, to enjoy secure access to funds for extended maturity periods.

The increase in interbank assets and assets eligible as collateral for monetary policy operations have been determinants in terms of the improvement of liquidity gaps for time periods of up to 3 months in first half 2009 (Charts 4.3.15, 4.3.16 and 4.3.17). The improvement noted over the one month period was particularly evident, with a positive gap situation being shared by the main domestic banking groups. The evolution was reversed in the case of the one year period i.e. the gap became more negative, essentially reflecting the increase in the proportion of debt securities maturing in the said period (Charts 4.3.18 and 4.3.19). This is a particularly important situation for most of the large domestic banking groups, although it should be noted that it compares favourably with the situation at the end of 2007 and will tend to be temporary, i.e. reversible in the context of the maintenance of the favourable evolution of international wholesale finance markets, in line with events noted since the first quarter of the year, which will permit the continuation of the lengthening of the average period of maturity of debt securities stock (Chart 4.3.20).

(50) As defined in the document "The execution of monetary policy in the euro area: General documentation on Eurosystem monetary policy instruments and procedures", "close relationship" means a situation in which the counterparty is associated with an issuer/debtor/guarantor of eligible assets owing to the fact that: i) the counterparty has a direct or indirect investment through one or more companies in 20 per cent or more of the equity capital of the issuer/debtor/guarantor or ii) the issuer/debtor/guarantor has a direct or indirect investment through one or more companies in 20 per cent or more of the equity capital of the counterparty; or iii) a third party has more than 20 per cent of the capital of the counterparty and more than 20 per cent of the capital of the issuer/debtor/guarantor, either directly or indirectly through one or more companies. However, in the case of ABS (asset-backed securities) verification of "close relationship" status differs from this general rule owing to the application of the criterion of the effective and unconditional transfer focusing on two specific topics, currency hedges and the provision of liquidity support to the ABS of 20 per cent or more (liquidity support provider).

Chart 4.3.15

LIQUIDITY GAPS IN CUMULATIVE MATURITY LADDERS

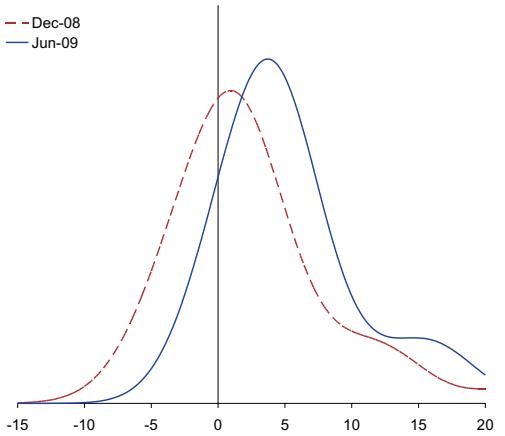


Source: Banco de Portugal.
Notes: The liquidity gap is defined as (liquid assets – volatile liabilities)/(assets – liquid assets) x 100 for each cumulative ladder of residual maturity. Calculations are based on Banco de Portugal Instruction no. 1/2000. Only financial institutions which take deposits are subject to this norm. The dashed lines show domestic institutions. The 2004 break in the series is due to the introduction of new accounting standards, which also implied a redefinition of the banking institutions under analysis. The 2007 break corresponds to increase in the number of institutions analysed.

Chart 4.3.16

LIQUIDITY GAP OF DOMESTIC INSTITUTIONS FOR UP TO ONE MONTH

Empirical distribution

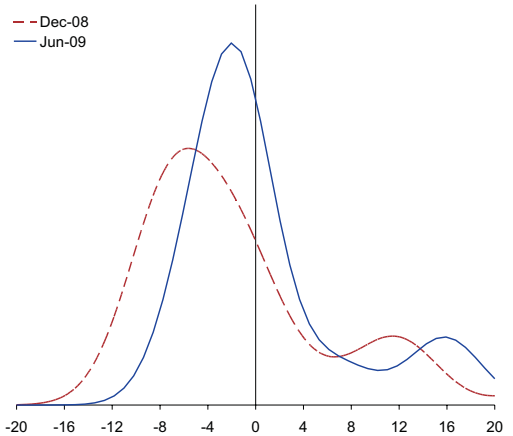


Source: Banco de Portugal.
Note: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian kernel that weights institutions by their assets.

Chart 4.3.17

LIQUIDITY GAP OF DOMESTIC INSTITUTIONS FOR UP TO 3 MONTHS

Empirical distribution

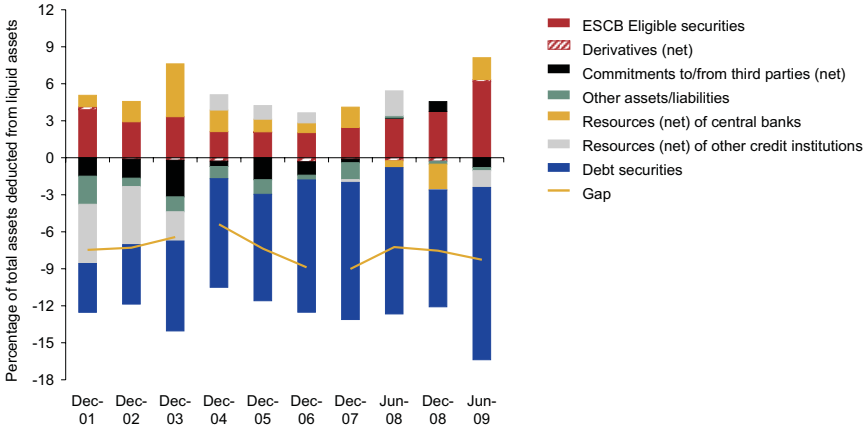


Source: Banco de Portugal.
Note: Empirical distribution obtained through recourse to non-parametric methods, namely to a Gaussian kernel that weights institutions by their assets.

Chart 4.3.18

LIQUIDITY GAP OF DOMESTIC INSTITUTIONS FOR UP TO ONE YEAR

Main contributions

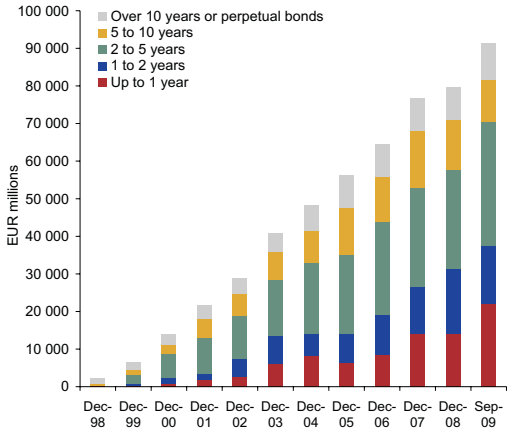


Source: Banco de Portugal.
Note: Series break in 2004 comprising a change to the accounting standards plus a redefinition of the banking institutions under analysis. There is also a break in 2007 break corresponding to an increase in the number of institutions analysed.

Chart 4.3.19

OUTSTANDING AMOUNTS OF BONDS ISSUED BY PORTUGUESE BANKS BY RESIDUAL MATURITY

In Portugal and abroad

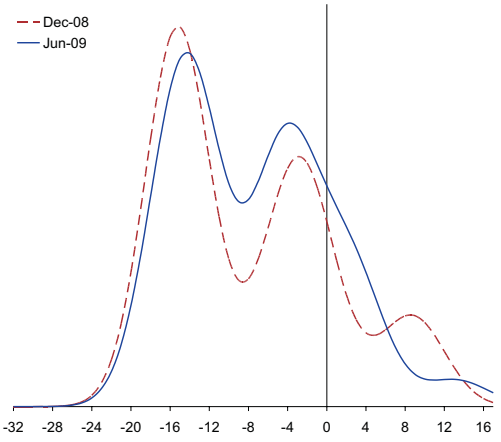


Sources: Bloomberg, Dealogic Bondware and Thomson Reuters.
Note: Includes issues by branches and subsidiaries of Portuguese banks abroad.

Chart 4.3.20

LIQUIDITY GAP OF DOMESTIC INSTITUTIONS FOR UP TO ONE YEAR

Empirical distribution



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

4.4. Credit risk

In a context of a severe slowdown in economic activity and increasing unemployment, affecting the financial situation of households and corporations, the first three quarters of 2009 witnessed an intensification of credit risk. This occurred notwithstanding the monetary policy measures and government support for households and corporations, particularly the sharp drop in interest rates, making it possible to attenuate the impact of the downturn in economic activity on default levels. Current default indicators are substantially higher than recorded in the recession of 2003, except for housing lending to individual borrowers, with a more moderate increase in default levels (Table 4.4.1 and Chart 4.4.1). Increases in defaults were noted by the five main banking groups and other financial institutions. The fact that the increase was more pronounced in the case of the other institutions, may be explained, in part, by the different composition of credit portfolios as the various credit segments are associated with different default levels (Chart 4.4.2). Higher default indicators were reflected in banks' income statements by an increase in specific provisions for overdue credit and other non-performing loans, in addition to the amounts of appropriations for impairment (Table 4.4.1). Increased losses on the credit portfolio conditioned banking system returns (see "Section 4.1 *Activity, international exposure and profitability*").

Higher default rates have occurred against a backdrop of a marked deceleration in credit (Table 4.4.1). The international credit operations of Portuguese banks have continued to expand at a higher rate than those of domestic activity although there has also been a downwards trajectory. In the case of domestic activity reference should be made to the deceleration in lending to non-financial corporations and to individual borrowers as consumer credit and other lending, after a relatively high rate of growth in 2008, in comparison to housing lending to individuals (Chart 4.4.3). Reference should also be made to the heterogeneity of the growth of lending by the main banking groups, reflecting a certain differentiation in terms of strategy in a context of instability and uncertainty in international financial markets (Chart 4.4.4). In general terms, the slowdown in the rate of lending to residents has occurred in a context of greater lending restrictions reported by the banks since the outbreak of turmoil in financial markets, notwithstanding the fact that the increase in restrictions was gradually less pronounced in 2009. Available evidence on demand for credit by non-financial corporations indicates a reduction, associated with the prospects of lower demand and consequent postponement of investment decisions. Demand for credit was particularly associated with debt restructuring requirements, owing to insufficient internal funds generating capacity. Reference should be made to the fact that the high level of debt of non-financial corporations, particularly the construction and real estate sectors, has accentuated their respective vulnerability to the economic cycle. Higher unemployment associated with lower levels of economic activity have contributed towards greater pressure on the financial situation of households, with consequences on the respective demand for credit. Notwithstanding the current uncertainty over macroeconomic evolution in the near future, particularly as regards the level of sustainability of economic recovery, a progressive increase in the confidence levels of consumers and businesspeople, in 2009, should be noted.

In structural terms, the maintenance of banks' high exposure levels to the housing market, in the form of mortgages and lending to non-financial corporations in the construction and real estate sectors, and the concentration of credit on large exposures to the non-financial corporation sectors are particularly relevant. There has been a substantial increase in default levels on lending to non-financial corporations in the construction and real estate operations sector, with a more moderate increase in the case of housing lending to individual borrowers. Larger exposures of the loan portfolio to non-financial corporations, in turn, although evidencing increasing default rates, continue to be lower than for the rest of the portfolio.

Table 4.4.1

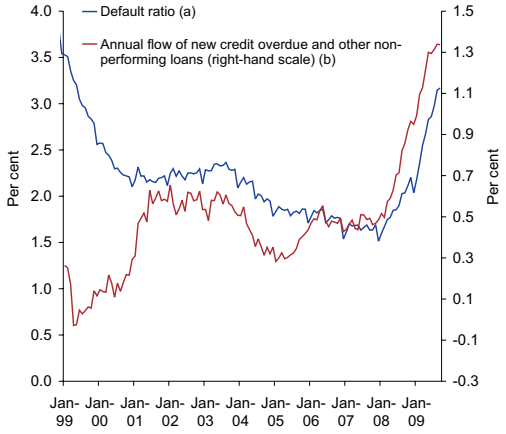
MAIN INDICATORS
Per cent

	Dec 2003	Dec 2004	Dec 2005	Dec 2006	Dec 2007	Dec 2008	Jun 2009	Last month: Sep 2009
Default ratio in credit/loans portfolio [a]								
Credit, on a consolidated basis [b]	2.4	1.8	1.7	1.5	1.7	2.2	3.0	n.a.
Credit, on an individual basis (prudential definition of default credit) [c], [d]	-	1.6	1.4	1.2	1.4	1.7	2.5	n.a.
Loans to the non-financial resident private sector (Monetary and financial statistics)	2.1	1.8	1.7	1.5	1.5	2.0	2.9	3.2
Individual borrowers	2.0	1.8	1.7	1.5	1.6	1.9	2.4	2.5
Housing	1.4	1.3	1.2	1.1	1.1	1.3	1.5	1.5
Consumer credit and other lending	4.6	4.2	3.7	3.7	3.6	4.7	6.3	6.9
Non-financial corporations	2.1	1.7	1.7	1.5	1.4	2.2	3.5	4.0
Annual flow of new credit overdue and other non-performing loans (Monetary and financial statistics) [e]								
Non-financial resident private sector	0.5	0.4	0.4	0.4	0.5	0.9	1.3	1.3
Individual borrowers	0.5	0.2	0.3	0.4	0.4	0.7	0.8	0.7
Housing [f]	0.4	0.0	0.0	0.0	0.2	0.3	0.3	0.3
Consumer credit and other lending [f]	0.9	1.0	1.1	1.4	1.3	2.4	2.8	2.6
Non-financial corporations	0.5	0.5	0.6	0.5	0.6	1.3	2.0	2.1
Provisions for overdue credit and other non-performing loans (individual basis) [c]								
As a percentage of credit	-	1.1	1.2	1.0	1.1	1.2	2.0	n.a.
As a percentage of default credit (prudential definition of default credit) [d]	-	72	83	83	77	73	80	n.a.
Appropriations for impairment (consolidated basis) [b]								
As a percentage of credit	-	1.7	2.5	2.3	2.3	2.9	3.4	n.a.
As a percentage of default credit	-	94	148	153	134	134	110	n.a.
Year-on-year rates of change								
Credit, on a consolidated basis [b], [c]	3.1	3.5	10.7	11.0	14.6	12.1	6.7	n.a.
Loans to the non-financial resident private sector (Monetary and financial statistics)	6.4	6.1	7.7	8.7	9.9	7.1	3.6	2.8
Individual borrowers	9.6	9.2	9.8	9.9	9.0	4.6	2.2	2.1
Housing	11.8	10.5	11.1	9.9	8.5	4.3	2.5	2.4
Consumer credit and other lending	2.4	4.4	4.5	10.1	11.3	6.2	1.3	0.9
Non-financial corporations	2.7	2.5	5.0	7.1	11.2	10.5	5.4	3.7

Source: Banco de Portugal
Notes: (a) Defined as being credit in default as a percentage of the credit / loans balance, adjusted for securitisation operations. Credit in default comprises credit and interest overdue for more than 30 days and other non-performing loans reclassified as credit overdue, as established in Banco de Portugal Notice no.3/95. For further details please consult Instruction no.16/2004 and Notice no. 3/95 at www.bportugal.pt/servs/sibap/sibap_p.htm. (b) Amounts of credit reported on a consolidated basis by the Portuguese banking system aggregate, including credit to residents and non-residents, in addition to credits from the foreign subsidiaries of Portuguese banks. Derecognised securitisation operations have not been considered. Breaks in series in 2004 and 2007. For further information please consult the Financial Stability Report for 2008. (c) Amounts of credit to residents reported on an individual basis by other monetary financial institutions (banks, savings banks and mutual agricultural credit banks) and other financial intermediaries. Derecognised securitisation operations have not been considered. (d) Credit in default defined on the basis of a prudential concept comprising credit and interest overdue for more than 90 days and other non-performing loans as defined in (a). (e) An estimate of the annual flow of new overdue loans and other non-performing loans is set out as a percentage of the loans, adjusted for securitisation operations and is calculated by adjusting the change in the balance of overdue loans and other non-performing loans to asset write-offs, reclassifications and, from December 2005 until June 2009, sales outside the banking system of overdue credits and other non-performing loans not written-off from assets, reported on a quarterly basis in conformity with Banco de Portugal Instruction no. 2/2007. (f) Sales, outside the banking system of overdue credits and other non-performing loans not written-off from assets, have not been considered.

Chart 4.4.1

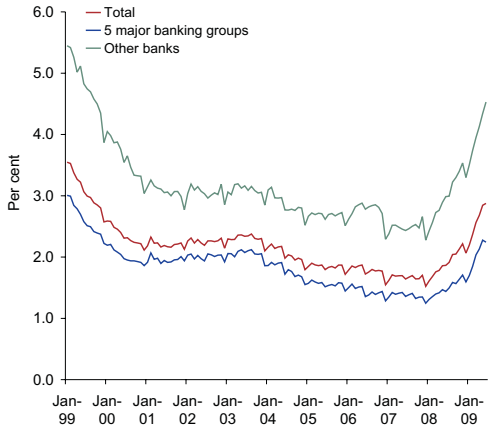
DEFAULT ON BANK LOANS TO THE NON-FINANCIAL RESIDENT PRIVATE SECTOR



Source: Banco de Portugal.
Notes: (a) Defined as being credit in default (overdue loans and other non-performing loans) as a percentage of the loans balance, adjusted for securitisation operations. (b) An estimate of the annual flow of new overdue loans and other non-performing loans is set out as a percentage of the loans, adjusted for securitisation operations, and is calculated by adjusting the change in the balance of overdue loans and other non-performing loans to asset write-offs, reclassifications and, from December 2005 until June 2009, sales outside the banking system of overdue credits and other non-performing loans not written-off from assets, reported on a quarterly basis in conformity with Banco de Portugal Instruction no. 2/2007. Last value: September 2009.

Chart 4.4.2

DEFAULT ON BANK LOANS TO THE NON-FINANCIAL RESIDENT PRIVATE SECTOR

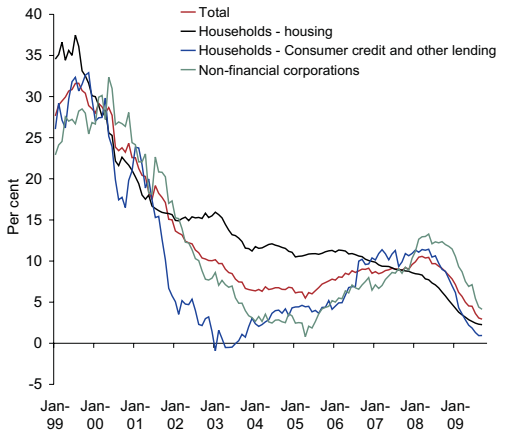


Source: Banco de Portugal.
Note: Ratio defined as being credit in default (overdue loans and other non-performing loans) as a percentage of the loans balance, adjusted for securitisation operations.

Chart 4.4.3

RATES OF CHANGE IN BANK LOANS TO THE NON-FINANCIAL RESIDENT PRIVATE SECTOR

Breakdown by segment

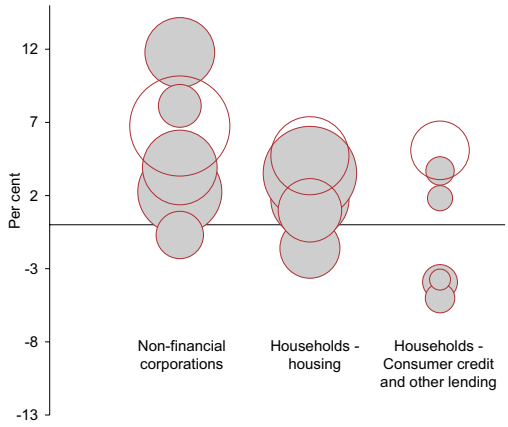


Source: Banco de Portugal.
Note: The annual rate of change is calculated on the basis of the relationship between the balances of bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions, which are calculated on the basis of balances adjusted for reclassifications, write-offs and foreign exchange and price revaluations. Last value: September 2009.

Chart 4.4.4

RATES OF CHANGE IN BANK LOANS TO THE NON-FINANCIAL RESIDENT PRIVATE SECTOR

Breakdown by banking group



Source: Banco de Portugal.
Notes: Growth rates of loans issued by the five main banking groups and other institutions as a whole. The circles area corresponds to the amount of the loans issued in each segment by each banking group as a percentage of total lending to the non-financial private sector. The other institutions as a whole are identified only by a circumference. June 2009 values.

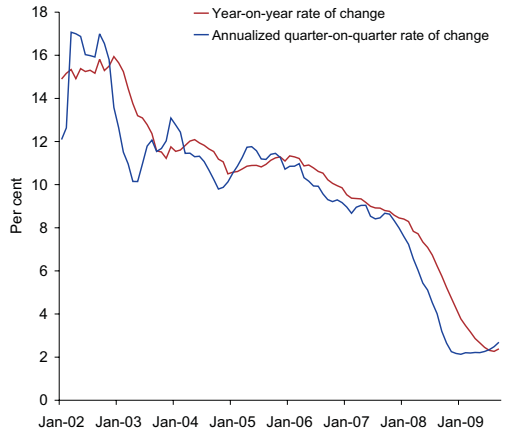
Exposure to the individual borrowers sector and respective default levels

There was a marked deceleration in loans to individual borrowers in the first three quarters of 2009 with a year-on-year change of around 2.1 per cent in September. The growth rate of loans to individual borrowers accordingly continues to be lower than the rate for non-financial corporations. There was, in the case of loans to individual borrowers, a certain differentiation between housing lending *vis-à-vis* consumer credit and other lending, with a much high slowdown in the case of the latter (Charts 4.4.5 and 4.4.6). Reference should be made, in this segment, to the much stronger deceleration of the other lending component which, inter alia, includes loans to the self-employed and to not-for-profit institutions acting on behalf of households. Such loans which, in September 2009, represented around 45 per cent of the consumer credit and other lending aggregate, recorded negative growth rates over the course of 2009. The annualised quarterly rates of change on housing lending and consumer credit and other lending (calculated on the basis of seasonally adjusted data) were, in September 2009, on a slightly higher level than that of the annual rates, which suggests an interruption of the deceleration process on bank loans to individual borrowers in the two referred to segments (Charts 4.4.5 and 4.4.6). In accordance with the results of "Box 2 *Recent developments and determinants of bank loans to the non-financial private sector"* in this Bulletin, the growth in housing lending in 2009 was in line with long term determinants (interest rates and investment in housing). The growth of consumer credit and other lending, however, was less than the underlying long term determinants (interest rates and private consumption) during the course of 2009. This situation contrasts with the 2005-2008 period, in which the growth of loans to individual borrowers, particularly consumer credit and other lending, systematically exceeded the growth associated with the considered determinants.

The profile of the deceleration of loans to individual borrowers was noted by the five main groups and other financial institutions, with the five main banking groups having, as in previous years, posted lower rates of growth with the difference being bigger in the case of consumer credit and other lending

Chart 4.4.5

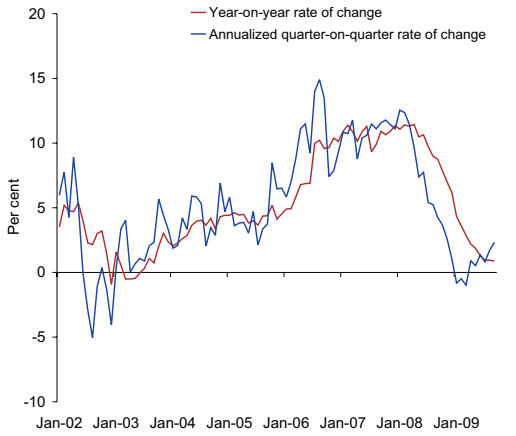
BANK LOANS TO INDIVIDUAL BORROWERS
Housing lending



Source: Banco de Portugal.
Notes: The annual and quarterly rate of change is calculated on the basis of the relationship between the balances on bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions, which are calculated on the basis of balances adjusted for reclassifications, write-offs and foreign exchange and price revaluations. The quarterly rate of change has been seasonally adjusted. Last value: September 2009.

Chart 4.4.6

BANK LOANS TO INDIVIDUAL BORROWERS
Consumer credit and other lending



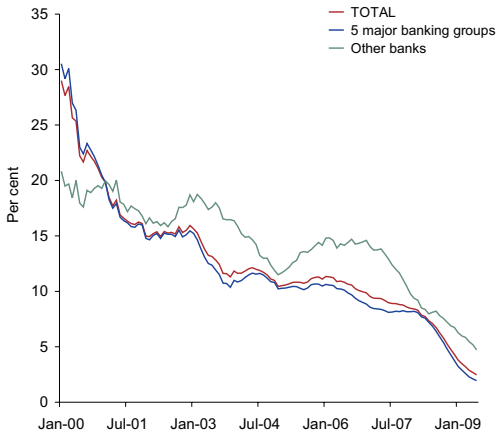
Source: Banco de Portugal.
Notes: The annual and quarterly rate of change is calculated on the basis of the relationship between the balances on bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions, which are calculated on the basis of balances adjusted for reclassifications, write-offs and foreign exchange and price revaluations. The quarterly rate of change has been seasonally adjusted. Last value: September 2009.

(Charts 4.4.7 and 4.4.8). It should, however, be noted, that the rates of growth in loans to individual borrowers are not evenly spread among the five main banking groups, with a greater discrepancy between growth rates in consumer credit and other lending (Chart 4.4.4). The same profile can be noted if all of the financial institutions are considered (Chart 4.4.9). In a context of uncertainty on the impact and severity of the crisis, both in the financial as in the real domain, different institutions' lending policies may be conditioned by different balance sheet restrictions in addition to different attitudes to risk.

Chart 4.4.7

YEAR-ON-YEAR RATE OF CHANGE IN BANK LOANS TO INDIVIDUAL BORROWERS

Housing lending

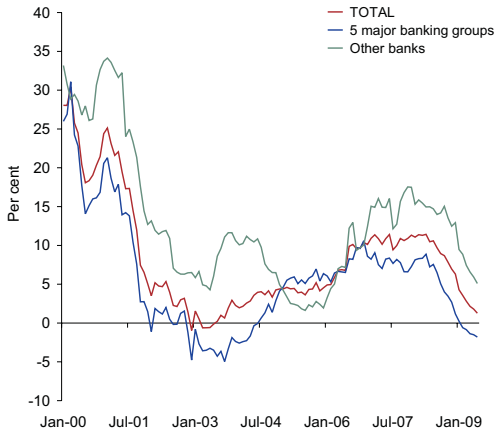


Source: Banco de Portugal.
Notes: The year-on-year rate of change is calculated on the basis of the relationship between the balances on bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions, which are calculated on balances adjusted for reclassifications and assets write-offs. Last value: September 2009.

Chart 4.4.8

YEAR-ON-YEAR RATE OF CHANGE IN BANK LOANS TO INDIVIDUAL BORROWERS

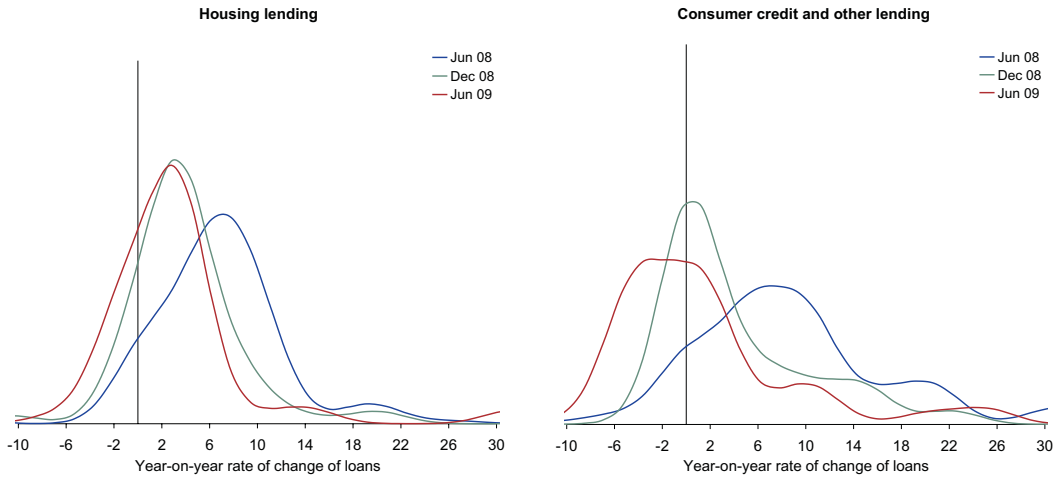
Consumer credit and other lending



Source: Banco de Portugal.
Notes: The year-on-year rate of change is calculated on the basis of the relationship between the balances on bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions, which are calculated on balances adjusted for reclassifications and assets write-offs. Last value: September 2009.

Chart 4.4.9

EMPIRICAL DISTRIBUTION OF YEAR-ON-YEAR RATE OF CHANGE IN BANK LOANS TO INDIVIDUAL BORROWERS



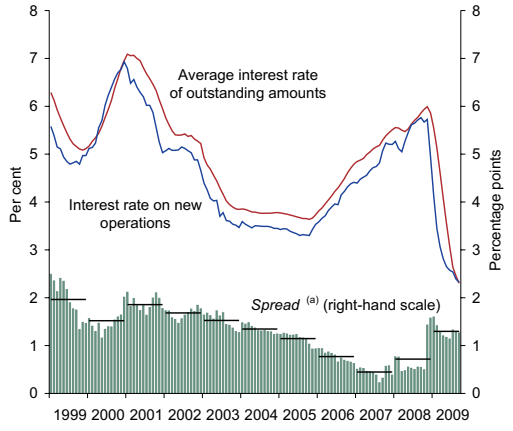
Source: Banco de Portugal.
Note: Empirical distribution obtained from the use of a Gaussian Kernel in which financial institutions are weighted by their lending operations.

In this context, the differences presented between the five main banks and other institutions may be a reflection of differences in credit approval criteria, in which the five main banks may be restricting such criteria more severely than the others. This analysis is consistent with the Bank Lending Survey, as the five main banking groups have been reporting a decrease in demand for loans from individual borrowers although a certain stability was recorded in the last quarter. Since the outbreak of the financial crisis, the five main banks have also reported more restrictive lending criteria, although gradually lessening in intensity during the course of 2009.[51]

This more restrictive lending criteria reported by the five major banks was reflected in a decrease in the value of the amount of the loans in comparison to the amount of the guarantee, an increase in the requirement for guarantees and increased commissions or other costs/charges not related with the interest rate and higher spreads, particularly on higher risk loans and with a higher level of intensity over the first two quarters. Available information on interest rates on credit shows that there was an increase in spreads on both housing lending and more markedly so in the case of consumer credit and other lending, relative to money market rates (Charts 4.4.10 and 4.4.11). The average interest rate spread on new housing lending, in 2008, was around 0.7 percentage points, in comparison to around 1.3 percentage points in 2009, in accordance with data up to September. After a significant increase in October 2008, this variable recorded a slight adjustment to a more reduced level. Notwithstanding the fact that the initial increase could have been a reflection of time-lags in the transmission of the sharp falls in ECB interest rates on bank rates, this spread has stabilised at levels which are clearly higher than those noted before the outbreak of the financial crisis of summer 2007. This fact is a reflection of the present economic environment which is characterised by a sharp drop in economic activity and consequent materialisation of credit risk. There was also an increase in spreads on consumer credit, whose

Chart 4.4.10

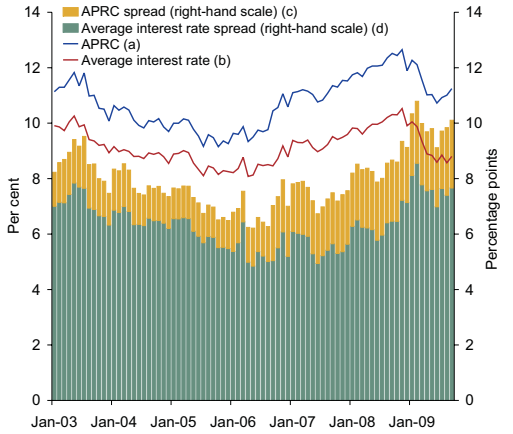
INTEREST RATES ON HOUSING LENDING TO INDIVIDUAL BORROWERS



Source: Banco de Portugal.
Note: (a) Spread between the interest rate on new operations and 6-month Euribor. Last value: September 2009.

Chart 4.4.11

INTEREST RATES ON NEW CONSUMER CREDIT OPERATIONS FOR INDIVIDUAL BORROWERS



Source: Banco de Portugal.
Notes: (a) APCR: annual percentage rate of change. (b) Average interest rate calculated on the basis of the rates on new loans by period for rate fixing purposes, weighted by the amounts of the new operations in each period. (c) The APCR spread (upper bar) corresponds to the spread between the APCR and the average interest rate on new loans for consumption. (d) The interest rate spread (lower bar) was estimated using 6-month Euribor, 1 year Euribor and yield on Portuguese Treasury bonds with a residual period of 5 years, respectively, in cases in which the initial rate fixing period is 1 year, between 1 and 5 years and more than 5 years. Last value: September 2009.

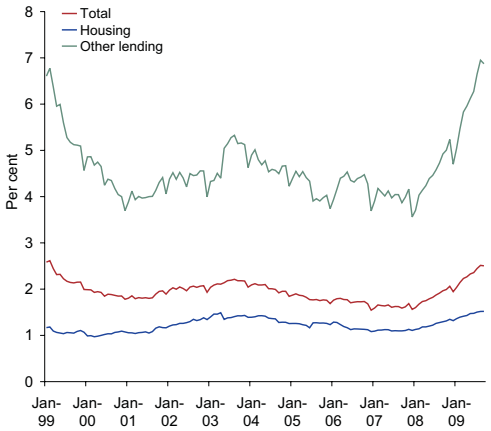
(51) For more information please consult Bank Lending Survey, developed by the Eurosystem and published quarterly in January, April, May and October. The results for Portugal and summary report can be viewed at: http://www.bportugal.pt/en-US/EstudosEconomicos/Publicacoes/IBMC/Pages/InqueritoaosBancossobreoMercadodeCredito.aspx.

values, at the start of the year, were higher than during the recessionary period of 2003. The spread on new operations, in January 2009, was around 8 percentage points. There has been a decrease in this spread, since the start of the year, to an average 7.7 percentage points, in accordance with information available up to September 2009. As in the case of housing lending, the values at the start of the year may reflect time-lags in the transmission of the sharp falls in ECB interest rates on banking rates and the risk premium in the money market. Interest rates on housing lending during the course of 2009 evolved in accordance with the evolution of the usual determinants, namely money market interest rates, taking into account the time-lags in their transmission. On the contrary, in the case of interest rates on consumer credit and other lending, an added contribution of higher default rates and unfavourable evolution of the unemployment rate are visible. The evolution of these determinants will have contributed towards a mitigation of the drop in interest rates in the money market, underpinned by greater demand to provide for credit risk (see "Box 1 *Determinants of the recent pass-through of money market rates to interest rates on loans to the non-financial private sector*" in this Bulletin).

The materialisation of credit risk on individual borrowers is evident in the default levels which have increased significantly since the start of 2008 (Charts 4.4.12 and 4.4.13). In September 2009, the default ratio[52] was 2.5 per cent against a December 2008 figure of 1.9 per cent and December 2007 figure of 1.6 per cent. The values recorded in 2009 have already exceeded those of the recessionary period of 2003, in all credit segments. Higher default rates were particularly significant in the consumer credit and other lending segment, with around 6.9 per cent of loans for personal and other uses being in default, in September 2009. This value compares with 4.7 and 3.6 per cent in December 2008 and December 2007, respectively. Housing lending, with historically lower default levels also recorded an

Chart 4.4.12

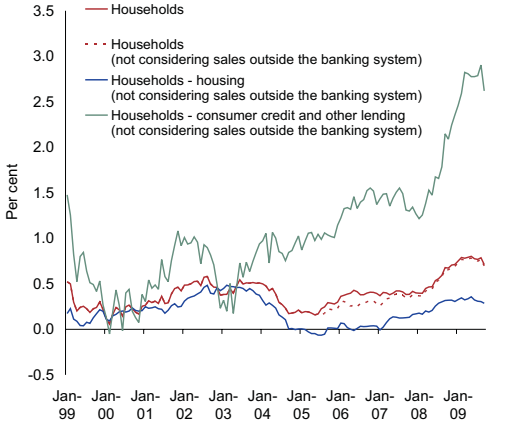
DEFAULT RATES ON BANK LOANS TO INDIVIDUAL BORROWERS



Source: Banco de Portugal.
Note: Defined as being credit in default (overdue loans and other bad debts) as a percentage of the balance on loans adjusted for securitisation operations.

Chart 4.4.13

ANNUAL FLOW OF OVERDUE AND OTHER NON-PERFORMING LOANS TO INDIVIDUAL BORROWERS



Source: Banco de Portugal.
Note: The estimate of the annual flow of new overdue loans and other non-performing loans is set out as a percentage of the loans, adjusted for securitisation operations, and is calculated by adjusting the change in the balance of overdue loans and other non-performing loans to asset write-offs, reclassifications and, from December 2005 until June 2009, sales outside the banking system of overdue credits and other non-performing loans not written-off from assets, reported on a quarterly basis in conformity with Banco de Portugal Instruction no. 2/2007. Last value: September 2009.

(52) The default rate in this section, unless otherwise mentioned, is defined as being credit in default as a percentage of the balance on loans adjusted for securitisation operations. Credit in default includes credit and interest overdue for more than 30 days and other non-performing loans, in respect of the future payment on a loan when there are doubts upon its effective collection, as established in Banco de Portugal Notice no. 3/95. For more details please consult Instruction no. 16/2004 and Notice no. 3/95 at: http://www.bportugal.pt/servs/sibap/sibap_e.htm.

increase in credit in default, albeit at relatively contained levels. This ratio, was 1.5 per cent in September 2009 against 1.3 and 1.1 per cent in December 2008 and December 2007, respectively. The increase in default levels is also evident in the flows of new overdue credit,[53] with new default situations, in September 2009, representing 0.7 per cent of total credit to individual borrowers. As in the case of the default ratio, this indicator's values are also higher than in the recessionary period of 2003, albeit with a dominant contribution from the flows of new overdue consumer credit and other lending.

Higher default rates by individual borrowers have been recorded in an unfavourable macroeconomic context of a sharp drop in economic activity and abrupt increase in the unemployment rate. The current, particularly low level of interest rates, has been an important attenuating factor on the increase in defaults, as most loans to individual borrowers are for home purchases and the interest on such loans is mostly at a variable rate, indexed to money market rates, with refixing periods of predominantly between three and six months. The continued increase in unemployment and uncertainty over economic recovery could trigger more defaults, owing to high household debt levels. There is, however, evidence regarding debt distribution which may represent important mitigating factors in terms of these dynamics. In the case of housing lending, Portuguese families with lower income levels have a very low share of this market, in comparison to families with higher income levels. In addition, the median value of Portuguese families' debt servicing ratio is lower than that of other euro area countries for which information is available. An additional factor is that young Portuguese families, particularly vulnerable to the macroeconomic circumstances, have lower debt servicing ratios on their mortgage lending than in other euro area countries, which is explained by the particularly long maturity periods on such loans in Portugal. In addition to real guarantees, several agreements are associated with other guarantees such as family guarantees in the case of young people, which also helps to decrease the risk on such loans. Reference should also be made to the fact that Portugal does not have a sub-prime housing loan segment and the available evidence indicates the absence of excessive valuations on house prices in aggregate terms. Consumer credit and other lending which, in September 2009, represented less than 20 per cent of the loans to individual borrowers (adjusted for securitisation operations) and which have recorded the highest default rates in the recent past, have witnessed an intensification of this market by families with intermediate income levels in which the principal wage earner is relatively young. The majority of such loans, however, are guaranteed by the assets acquired by the loan. [54] In addition, the higher credit risk associated with these loans has been incorporated by the banks and reflected in interest rates spreads and higher fees/commissions.

Exposure to non-financial corporation sector and respective default levels

Lending to non-financial corporations, in September 2009, recorded a year-on-year change of 3.7 per cent, following growth rates of 10.5 per cent in 2008 and 11.2 per cent in 2007 (Chart 4.4.14). Lending by the five main banking groups was more sharply down than those of the other institutions, countering the profile evidenced in the period, following the outbreak of turmoil in the financial markets, in which there was an acceleration in the loans made by the other financial institutions as opposed to the slowdown in those made by the five main banks. The year-on-year change in lending to non-financial corporations, at the end of first half 2009, by the five main banks was not substantially different from that recorded by the other financial institutions, at 4.8 and 6.8 per cent, respectively (Chart 4.4.15). It should, however, be noted, that there is a degree of heterogeneity in the growth rates recorded by the

(53) The estimate of the annual flow of new overdue loans and other other non-performing loans is set out as a percentage of the loans, corrected for securitisation operations, and is calculated by adjusting the change in the balance of overdue loans and other non-performing loans to reclassifications and, starting December 2005, sales outside the banking system of overdue loans and other non-performing loans, not written off from assets, reported on a quarterly basis in accordance with Banco de Portugal Instruction no. 2/2007 with information only available up to June 2009.

(54) Results set out in surveys on Household Wealth and Debt, realised in 2000 and 2006/2007.

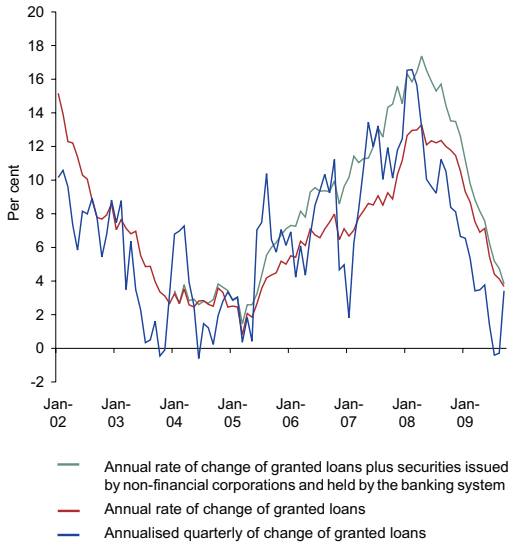
different financial institutions and particularly the five main banks, with reference being made to the comparatively high growth rates of two banks (Charts 4.4.4 and 4.4.16). The heterogeneity of the growth rates in lending by the five main banking groups was lower in December 2008, which could reflect the recent implementation of different credit and market position growth strategies, owing to balance sheet restrictions and the financing difficulties reported during the financial crisis. Reference should also be made to the annualised quarterly rates of change, calculated on seasonally adjusted amounts, whose values were lower than the annual rates of change during the course of 2009, although in September 2009, an annualised quarterly rate close to the annual rate of change was recorded.

The banking system is also exposed to the non-financial corporation sector in the form of securitised debt positions. Considering a broader credit aggregate which includes bank loans and securities (short and long term) issued by non-financial corporations and held by financial institutions, it has been noted that securities, in September 2009 represented around 14 per cent of this aggregate. The deceleration of the broader aggregate which includes the loans and debt securities of non-financial corporations held by the banks, was more pronounced than that of loans, with a marginally higher September 2009 rate of change than on loans (Chart 4.4.14). The deceleration of securities issued by non-financial corporations held by banks over the last two years has been very marked, albeit with a higher rate of growth than loans. During the course of 2009 and particularly starting June, a change in the composition of the securities portfolios issued by non-financial corporations and held by the banks was noted, with an increase in the importance of the longer term securities. The value of securities with a maturity period of less than one year has remained relatively unchanged since the start of 2009, considering end of month balances (Chart 4.4.17). This evolution is associated with the fact that Portuguese banks frequently subscribe for

Chart 4.4.14

LENDING TO NON-FINANCIAL CORPORATIONS

Year-on-year rates of change

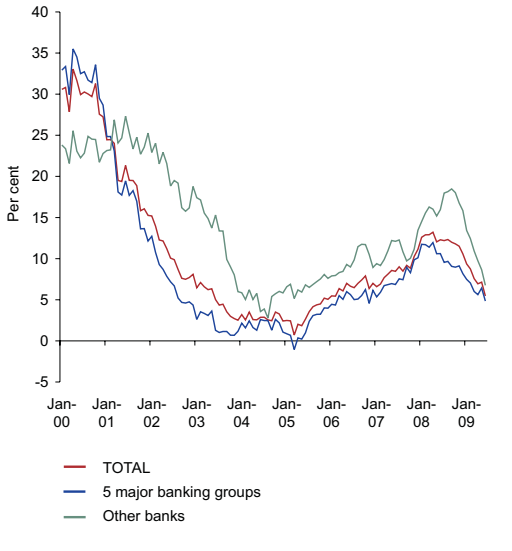


Source: Banco de Portugal.
Notes: The year-on-year and quarterly rate of change is calculated on the basis of the relationship between the balances on bank loans (or balances on bank loans and securities held by the banking system) at the end of the month, adjusted for securitisation operations, and monthly transactions which are calculated on balances adjusted for reclassifications, write-offs and foreign exchange and price revaluations. The quarterly rate of change is seasonally adjusted. Last value: September 2009.

Chart 4.4.15

BANK LOANS TO NON-FINANCIAL CORPORATIONS

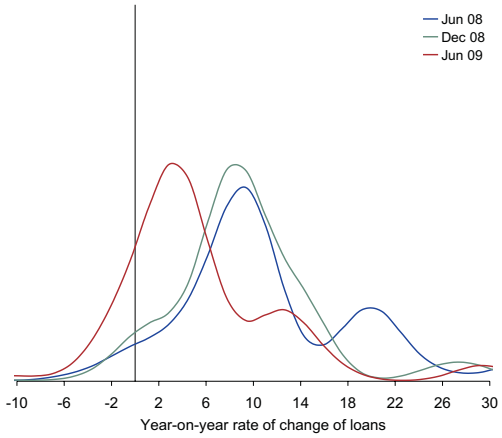
Year-on-year rates of change



Source: Banco de Portugal.
Notes: The year-on-year rate of change is calculated on the basis of the relationship between the balances on bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions which are calculated on balances adjusted for reclassifications, write-offs and foreign exchange and price revaluations. Last value: June 2009.

Chart 4.4.16

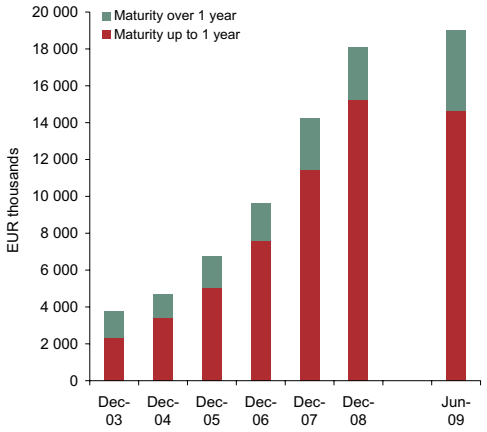
EMPIRICAL DISTRIBUTION OF YEAR-ON-YEAR RATE OF CHANGE IN BANK LENDING TO NON-FINANCIAL CORPORATIONS



Source: Banco de Portugal.
Note: Empirical distribution obtained by the use of a Gaussian kernel weighting financial institutions by their lending operations.

Chart 4.4.17

SECURITIES ISSUED BY NON-FINANCIAL CORPORATIONS AND HELD BY FINANCIAL INSTITUTIONS

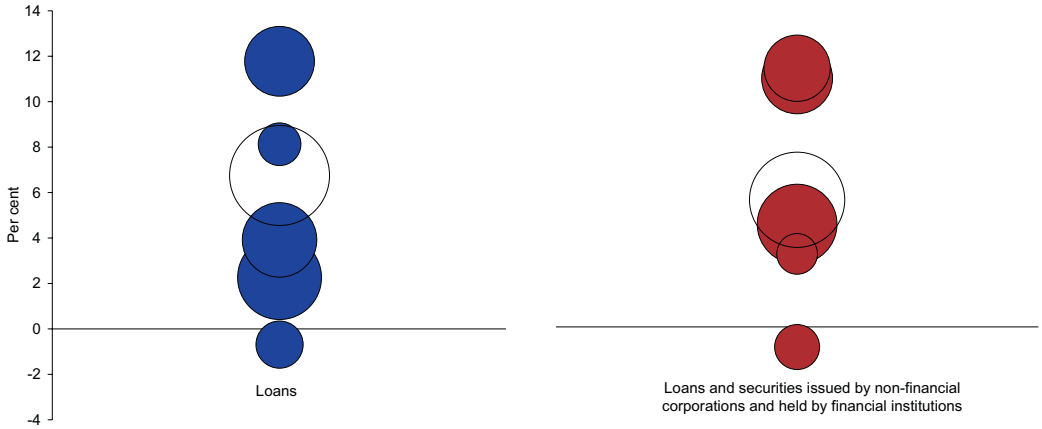


Source: Banco de Portugal.

securities issued by non-financial corporations, which attenuates the negative impact of the instability of financial markets in terms of corporate financing, and the fact that there was an increase in net issues of debt securities by non-financial corporations, mostly medium to long term, in a context of improvements in financial markets (see "Section 3 *Financial situation of the non-financial private sector*"). The impact of debt securities in credit growth rates has not been an across-the-board development for the five main banking groups and other institutions, neither is the rate of change exhibited by the five major banking groups of this broader credit aggregate, which includes bank loans and securities issued by non-financial corporations and held by financial institutions, homogenous (Chart 4.4.18).

Chart 4.4.18

RATE OF GROWTH OF LENDING TO NON-FINANCIAL CORPORATIONS
Breakdown by banking group



Source: Banco de Portugal.
Notes: Rates of change of loans (and loans and securities issued by non-financial corporations and held by financial institutions) by the five main banking groups and other institutions as a whole. The circles area corresponds to the loans (or to the loans and securities issued by non-financial corporations and held by financial institutions) granted by each banking group as a percentage of total loans (or total loans and securities issued by non-financial corporations and held by financial institutions) to non-financial corporations. The collection of other institutions is identified only by a circumference. June 2009 values.

The deceleration in lending to non-financial corporations was not homogenous over the different sectors of activity and by dimension of exposure. There was a marked slowdown, in June 2009, to lending to corporations in the "trade, hotels and restaurants", "real estate", "construction" and "other services provided mainly to corporations" sectors with values of less than the rate of growth of total lending to non-financial corporations (Table 4.4.2). The rate of growth on lending to manufacturing corporations, in June 2009, was lower than in 2008, but higher than total loans to non-financial corporations.

In terms of high exposures and amounts of credit concentration to non-financial corporations, reference should be made to the fact that around 50 per cent of the amount of the loans was originated by less than 1 per cent of counterparties, with each exposure being more than EUR 10 million (Table 4.4.3). Higher exposures to non-financial corporations recorded, in June 2009, a markedly higher rate of growth than the growth in total lending to non-financial corporations, as in past periods. The rate of growth of low levels of exposure of less than around EUR 500 thousand, comprising around 90 per cent of the number of exposures and only 11 per cent of credit, was significantly lower than the rate of growth of total lending to non-financial corporations.

In accordance with the results of "Box 2 *Recent developments and determinants of bank loans to the non-financial private sector*" in this Bulletin, the growth in lending to non-financial corporations tended to evolve more in line with the factors underlying the usual determinants (interest rate and corporate investment) during the course of 2009, after growing markedly above this level in the preceding year. The slowdown in lending to non-financial corporations is in line with the results of the credit market survey on the five main banking groups for the first three quarters, with a relative stability of demand for loans having been noted in the case of corporations in the first three quarters of 2009. Borrowing for in-

Table 4.4.2

LENDING BY OTHER MONETARY FINANCIAL INSTITUTIONS TO NON-FINANCIAL COMPANIES- BREAKDOWN BY SECTOR [(a)]

Annual rates of change at end of period, as a percentage

	2004	2005	2006	2007	2008		2009	Weight in total loans
					Jun.	Dec.	Jun.	Jun. 2008
Total	2.5	5.0	7.1	11.2	12.3	10.5	5.4	100.0
By branch of activity [(b)]:								
Agriculture, livestock, hunting, forestry and fishing	5.0	4.5	10.0	16.1	20.7	21.9	14.2	1.8
Mining and quarrying	-6.7	0.6	-5.1	4.5	12.4	13.8	3.0	0.4
Manufacturing	-3.8	-3.0	0.7	7.9	5.9	7.7	7.4	12.9
Generation and distribution of electricity, gas and water	-2.0	37.9	-11.3	13.7	31.7	47.8	31.5	3.0
Construction	6.0	10.7	5.4	10.7	12.8	8.6	4.6	19.6
Services	3.2	4.2	9.9	11.8	12.7	10.2	4.1	62.3
of which:								
Real estate activities	13.9	11.9	12.9	14.4	14.2	8.5	3.7	19.6
Other services provided mainly to corporations	-1.7	6.7	13.8	16.6	13.1	14.1	2.3	13.9
Trade, hotels and restaurants	2.0	3.1	7.1	6.3	10.9	7.5	1.2	17.2
Transport, post and telecommunications	-4.5	-10.6	0.7	11.0	14.6	18.3	14.6	6.2

Source: Banco de Portugal.
Notes: (a) The annual rate of change is calculated on the basis of the relationship between the balances of bank loans at the end of the month, adjusted for securitisation operations, and monthly transactions, which are calculated on the basis of balances adjusted for reclassifications, write-offs and foreign exchange and price revaluations. (b) The allocation of loans by sector of activity is estimated on the basis of the structure of the Central Credit Register.

Table 4.4.3

LENDING TO NON-FINANCIAL CORPORATIONS – BY SIZE OF EXPOSURE [a]
Annual rates of change at end of period, per cent [b]

				Memo (June 2009):		
	Jun. 08	Dec. 08	Jun. 09	Lower limit [e] (10^3€)	Average outstanding amounts (10^3€)	Weight of the outstanding amounts in the total (%)
Total	11.7	10.6	6.1			100
Large exposures (percentile 90) [c]	12.0	11.1	6.3	500	4 000	88.6
of which: very large exposures (percentile 99 [c]	13.5	13.8	8.1	6 500	25 800	57.2
of which: the largest exposures (percentile 99.5) [c]	14.1	14.5	8.5	12 500	42 600	47.2
of which: maximum exposures (percentile 99.9) [c]	12.6	13.1	9.5	50 000	120 000	26.7
Retail exposures [d]	7.8	3.9	2.3	-	57	11.4

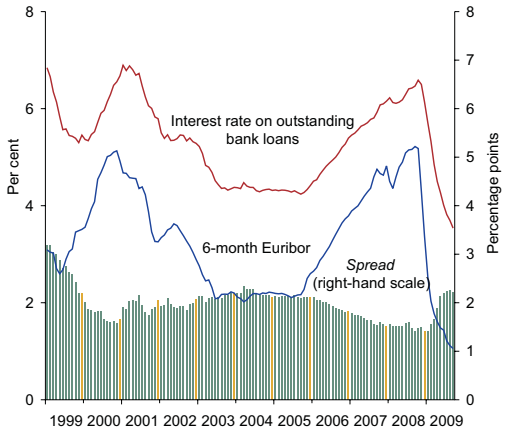
Source: Banco de Portugal.
Notes: (a) Indicators based on information from the Central Credit Register (CRC), with each exposure characterised by total financial system lending to a determined non-financial company. All banks, savings banks, mutual agricultural credit banks, financial credit institutions, factoring corporations, leasing corporations, corporations issuing or managing credit cards, hire purchase finance corporations and other resident financial intermediaries are considered to be banking system elements. (b) For the calculation of year-on-year rates of change, the lower limits of each group of exposures were defined by successively applying the rates of change of total exposures in each period to the June values. (c) Quantiles defined on the basis of the number of corporations ranked in accordance with total amount of exposure. (d) Exposures whose amounts are lower than the lower limit of major exposures, corresponding to 90 per cent of corporations with debts to CRC member institutions. (e) Lesser amount of exposure than the collection of exposures considered in the quantile.

vestment requirements contributed to lower demand for loans. The five main banks also continued to impose increased restrictions on lending criteria (or lines of credit), albeit with less intensity in the third quarter in comparison to the two preceding quarters.[55] According to the survey, more demanding criteria were particularly reflected in higher spreads, especially on higher risk loans. There was a substantial increase in spreads on end of period balances during the course of 2009 (Chart 4.4.19), standing at around 2.2 percentage points (close to the maximum for the ten year period) in September 2009, in comparison to around 1.1 percentage points in December 2008 (close to the minimum for the ten year period). As noted in the case of consumer credit and other lending, the increase in default and unfavourable evolution of economic activity also added to interest rate movements on non-financial corporations loans (see "Box 1 *Determinants of the recent pass-through of money market rates to interest rates on loans to the non-financial private sector*", in this Bulletin). According to the results of the referred to survey, more demanding loan approval criteria were also reflected in a tightening of the other contractual conditions, with reference being made to the reduction in the maturity periods of agreements. Loans with a maturity of more than five years, which, in September 2009, represented around 40 per cent of credit, slowed down sharply during the course of 2009, although with substantially higher rates of growth than loans on maturities of less than a year. There was also a lower rate of growth of loans of up to one year, in addition to bank overdrafts, during the course of 2009, in which negative growth rates were recorded at the start of second half 2009 (Chart 4.4.20).

(55) For more information please consult the Bank Lending Survey referred to in footnote 51.

Chart 4.4.19

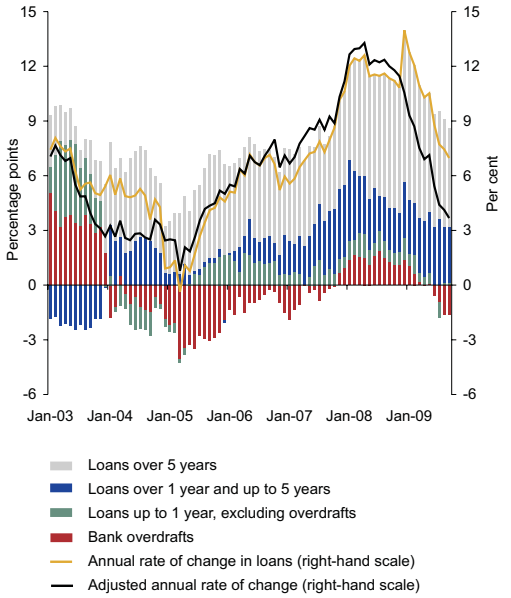
MONEY MARKET INTEREST RATES, INTEREST RATES ON BANK LOANS TO NON-FINANCIAL COMPANIES AND RESPECTIVE SPREADS



Source: Banco de Portugal.
Notes: Rates and spread on end of period balances. The end of year figures have been underlined. The rates on balances have been estimated up to December 2002. The spread has been calculated as the difference between the rate on the balances and the moving average of 6-month Euribor. Last value: September 2009.

Chart 4.4.20

CONTRIBUTIONS OF CONTRACTUAL MATURITY SEGMENTS TO THE RATE OF CHANGE IN THE BALANCE OF BANK LOANS TO NON-FINANCIAL COMPANIES



Source: Banco de Portugal.
Notes: The contributions refer to the balance on bank loans recognised as assets on banks' balance sheets, without any adjustment, for which the year-on-year rate of change is presented. The year-on-year adjusted rate of change on loans is calculated on the basis of the relationship between the balances, adjusted for securitisation operations, and monthly transactions calculated on the balances adjusted for reclassifications, asset write-offs, foreign exchange and price revaluations. Bank overdrafts were classified as having a maturity of less than one year. Last value: September 2009.

The increase in the materialisation of credit risk on lending to non-financial corporations has been reflected in the default levels which recorded substantial increases in the first three quarters of 2009 (Chart 4.4.21), to the highest amounts of the last ten years. The amount in default, in September 2009, was around 4.0 per cent of lending to non-financial corporations, adjusted for securitisation operations. This figure compares with 2.2 per cent in December 2008 and 1.4 per cent in December 2007. The increase in defaults is also evident in an analysis of the annual flow of new overdue loans and other non-performing loans. This flow, in September 2009, corresponded to around 2.1 per cent of lending to non-financial corporations, adjusted for securitisation operations, in comparison to 1.3 per cent in December 2008 and was much higher than noted during the last recessionary period.

In accordance with information from the Central Credit Register, in first half 2009, amounts in default by non-financial corporations were also accompanied by an increase in the percentage of non-financial corporations with overdue credit and interest. In June 2009 around 17 per cent of corporations with loans had overdue credit and interest, which was higher than the levels of 15 per cent and 14.6 per cent, recorded in December and June of the preceding year, respectively (Table 4.4.4). The increase in the percentage of corporations with overdue interest and credit on their loans was transversal to all credit brackets for the non-financial corporations analysed, in similar vein to the increase in the amount of overdue credit and interest. It should, however, be noted, that the overdue credit and interest on exposures of higher amount were less than for the financial system aggregate, as in line with past years. Notwithstanding the lower level of default noted, the highest levels of exposure are usually originated by the larger corporations and the Basel II Accord establishes higher capital requirements for such ex-

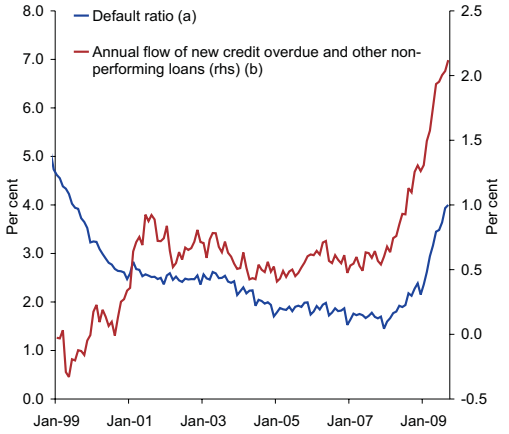
posures (to identical levels of other risk parameters). The fact, which is based on non-conclusive evidence, that the *larger a firm, the higher its dependency upon the overall state of the economy, and vice versa*, and that *smaller firms are more likely to default for idiosyncratic reasons*,[56] is extremely important in terms of financial stability, owing to the systemic risk associated with such exposures.

The evolution of default was not an across-the-board development in terms of sectors of activity, with special reference being made to the increase in defaults on lending to corporations in the construction and real estate activities sectors, owing to the fact that these sectors are particularly sensitive to the economic cycle and have higher debt levels (Chart 4.4.22 and "Box 1 *Profitability, indebtedness and default of non-financial corporations*" in this Bulletin). These sectors represent around 40 per cent of lending to non-financial corporations. Manufacturing and trading corporations have also recorded higher default levels than the average for the non-financial corporations aggregate, albeit to a lesser extent than corporations in the construction and real estate sectors. Non-financial corporations in default, as described in the "Box 1 *Profitability, indebtedness and default of non-financial corporations*" in this Bulletin, are, as to be expected, those with the lowest return on capital invested, higher indebtedness levels and lower sales, with the exception being corporations in the construction sectors whose defaulting corporations have higher sales revenues. The deterioration of the financial situation of defaulting corporations is also associated with their sales figures, in which the median sales growth of defaulting corporations is negative. It should be noted that those firms in the trading sector exhibited a negative median sales growth in 2008, as opposed to the median sales growth if all firms analysed are considered.

Higher default levels appear in a context of a sharp and significant drop in economic activity, which is only partly offset by lower interest rates.[57] It is also to be expected that the current recession will con-

Chart 4.4.21

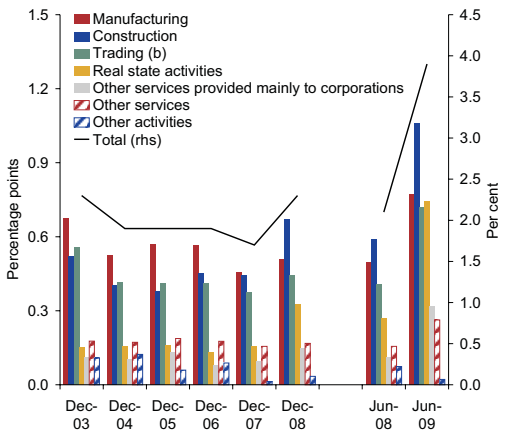
DEFAULTS ON LENDING TO NON-FINANCIAL CORPORATIONS



Source: Banco de Portugal.
Notes: (a) Defined as being credit in default (overdue loans and other non-performing loans) as a percentage of the loans balance, adjusted for securitisation operations. (b) An estimate of the annual flow of new overdue loans and other non-performing loans is set out as a percentage of the loans, adjusted for securitisation operations and is calculated by adjusting the change in the balance of overdue loans and other bad debts, asset write-offs, reclassifications and, from December 2005 until June 2009, sales outside the banking system of overdue credits and other non-performing loans not written-off from assets, reported on a quarterly basis in conformity with Banco de Portugal Instruction no. 2/2007. Last value: September 2009.

Chart 4.4.22

DEFAULT RATIO FOR NON-FINANCIAL CORPORATIONS
Sectoral contribution (a)



Source: Banco de Portugal.
Notes: (a) Corresponds to credit granted by resident credit institutions, including credit in securitizations operations. (b)Trading comprises wholesale and retail trade, vehicle repair and personal and household goods.

(56) Taken from "An explanatory note on the Basel II IRB risk weight functions", Bank for International Settlements, July 2005.
(57) See "Box 4.5 Likely developments in the default situation among non-financial corporations" of *Financial Stability Report* 2008.

Table 4.4.4

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

Per cent

	Dec-05	Dec-06	Dec-07	Jun-08	Dec-08	Jun-09
Total exposure						
Number of defaulters [b]	11.8	12.0	13.5	14.6	15.0	17.0
Credit and interest overdue [c]	2.1	1.9	1.8	2.1	2.3	3.9
Large exposures (percentile 90) [d]						
Number of defaulters [e]	9.4	10.1	10.6	13.3	14.8	19.9
Credit and interest overdue [f]	1.5	1.4	1.3	1.6	1.9	3.5
of which: **very large exposures** (percentile 99) [d]						
Number of defaulters [e]	5.5	6.2	10.4	10.4	13.2	19.6
Credit and interest overdue [f]	0.5	0.4	0.6	0.6	0.9	2.6
of which: **the largest exposures** (quantile 99.5) [d]						
Number of defaulters [e]	4.3	5.3	6.7	9.7	12.0	18.2
Credit and interest overdue [f]	0.3	0.1	0.3	0.4	0.6	2.3
of which: **the largest exposures** (quantile 99.9) [d]						
Number of defaulters [e]	4.4	3.5	6.1	6.5	11.1	14.5
Credit and interest overdue [f]	0.2	0.0	0.1	0.1	0.2	1.9
Retail exposures [g]						
Number of defaulters [e]	12.1	12.3	13.8	14.7	15.0	16.7
Credit and interest overdue [f]	5.8	5.5	5.3	5.6	6.0	7.4

Source: Banco de Portugal.
Notes: (a) Indicators based on information from the Central Credit Register (CRC). They comprise lending by banks, savings banks, mutual agricultural credit banks, credit financial institutions, factoring companies, leasing companies, companies issuing or managing credit cards, hire purchase finance companies and other resident financial intermediaries (b) As a percentage of the number of non-financial corporations with debts to CRC member financial institutions. (c) As a percentage of total lending by CRC member financial institutions to resident non-financial corporations. (d) Percentiles defined on the basis of the number of corporations ranked by their total amount of exposure. (e) As a percentage of the number of debtors in this portfolio. (f) As a percentage of the total credit in this portfolio. (g) Exposures whose amounts are lower than the lower limit of major exposures comprising 90 per cent of corporations with debts to CRC member institutions.

tribute towards the decrease in the profitability levels of non-financial corporations and will continue to pressurise their financial situation, taking into account that the rigidity of several component parts of their costs will only permit a limited adjustment to the lower demand. However, an across-the-board improvement in confidence levels,[58] the beginning of economic recovery in several economies and government support measures for corporations, particularly small and medium sized corporations, are positive factors behind corporations' debt servicing capabilities. There remains, however, a high level of uncertainty over the magnitude and dynamics of the economic recovery, particularly its level of sustainability, which is a strong conditioning factor on the materialisation of credit risk for banks.

(58) See "The Portuguese Economy in 2009", "Section 5 *Expenditure" in this Bulletin.*

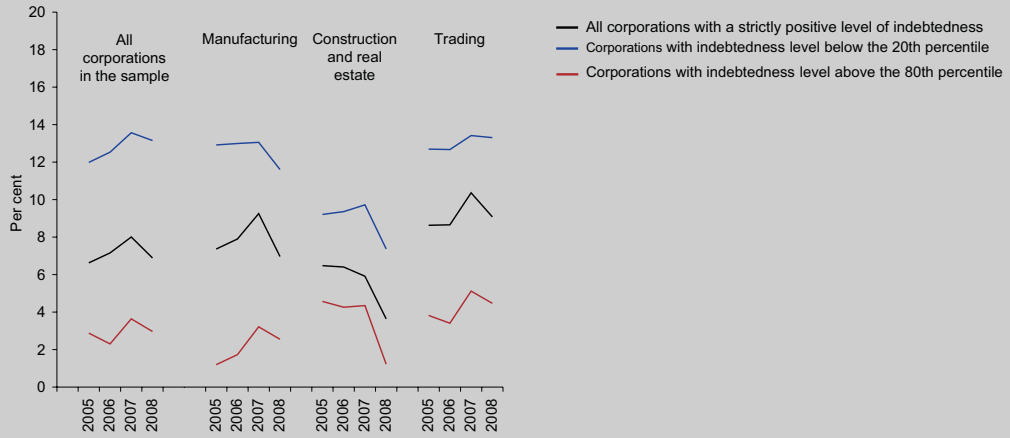
Box 1. Profitability, indebtedness and default by non-financial corporations

There was an increase in defaults by non-financial corporations in 2008, carrying through into 2009. This box aims to analyse the extent of the relationship between profitability, indebtedness and default by non-financial corporations, taking into account that there may be a possibility of sectoral differences. Firstly, for a stratified sample according to the level of indebtedness, an analysis of the weighted average of profitability in each stratum and for different sectors of activity was carried out. Secondly, for a stratified sample in accordance with the existence of default by corporations, for a collection of other indicators, with emphasis on the financial situation, median values were obtained for each stratum.

In accordance with information from the Central Balance Sheet Database,[1] the trend of the average return on invested capital by Portuguese corporations during the course of 2005 to 2007 was positive, but decreased in 2008. The return on invested capital is generally lower for corporations with the highest debt levels. Chart 1 provides information on the evolution in return on invested capital for different groups of corporations, segmented in accordance with their indebtedness levels. Among the sectors considered, which account for more than 50 per cent of lending to non-financial corporations, the construction and real estate sectors are amongst the most vulnerable, owing to the trend towards decreasing return in most classes.

Chart 1

EVOLUTION OF THE RETURN ON INVESTED CAPITAL OF CORPORATIONS WITH DEBT



Source: Banco de Portugal (Central Balance Sheet Database).
Note: Return on invested capital is obtained as a weighted average of each corporation, being defined as current income plus interest paid as a percentage of equity and financial debt. The weighting factors are the equity and financial debt of each corporation as a percentage of the total equity and financial debt of the set of firms under analysis. Indebtedness is defined as the financial debt to equity ratio.

In an attempt to analyse the vulnerability of corporations in the current economic circumstances, several measures characterising the operational and financial activity of corporations have been set out, comparing those corporations exhibiting default during the course of 2008 with those which have not recorded any default during the year.[2] The corporations have been characterised in accordance with return on invested capital, indebtedness, level size (measured by sales revenues) and rate of growth of sales, using information dated December 2008. Chart 2 sets out the median value for each of the above mentioned variables (identified by a line), for all corporations in the sample and for the sectors which account for the largest proportion of the Portuguese banking system. In addition, the median value, differentiating between defaulting and non-defaulting corporations is also presented. As expected,

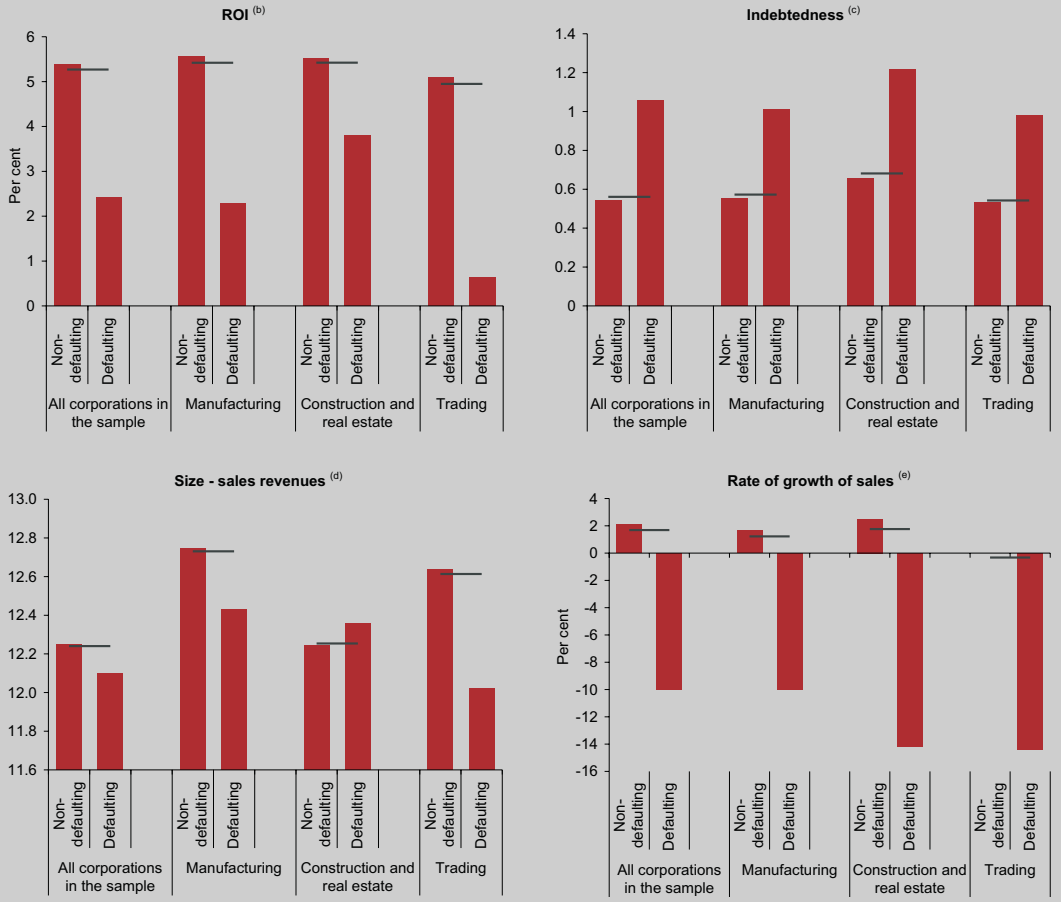
(1) *Only non-financial corporations with information in the Central Balance Sheet Database for the years from 2005 to 2008 were considered. Moreover, only corporations with strictly positive assets and sales each year were considered, totalling 210000 corporations. Each year, only firms with strictly positive indebtedness (defined as financial debt to equity) were considered.*

(2) *A given corporation is considered to exhibit default if it has overdue credit with a given bank of more than 500 euros for longer than three months, as reported to the Central Credit Register. Only non-financial corporations with information available in the Central Balance Sheet Database in 2008 with strictly positive assets, sales and indebtedness (defined as financial debt to equity) were considered, accounting for 160000 corporations.*

Chart 2

CHARACTERISATION OF CORPORATIONS ACCORDING TO DEFAULT [a]

Median values for December 2008, break down according to the existence of default in 2008



Source: Banco de Portugal (Central Balance Sheet Database and Central Credit Register).
Notes: (a) Median values for variables characterising corporations, with only corporations with strictly positive indebtedness being used in the analysis. For each set of corporations analysed (all corporations in sample, manufacturing, construction and trading corporations), the lines identify the median value of the variable under analysis, whereas the bars identify the median value for the two sub-sets – defaulting and non-defaulting corporations. (b) Return on invested capital, defined as being current income plus interest paid as a percentage of equity and financial debt. (c) Indebtedness calculated as financial debt as a percentage of equity. (d) Average dimension measured by the logarithm of the value of sales expressed in euros. (e) Growth of sales in 2008, with around only 150 000 corporations being considered owing to the non-availability of information for December 2007.

defaulting corporations in 2008 had higher indebtedness levels and lower return on invested capital. This profile was transversal to the different sectors under analysis. Reference should also be made to the fact that corporations in the construction and real estate sectors, albeit with return on capital employed (assessed by this variable's median value) in line with the returns from the total sample, had higher indebtedness levels (also assessed on the median amount of indebtedness) than registered for the sample as a whole. An assessment of the size of corporations based on sales revenues, set out in the chart using a logarithmic scale, shows that defaulting corporations have a median lower size. This profile has also been noted in manufacturing and trading corporations. Defaulting corporations in the construction and real estate sectors, however, are larger than the other non-defaulting corporations. Defaulting corporations, in 2008, had substantially lower growth in sales than those recorded by non-defaulting corporations, whatever their sector of activity. Reference should be made to the fact that in terms of the sectors of activity under analysis the growth rates in sales of trading corporations were significantly lower than those of other sectors. Reference should be made to the fact that the median rate of growth in sales of defaulting corporations in this sector and in the construction and real estate sectors were lower than if all corporations in the sample were considered.

Portuguese corporations' return on invested capital (assessed as an average) grew over the period 2005 and 2007 and exhibited a decrease in 2008. This profile, however, was not recorded in all sectors of activity and reference should be made to corporations in the construction and real estate sectors which exhibited the lower rate of return on invested capital, among the sectors considered, in addition to a decreasing level of average return over all of the time periods under analysis. Out of the sectors under consideration, corporations in these sectors have the highest median levels of indebtedness, with indebtedness being higher in defaulting corporations. When differentiated by default, non-defaulting corporations enjoy the highest return on capital employed, smaller indebtedness levels, higher sales revenues and positive sales growth. Defaulting corporations, in turn, have negative sales growths.

ARTICLES

Inflation and Inequality

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Impact of Double Coverage on the Utilisation of Health Care

Portuguese International Trade in Services

INFLATION AND INEQUALITY*

*Isabel H. Correia***

1. INTRODUCTION

Across developed countries the prolonged decline in the average inflation rate is perhaps the most widespread, large and sustained economic policy regime change. When comparing the average inflation rate in the 80's and in the last decade for most of those economies we find an average decline of around 10 percent points. This decline is described as a very positive monetary policy change, the main reason being the gain in efficiency which is associated with the regime change. However, whether this gain can be reinforced through a significative effect on equity is an open issue.

There is some empirical evidence that there is a strong positive correlation between average inflation and measures of income inequality in the post-war period (see Albanesi (2007)). Easterly and Fisher (2001) present indirect evidence on the distributional effects of inflation. Using household pooling data on 38 countries they find that the poor are more likely to be concerned with inflation than the rich. It seems that low income households perceive inflation as more costly.

It is important however to understand what can cause such a relation, and how it is connected with more empirical cross-section evidence on portfolio holdings and payments patterns. This is the objective of this article.

Heterogeneity of households is reflected on different consumption and hours of work choices, but for the present question the main fact is that it is also reflected in wealth composition and transaction patterns. Erosa and Ventura (2002) survey some facts for households in the U.S.. First, high income individuals use cash, and cash plus checks, for a smaller fraction of their transactions than low income individuals. Second, the fraction of household wealth held in liquid assets decreases with income and wealth. And third, a nontrivial fraction of households do not own a checking account and/or do not use credit cards to perform transactions.

The evaluation of welfare costs of policy changes with heterogeneous agents is in general a quite difficult task. In this article I will use as a first approach to that answer the method developed in Correia (1999). This method can be applied in a first stage where it is still feasible to compute the equilibrium prices of the economy as if agents are identical, and allows for determining the qualitative effect on equity of the decline of inflation, for any given distribution of households. The use of the method implies that, although the economy is populated by heterogeneous agents, preferences and markets are such that equilibrium prices do not depend on the specific distribution of agents' characteristics. Unfortu-

* The opinions expressed in the article are those of the author and do not necessarily coincide with those of Banco de Portugal or the Eurosystem. Any errors and omissions are the sole responsibility of the author.

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nately when I try to apply this method for the monetary model those constraints are not consistent with the cross section evidence just described above. Thus I begin by developing a model economy where the method can be applied but, although agents display the observed cross section characteristics on consumption and labor, is not able to replicate the cross section evidence on wealth composition and transaction patterns. The gain is to have a tractable fist step to get some intuition on the mechanisms through which inflation affects different agents differently. Then I will extend the model to accomplish replicating the cross section facts on payments patterns. The above method can no longer be applied here, but we can add the intuition from studying the first economy to the novel features of the more realistic one to try to answer the question raised in this article.

Agents' heterogeneity has its roots on differences in labor productivity and in the initial wealth held by every agent. The effect of the policy change on equity depends on some well known and robust cross country facts of the joint distribution of these characteristics. In particular wealth is more concentrated than earnings and that these two characteristics are positively correlated in the population.

This article focus on a stationary economy meaning that, given constant policies, prices and allocations are constant over time. Therefore I abstract from capital, and labor is the only input in production. Given stationarity the real interest rate is constant across policies and there is a one to one relation between changes in inflation and changes in the nominal interest rate. Monetary policy is therefore characterized either by the nominal interest rate or the inflation rate, and these two prices will be used with the same meaning.

Since inflation is a source of revenue for central banks (and eventually to governments) comparing policy regimes associated with different inflation rates while maintaining other taxes is not a complete exercise. Different revenues from the inflation tax should be compensated by an increase of alternative tax rates. This article develops a revenue neutral exercise where the decline of the inflation tax is accompanied either with an increase of consumption (VAT) taxation or with an increase of labor income taxation. As discussed below the answer to the question of the article also depends on which is the alternative tax.

Therefore the question of the effect on equity of different inflation rates is equivalent to the comparison of the distribution across households of the burden from inflation versus the distribution of the burden of alternative taxes.

This burden distribution would imply the comparison of welfare distributions across different policies.

The hypothesis of stationarity as well as the type of preferences chosen imply that the comparison is across income distribution, as explained below.

2. THE MODEL

The monetary economy in analysis is populated by agents that decide over consumption and leisure as well as over the means of payment. Households hold money because it is an alternative means of payment to costly credit. Credit services are produced by a transaction technology that uses labor as

input. As discussed below, whether this technology has constant returns to scale or not is determinant for the ability of the model to replicate cross section facts, and will have an important role on the evaluation of the distributional effects of different inflation regimes.

The economy is well described by a monetary general equilibrium model where the credit technology is $s = l(m, C)$, where s is time used on transactions paid with credit, and m and C represent, respectively, real balances and consumption. There is no physical capital and the production technology of the consumption good is linear in labor with a unitary coefficient. The government must finance a constant exogenous government expenditures, and collects revenues from the inflation tax and from either a tax on labor income or a tax on consumption expenditures. There is a set of households indexed by i and differentiated by their labor productivity and their initial financial wealth in real terms, represented respectively by E_i and A_{i0}.

Stationarity allows us to concentrate in momentary preferences. I choose an utility function linear in consumption[1]

$$v_i = C_i - \chi N_i^{\varphi}, \chi > 0, \varphi > 1. \tag{1}$$

The stationary budget constraint is given by the following expression

$$(1+\tau_c)C_i + wl(m_i, C_i) + Rm_i = wE_i N_i + \beta A_{i0}, \tag{2}$$

where τ_c represents the tax on consumption expenditures, w the wage net of taxes, R the nominal interest rate and N_i total hours of work.

The choice of real money demand is such that the cost of an additional unity of money, R, should equalize the benefit in terms of reduction of transaction costs, measured by net wage times the decline in hours necessary for transactions with credit, which is given by $wl_m(m_i, C_i)$.

2.1. First stage - constant returns to scale in transactions

When the technology of transactions is constant returns to scale, CRS, we can say that for a given ratio of money to consumption, $\frac{m_i}{C_i}$, the marginal and average labor productivity on transactions do not depend on the level of consumption. As an example let us suppose that $l(m_i, C_i) = \left(k\left(1-\frac{m_i}{C_i}\right)^2\right)C_i$. In this case the optimal choice of money, $R = wl_m(m_i, C_i)$, is given by

$$\frac{m_i}{C_i} = \left(1-\frac{R}{2kw}\right) \leq 1, (= 1 \text{ for } R = 0)$$

This expression has the basic money demand characteristics, namely that money demand increases with the amount of transactions and declines with the opportunity cost of money, the nominal interest rate. We can state that:

(1) See Correia (1999) to justify this type of preferences.

Result 1: When transaction technologies are CRS, $\frac{m_i}{C_i}$ is the same across households. Rich and poor agents hold money as a constant to transactions.

In this case we can rewrite the budget constraint as

$$P_c C_i = wE_i N_i + \beta A_{i0} \tag{3}$$

where $P_c \equiv (1+\tau_c) + wk\left(1-\frac{m_i}{C_i}\right)^2 + R\frac{m_i}{C_i}$.

Note that in this case the effective price of consumption, P_c, includes the direct tax on consumption and the indirect cost due to payments. This one depends on the opportunity cost of holding cash, R, on the cost of labor used in credit, w as well as on the transactions technology. Given that this effective price of consumption is identical across households the budget constraint, (3), can be used, and there is still a representative agent that represents the economy.[2]

Given optimal decisions of every agent, its indirect utility can be written as

$$v_i = \left[\frac{[wE_i / P_c]^{\frac{\varphi}{\varphi-1}}}{(\chi\varphi)^{\frac{\varphi}{\varphi-1}}}\left(1-\frac{1}{\varphi}\right) + \beta A_{i0} / P_c\right] \tag{4}$$

The representative agent of this economy, $i = r$, is characterized by $E_r = 1$ and $A_{r0} = 0$. When welfare is computed as the utility of the representative agent, or corresponds to the efficiency level of the economy, it is well known, see Correia and Teles (1996), that:

Result 2: (Friedman Rule) In a second best environment, to maximize the utility of the representative agent governments should abstain from taxing money, i. e., the government should follow the Friedman rule and set the nominal interest rate to zero. Government expenditures should be financed with consumptions taxes and/or labor income taxes. Using (4), as well as the characteristics of the representative agent, we can write the utility of the representative agent as $v_r = \frac{[w / P_c]^{\frac{\varphi}{\varphi-1}}}{(\chi\varphi)^{\frac{\varphi}{\varphi-1}}}\left(1-\frac{1}{\varphi}\right)$. Because to decline the inflation rate increases the utility of the representative agent, it is immediate to conclude that the decline of inflation, compensated either with an increase in the tax on labor income or in the tax on consumption, leads to an increase of the net real effective wage, w / P_c.

As was said before, in this first stage of the analysis, given that CRS transactions technologies allow for Gorman aggregation, we can use a simple method to rank policies by their effects on inequality.[3] The simplicity of the methodology allows for the development of economic intuition on the channels through which policy changes affect equity. The conditions are rather strong for the case under study. As just stated in result 1, they are obtained at the cost of imposing a degenerate distribution in the money to consumption ratio across households. Only policy measures that yield an equilibrium in

(2) We say that the economy is amenable to Gorman aggregation.
(3) This methodology was developed in Correia (1999).

which all agents face the same prices can be discussed. This rules out for example, some regressive taxes which I will show are very important for the case of this article.

It also implies some restrictions on the multivariate distribution of characteristics across agents, but I will not take this as a cost since the class of characteristics for which the methodology is valid covers the most relevant cases of heterogeneity characterization used in general equilibrium aggregate models, namely the heterogeneity in private wealth or the heterogeneity in labor efficiency.

A short description of equity evaluation

The assumption of Gorman aggregation is equivalent to assuming indirect utility functions which can be represented by $v_i = \alpha(p)F(E_i) + \gamma(p)A_i$, where p is the vector of equilibrium prices faced by every household.

I have shown in (4) that $\alpha(p)F(E_i) = \frac{[wE_i / P_c]^{\frac{\varphi}{\varphi-1}}}{(\chi\varphi)^{\frac{\varphi}{\varphi-1}}}\left(1-\frac{1}{\varphi}\right)$ and that $\gamma(p) = \beta / P_c$. To rank welfare distributions by equity I use the so called relative differential concept. When agents are ordered by decreasing welfare, meaning that $i > j$ implies $v_i < v_j$, we say that policy 2 dominates policy 1 in equity terms iff

$$\frac{v_i^2}{v_j^2} > \frac{v_i^1}{v_j^1}, \text{ for } i > j \tag{5}$$

The intuition for this condition is quite simple: suppose we compare any two households in the economy, agent i and agent j, where the first is poor (meaning that has a lower welfare, or income[4]). Then $\frac{v_i}{v_j} < 1$. When by the policy change this ratio increases, it means that the poor household is less distant from the richer one, that is, their economic situation is more equal than before. When this is true for every two agents then we say that the policy change leads to a more equal society, or that inequality declined.

Therefore the question is to understand how policy changes alter equilibrium prices, and then whether that change of prices in the economy increases $\frac{v_i}{v_j}$.

Using 4 let me begin by analyzing the easier case where agents are identical in labor productivity $E_i = E_j$. In this case we can write the relative welfare between agent i and j:

$$\frac{v_i}{v_j} = \frac{\gamma(p) + A_{i0}}{\gamma(p) + A_{j0}}$$

where

$$\gamma(p) = \frac{P_c[w / P_c]^{\frac{\varphi}{\varphi-1}}}{\beta(\chi\varphi)^{\frac{\varphi}{\varphi-1}}}\left(1-\frac{1}{\varphi}\right) = \frac{P_c^{\frac{-1}{\varphi-1}}(w)^{\frac{\varphi}{\varphi-1}}}{(\chi\varphi)^{\frac{1}{\varphi-1}}}\left(1-\frac{1}{\varphi}\right) \tag{6}$$

As $A_{i0} < A_{j0}$, $\frac{v_i}{v_j} < 1$ and the change in policy increase relative welfare if $\gamma(p)$ increases.

(4) Since utility is given by $\frac{[wE_i / P_c]^{\frac{\varphi}{\varphi-1}}}{(\chi\varphi)^{\frac{\varphi}{\varphi-1}}}\left(1-\frac{1}{\varphi}\right) + \beta A_{i0} / P_c$, it can be read as a measure of income.

Compensating inflation with a VAT tax

When the decline of inflation (a lower R) is compensated by an increase of the VAT tax (or the tax on consumption) to maintain tax revenues, the net wage, w is not affect by the change of policy. This results from the gross wage being equal to a constant marginal labor productivity and from taxes on labor income being not affected by the policy change. Then using result 2, which states that the net effective wage, w / P_c increases with the decline of inflation, it is immediate to conclude that the change in policy just affects P_c. The reason why in this case the lower inflation tax is efficient is that it declines the effective consumption price. As $\frac{m_i}{C_i} < 1$, the base of the consumption tax is higher then the base of the inflation tax. This means that although the tax on consumption increases it increases by less than the decline of the nominal interest rate. Other way to understand this result is to see that in the limit, when the nominal interest rate is zero and credit is not used as payment, the inflation tax is equivalent to the consumption tax. But when households decide to use credit for a share of payments, it is because at the existing interest rate the cost of transactions is lower. Again the decline in R implies a positive income effect, that to be compensated implies an smaller increase in τ_c. We can write $\gamma(p)$ as the second expression in 6 and since $\varphi > 1$, a decline on P_c increases $\gamma(p)$.

We can summarize this in:

Result 3: A decline in inflation compensated by an increase in the consumption tax rate improves welfare distribution, when $E_i = E_j$ [5].

Note that the robustness of this result, that the decrease of inflation compensated with a consumption tax reduces inequality, is not obvious even in this very simple set-up without the help of the mathematical analysis. Since we know that the main effect of the change of policy is the decline of the effective price of consumption what we can immediately guarantee is that richer agents with positive levels of initial wealth would gain by two reasons: first because the value of initial wealth in terms of consumption is higher, $\beta A_{j0} / P_c$; and second because the net real effective wage increases. Therefore households with non-negative wealth, as the representative agent, increase welfare given the proposed change of policy. The same cannot be said for agents that have negative initial wealth. As with richer agents they benefit from the the higher net effective wage, but since they are debtors, and the effective value of debt increases with the decline of the effective price, it would not be clear, just by analyzing the expression for their utility, why the first effects would always dominate this last one, and the poor is better off given the policy change. Note however this is always true, without any other channel in addition to the ones described, because:

Result 4: A decline in inflation compensated by an increase in the consumption tax by result 3 improves equity, and leads to an increase in $\frac{v_i}{v_r}$ for every i, $i < r$. Given result 2 the welfare of the representative agent, v_r increases and therefore v_i also increases for every i . Therefore the proposed policy

(5) This is not an important assumption because it can be shown that when $E_i < E_j$ the same result is obtained, since wealth is more concentrated than earnings.

increases welfare for every household in this economy, leads to a Pareto movement, but the poor, the debtor, increases more than the richer, the creditor.

This result is fundamental since is the one from where the intuition of the rest of this article is developed.

Compensating inflation with a labor income tax

Instead of using the tax on consumption to compensate for the decline in revenues coming from the inflation tax, I analyze now the effects on equity of increasing the tax on labor income. As before, this change of policy is efficient, meaning that using result 2 we still have as a result that the net effective wage increases. But since now the tax on labor is higher, the net wage, w, declines. This tells us that P_c declines more then w. Again we should use the expression (6), to understand the effect on relative welfare. And we can state that:

Result 5: A decline in inflation compensated by an increase in the labor income tax has an ambiguous effect on equity.

As P_c declines and w/P_c increases the effect on $\gamma(p)=\frac{P_c\left[w/P_c\right]^{\frac{\varphi}{\varphi-1}}}{(\chi\varphi)^{\frac{\varphi}{\varphi-1}}}\left(1-\frac{1}{\varphi}\right)$ is not a general one. To understand this difference relatively to the former result we can think that for the representative agent the tax on labor income is identical to the tax on consumption when the interest rate is zero. However, a household with positive wealth would prefer the tax on labor and the opposite occurs for the household with negative wealth. Therefore the change from a consumption tax to a labor income tax with zero interest rate would increase inequality. As we already concluded that the change of inflation to a consumption tax improves equity we can understand why the change to a tax on labor income has an effect on inequality that is parameter and distribution dependent.

2.2. Economies of scale

After analyzing the case where transactions technology is constant returns to scale, let us correct for the cross section evidence on payment patters. As before the stationary budget constraint can be written as:

$$(1+\tau_c)C_i+wl\left(m_{i,}C_i\right)+Rm_i=wE_iN_i+\beta A_{i0},$$

Let us assume that the transactions technology $l\left(m_{i,}C_i\right)$ is no more homogeneous of degree one, and that it can be given, for example, by:

$$l\left(m_{i,}C_i\right)=k\left(1-\left(\frac{m_i}{C_i}\right)\right)^2C_i+\left(1-\left(\frac{m_i}{C_i}\right)\right)\bar{N}$$

where the main difference is the inclusion of a cost that does not depend on the total amount of transactions but uniquely on the share of transactions paid with credit. It is a fixed cost for a given share. When this technology is used to compute whether payments should be done with cash or credit we obtain that:

$$\left(\frac{m_i}{C_i}\right) = 1 - \frac{R}{2wk} + \frac{\bar{N}}{2kC_i}$$

It is immediate to conclude that for $\bar{N} > 0$ the larger is C_i the smaller is the share of transactions realized with cash. That is:

Result 6: When transaction technologies are increasing returns to scale, $\frac{m_i}{c_i}$ is no more constant across households. Rich agents hold a lower share of cash to transactions than poor agents.

This money demand replicates exactly the facts that we quote in the beginning of this article. Agents differ on m/C depending on the total volume of transactions. There is a household for which $C_s = \frac{w\bar{N}}{R}$ that does not pay with credit. There is a group for which $C_s < \frac{w\bar{N}}{R}$ that use just cash for payments and therefore

1) $m_i = C_{i,}i < s.$

The other subset of the population for which $C_j > \frac{w\bar{N}}{R}$ decide to use both cash and credit for payments. However they decide to use more credit the higher is the transactions level, that is the richer they are, and therefore the higher the wealth, the lower its cash to wealth ratio. For this group money demand is given by

2) $m_j = 1 - \frac{R}{2wk} + \frac{\bar{N}}{2kC_j}, j > s.$

Then we can write the budget constraint for every household as

$$P_{ci}C_i + w\left[1 - \left(\frac{m_i}{C_i}\right)\right]\bar{N} = wE_i N_i + \beta A_{i0},$$

The effective price of consumption is now specific to each household and given by

$$P_{ci} = (1 + \tau_c) + R\left(\frac{m_i}{C_i}\right) + wk\left[1 - \left(\frac{m_i}{C_i}\right)\right]^2$$

In addition we can observe that the heterogeneity of this price comes uniquely due to the share of payments done with cash, which as stated in result 6 is now different across agents.

In addition it is straightforward to compute that

$$\partial \frac{P_j}{\left(\frac{m_j}{C_j}\right)} = R - 2wk\left[1 - \left(\frac{m_j}{C_j}\right)\right] = \frac{w\bar{N}}{C_j} > 0$$

which implies the following result:

Result 7: With economies of scale in the transactions technology there is a non degenerate distribution of $\frac{m}{C}$ across households. Poor agents (i) consume less and have a higher share of money. Having a zero, or small use of credit, leads to a higher effective price of consumption.

The existence of inflation with this type of technology is an additional source of inequality.

Since the main objective of this article is to understand the connection between inflation and inequality this result is quite important. It explains that, when the monetary model economy is able to replicate payments facts, the mere existence of inflation is a source of inequality. The existence of fixed costs in the use of credit implies that the effective price of consumption is higher for those agents that do not have an advantage in using credit. And for those that use it, the richer they are the lower is the effective price of consumption.

Now our question is what happens when inflation declines. It is easy to see that with this new channel, introduced through the increasing returns on transactions and which is reflected in different effective prices of consumption across agents, inequality is affected by the change of inflation.

We can see that the relative price of consumption across agents depends on the inflation level. Inflation, directly and through m/C, affects the relative effective price of consumption:

$$\frac{d\frac{P_{ci}}{P_{cj}}}{dR} > 0$$

The price for the poorer household is higher than for the richer, i.e., the relative price $\frac{P_{ci}}{P_{cj}}$ for $i < j$ is greater than one. When inflation increases both households face a higher price but because the richer households have higher advantage for substituting cash by credit the price faced by the richer households increases less than that faced by poorer households. Then we can say that:

Result 8: With economies of scale in the transactions technology, inflation acts like a regressive tax on consumption. It is as if the tax rate on consumption increases more for poorer than for richer households.

Inflation is thus not just an additional source of inequality but the increase of inflation is regressive. As I am analyzing the effects of the decline of the inflation tax I can say that, if the rest of the analysis would be maintained, the decline of inflation would work as a progressive policy. But through the additional channel now discussed, the decline in inflation would reduce inequality.

As mentioned in the beginning the problem with this more realistic transactions technology is that in this monetary economy it is no longer possible to aggregate households decisions and to compute equilibrium prices that do not depend explicitly on the underlying distribution. This can be easily seen since I claim that a necessary condition for this to be true is that prices faced by different agents should be identical, and we just showed that this is not the case with increasing returns since the effective price of consumption is specific to every household.

An alternative to pursue this work would be the construction, calibration and numerical computation of the equilibrium in this non-aggregable heterogeneous agent model. The results would be always conditional on the specific calibration, either of the parameters that command the aggregate behavior or of the proposed joint distribution of characteristics across households. Instead I decided to use some quantitative results taken from a similar model in the literature. Erosa and Ventura (2002) use an heterogeneous agent model with several alternatives, some of which are similar to the model described in this article. In their examples, aggregate results, and therefore equilibrium prices, behave qualitatively in the same way in the heterogeneous agent model when compared with a representative agent model.

They also show that when the decline of inflation is accompanied by an increase of the labor tax the welfare of the poor agent increases by more than the one of the rich agent. Using the definitions in this article this means that inequality is reduced. Since this is the case where I show that the results are not robust, it helps to state that in a carefully calibrated model forces that lead to the decline in inequality will dominate those that increase it.

3. CONCLUSIONS

There is a strong connection between inflation and inequality, even when the change of inflation, and the associated inflation tax, is not coupled with a decline of government expenditures. When the lost revenues from taxing money are substituted by revenues from other taxes, the specific tax chosen can affect the distributional effects of the lower level of inflation.

Given the fundamental roots of heterogeneity, which were taken to be differences in labor productivity and initial wealth, and given the higher concentration of wealth when compared with earnings, the increase in the labor income tax is worse for inequality than the increase in the consumption tax. Therefore the best alternative to help the reduction of inequality when inflation is reduced is the increase of the tax on consumption or a VAT tax. The tax on cash, when compared with this tax on consumption is worse for inequality for two reasons: first, just by increasing a common consumption price hurts the poor more; and second, when this price differs across households, penalizing the poorer, the increase of inflation increases this difference. The inflation tax is a tax that is worse for inequality than the linear tax on consumption, even when does not create different consumption prices across households, and in more realistic frameworks it is even worse given its regressive characteristics.

Therefore the decline in inflation, in addition to being able to increase the aggregate welfare, is equity improving. This means that agents in the bottom of the welfare distribution have a high probability of improving welfare due to the decline of inflation.

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WAGE AND PRICE DYNAMICS IN THE UNITED STATES AND THE EURO AREA*

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1. INTRODUCTION

The existence of wage and price rigidities is widely recognised as a crucial issue for macroeconomics and notably for monetary policy design. On the theoretical front, recent literature – of which Erceg *et al.* (2000), Christiano *et al.* (2005), Levin *et al.* (2005) and Blanchard and Galí (2007) are notable examples – has re-affirmed the importance of price and wage rigidities for the reaction of the economy to shocks. On the empirical front, there is now a large bulk of evidence on the existence of price rigidities at the firm level. Studies documenting this kind of nominal rigidities include, among many others, Bils and Klenow (2004), Klenow and Kryvtsov (2008) and Nakamura and Steinson (2008) who study consumer prices in the United States and Dhyne *et al.* (2006), Fabiani *et al.* (2006) and Vermeulen *et al.* (2007) who give a synthesis of studies carried out for the euro area countries.[1] The evidence for nominal wages is not as extensive as for prices, but recently Druant *et al.* (2009) documented the existence of significant wage rigidities for the euro area countries.

In the real world, the existence of price and nominal wage rigidities is expected to translate into persistent responses of wages and prices to shocks hitting the economy. Thus, the aim of this article is to investigate the dynamics of aggregate wages and prices in the United States (US) and the euro area (EA) with a special focus on the persistence of real wages, wage and price inflation. Following a theoretical model where wages are determined through a bargaining process and prices are set by imperfectly competitive firms, we estimate a structural vector error-correction model (SVECM) involving nominal wages, consumer prices, the unemployment rate, labour productivity and import prices, which allows for a distinction between permanent and transitory shocks (see, King *et al.* (1991), and Jacobson *et al.* (1997)). The three permanent shocks, labelled as import price, unemployment and technology/productivity shocks are identified using the properties of the theoretical model, as well as the cointegrating properties of the system. By looking at the models' impulse response functions, we investigate the main features of wages and prices responses to these shocks and evaluate the short and long-run persistence of real wages and wage and price inflation.

The rest of the article is organized as follows. Section 2 presents a simple theoretical model of wages and prices, which will be used to identify the long-run wage and price equations, as well as the perma-

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(1) Similar evidence for Portugal is summarized in Dias *et al.* (2004) and Martins (2005).

nent structural shocks. Section 3 presents the estimation and identification of the long-run wage and price equations. Section 4 focuses on the identification of the structural shocks and on the dynamic response of wages and prices to these shocks, including some measures of short and long-run persistence. Section 5 tries to account for the main differences in the impulse responses of the shocks in the US and the EA. Section 6 concludes.

2. A MACROECONOMIC MODEL FOR WAGES AND PRICES IN AN OPEN ECONOMY

The model consists of a production function, a wage setting equation, an equation describing price formation, an equation for the unemployment rate and an equation for import prices in domestic currency. The equations contain a minimum of dynamics in order to simplify the discussion about the long-run properties of the model.

We assume that the production in the economy may be described by a constant returns to scale Cobb-Douglas function (with lower case letters denoting logs):

$$y - e = \eta + (1 - \gamma)(k - e) \tag{1}$$

where y is output, e is employment, k is the stock of capital, γ is the output elasticity of labour and η a stochastic technology variable. We may further simplify the production function and write:

$$h = y - e = \xi_h \tag{2}$$

where h stands for labour productivity and ξ_h for a stochastic technology trend (technical progress and capital accumulation) that shifts labour productivity in the long run. It is assumed that technology is exogenous and follows a stochastic random-walk process, *i.e.*, $\xi_h = \xi_{h-1} + \phi_h$ where ϕ_h is a pure technology innovation.

As regards the wage formation, we assume that wages are determined through a bargaining process between firms and employees. This type of models predicts that the bargaining solution will depend on the real producer wage and productivity on the firms' side, and on the real consumer wage on the workers' side.[2] A simple log-linear form of the wage equation corresponding to the bargaining solution can be written as:

$$w - q = c_1 + \mu(p - q) + \delta h - \theta u, \qquad 0 \leq \mu, \delta \leq 1, \theta \geq 0, \tag{3}$$

where w is the nominal wage rate, q is the producer price level, p is the consumer price level and u is the unemployment rate.

According to (3), the real wage faced by firms (real producer wage) is affected by $(p - q)$, h and u. The price wedge $(p - q)$, which measures the difference between the producer real wage and the con-

(2) For text book expositions of the model for wages and prices see, for instance, Layard *et al.* (1991), Lindbeck (1993) or Bardsen *et al.* (2005).

sumer real wage, plays an important role in theoretical wage bargaining models. Its coefficient, μ, can be interpreted as a measure of real wage resistance, which measures workers' ability to obtain higher wages to compensate for exogenous changes in their living standards (increases in consumer prices brought about, for example, by changes in indirect taxes). The bargaining solution (3) also implies that an increase in labour productivity, h, will increase wages, since higher productivity increases the profitability of firms, making them more likely to accept higher wage claims from the employees or their representatives. The unemployment rate, u, represents the degree of tightness in the labour market, which influences the outcome of the bargaining process through the relative bargaining power of employees and employers organizations.

For the process of price formation we assume an economy with imperfect competition where producers target their prices, q, as a mark-up, m, over marginal costs. If there are constant returns to scale, marginal costs are constant and therefore prices are set as a mark-up over unit labour costs:

$$q = m + (w - h). \tag{4}$$

The mark-up is not necessarily constant and, in an open-economy, it may be a function of the level of international competitiveness (see Layard *et al.* (1991)). Here, we assume that the mark-up may be written as:

$$m = c_2 + \lambda(z - q), \qquad c_2, \lambda \geq 0, \tag{5}$$

where z is the price of imports in domestic currency and λ reflects the exposure of domestic firms to international competition. Thus, the smaller is λ the smaller is the pass-through from foreign price or exchange rate shocks to domestic producer prices.

If we further assume that consumer prices are a weighted average of producer and import prices:

$$p = (1 - \rho)q + \rho z, \qquad 0 < \rho < 1, \tag{6}$$

we may solve the model for wages and consumers prices and obtain the following long-run wage and price equations (ignoring the constants for simplicity):

$$w = (1 + \alpha)p - \alpha z + \delta h - \theta u + \tau_w, \tag{7}$$

$$p = \beta(w - h) + (1 - \beta)z + \tau_p, \tag{8}$$

where $\alpha = \rho(1 - \mu)/(1 - \rho)$ and $\beta = (1 - \rho)/(1 + \lambda)$.

From the price equation, we see that there are two channels through which foreign price and exchange rate shocks impact on domestic consumer prices. First, there is a direct channel through imported goods prices given by ρ. Second, a rise in import prices reduces competitiveness of foreign firms, allowing domestic producers to increase their mark-up and thus the price of their products.

We see the wage and price equations (7) and (8) as long-run or equilibrium targets that are not necessarily

achieved by workers and firms in a specific time period. Thus, under the assumption that the two relations are stationary, the stochastic variables τ_w and τ_p can be interpreted as exogenous wage and price shocks that follow stationary stochastic processes, *i.e.*, $\tau_i = \sigma_i \tau_{i-1} + \varepsilon_i, 0 \leq \sigma_i < 1, (i = w, \ldots, p)$.

The unemployment rate is assumed to be the result of the difference between the labour supply and labour demand, so that in the long run unemployment may be affected both by real wages, $(w - p)$, and productivity, h:

$$u = \pi_1 (w - p) + \pi_2 h + \xi_u, \tag{9}$$

where ξ_u is an exogenous stochastic variable. Equation (9), being a reduced form equation, has the implication that ξ_u is a combination of labour supply and demand shocks.

Finally, we assume that import prices in domestic currency may depend on unemployment, as well as on productivity:

$$z = \gamma_1 u + \gamma_2 h + \xi_z \tag{10}$$

This way we allow for the possibility of unemployment and technology shocks to have long-run impacts on import prices through changes in the prices of imported goods in foreign currency, as well as through changes in the exchange rate of the domestic currency.

The stochastic variables ξ_u and ξ_z would be stationary processes if equations (9) and (10) turn out to be cointegrating relationships and in such a case would be interpreted as stationary shocks. In the absence of cointegration, they will be assumed to follow random-walk processes, *i.e.*, $\xi_u = \xi_{u-1} + \phi_u$ and $\xi_z = \xi_{z-1} + \phi_z$ where ϕ_u and ϕ_z are pure exogenous unemployment and import price shocks, respectively.

Summing up, our theoretical model expressed in terms of the variables we consider in the empirical analysis is composed of equations (2), (7), (8), (9) and (10).

3. ECONOMETRIC ANALYSIS

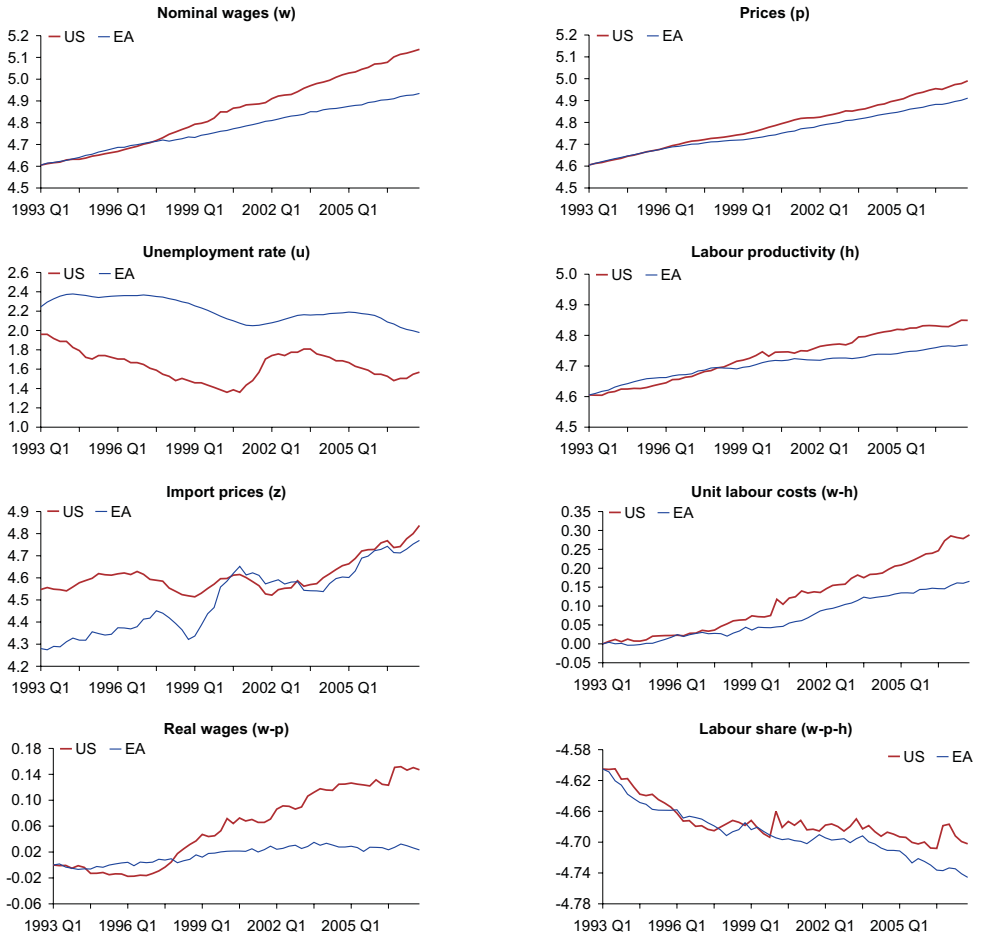
To estimate the model above we use quarterly seasonally adjusted data for the period 1993Q1-2007Q4 in the case of the US and for the period 1989Q1-2007Q4 in the case of the EA. Wages (w) refer to nominal compensation per employee for the whole economy, whereas labour productivity (h) is measured as real GDP per employed person. Consumer prices (p) are measured by the Consumer Price Index for the US and the Harmonized Consumer Price Index for the EA. Import prices (z) are measured by price indexes for imports of goods (extra-euro area imports in the case of the EA).[3]

Chart 1 plots the levels of the logs of all five variables, as well as the real wage, the labour share and unit labour costs for the US and the EA in the common period 1993Q1-2007Q4. From this chart we can

(3) Data for the US is from the Department of Labour (series on unemployment and prices) and the Department of Commerce (national accounts data). Data for the EA from 1995 onwards was collected from the Eurostat database, except for compensation per employee which came from the ECB database. Prior to mid-90s, the data was backdated with the Area Wide Model database (see Fagan *et al.* (2001)) and Eurostat extra-euro area historical trade data.

Chart 1

THE DATA IN LOGS



Sources: ECB, Eurostat, US Department of Labour and US Department of Commerce.
Note: With the exception of the unemployment rate and import prices, the original series were adjusted so that they are equal to 100 in 1993Q1.

see that real wages in the US decreased until 1997, but soared afterwards with a significantly larger growth rate than in the EA, where real wages seem to have levelled off after 2003. The labour share also exhibits a different pattern in the two economies with a very pronounced downward trend in the EA and some levelling off from 1997 onwards in the US. An important point to keep in mind is that the labour share does not seem to behave as a stationary variable neither in the EA nor in the US. For the analysis that follows we assume that w, p, h, z and u are all integrated of order one.[4]

We set up a VAR model in w, p, u, h and z with three lags and an unrestricted constant.[5] According to the theoretical model outlined in Section 2, we expect two stationary long-run relationships or, in other words, two cointegrating vectors, one corresponding to the wage equation and the other to the price equation. Based on the results of the cointegration tests, the hypothesis of two cointegrating vectors

(4) For further details on the econometric analysis, namely on the discussion of unit root and cointegration tests results, see Duarte and Marques (2009).

(5) In the case of the US, the model also includes the quarterly change in the price of oil, lagged one period, as an exogenous stationary variable. In addition, we include some impulse dummy variables in the model for each of the economies to account for outliers in the residuals of some equations.

emerges as the natural choice that reconciles the empirical evidence with the theoretical features of the model for both the US and the EA. Next, we use structural information derived from the theoretical model to identify the long-run wage and price equations (7) and (8). In general terms, this amounts to imposing restrictions on the estimated coefficients based on the restrictions on the parameters of the theoretical model. However, in the present case, this is not sufficient since the wage equation is not in fact identified. In order to overcome this problem, we impose $\alpha = 0$ in equation (7), such that import prices drop from the wage equation. It is possible to show that in such a case the system becomes over-identified with three over-identifying testable restrictions.

After imposing these over-identifying restrictions together with the additional restrictions of a null coefficient of productivity in the wage equation $(\delta = 0)$ and of the weak-exogeneity property of the unemployment, productivity and import prices (which are not rejected by the data), the two long-run estimated wage and price equations for the EA read as follows (with asymptotic standard errors in parenthesis):

$$w = p \underset{(0.023)}{-0.157u} \tag{11}$$

$$p \underset{(0.045)}{= 0.626(w - h)} + \underset{(0.045)}{0.374z} \tag{12}$$

For the US, the three over-identifying restrictions on the two cointegrating vectors are not accepted as a whole given that the restriction of a symmetric coefficient of wages and productivity in the price equation is strongly rejected by the data. When we estimate the model by imposing the two remaining over-identifying restrictions, as well as the additional restriction of $\delta = 1$ (which is not rejected by the data), we get the following two long-run estimated wage and price equations:

$$w = p + h \underset{(0.065)}{- 0.327u} \tag{13}$$

$$p \underset{(0.042)}{= 0.872w} \underset{(0.073)}{- 0.480h} + \underset{(0.042)}{0.128z} \tag{14}$$

Some comments on the long-run wage and price equations are in order. The fact that the coefficient of productivity is equal to zero in the wage equation for the EA probably reflects the fact that the labour share is decreasing during the sample period, which means that wages have not been able to capture a significant fraction of productivity gains. This phenomenon, however, seems not to be present in the wage equation for the US, where the coefficient on productivity turns out not to be statistically different from one, which means that in the long run wages will completely absorb productivity gains. This, as we shall see below, explains why technology shocks have quite different consequences for real wages in the two economies. The coefficient of the unemployment rate in the wage equation is significantly larger in the US, suggesting higher flexibility of wages to unemployment shocks, in line with the belief of a smaller degree of employment protection in the US *vis-à-vis* the EA.

As regards the price equations, we note that both include the restriction that the sum of the wages' coefficient and that of import prices is equal to one, but, in contrast to the EA, the price equation for the

US does not involve the unit labour costs as a relevant variable, as productivity enters in the equation with a lower (in absolute terms) coefficient than wages. This implies that not all the productivity gains are reflected in lower prices in the long run, which may suggest that the hypothesis of constant returns to scale is not fully consistent with US data. Another distinguishing feature between the two economies is the estimated parameter of import prices, which is significantly higher in the EA.

4. WAGE AND PRICE DYNAMICS

We now proceed to analyse the reaction of model variables to specific shocks that hit the two economies. We start by discussing the identification of the structural shocks based on the theoretical model and the empirical cointegration results from the previous section. Next, we have a look at the impulse response functions of the structural shocks, with a special focus on their persistence.

4.1. Identification of the structural shocks

The existence of two cointegrating vectors in our five-variable system implies that there must be three structural shocks with permanent effects and two structural shocks with transitory effects. According to our theoretical model, the permanent shocks can be labelled as import price, unemployment and technology/productivity shocks, whereas the transitory shocks can be labelled as wage and price shocks. The interpretation of these last two shocks is not as intuitive as that of the permanent ones, as they may stem from a variety of alternative sources with different implications for the dynamics of the model. Therefore, the discussion will focus mainly in the three permanent shocks.

The permanent import price shock is defined as the shock that has no long-run impact on unemployment or productivity. Such a shock may stem from an unexpected change in the foreign prices of imported goods or from an unexpected change in the nominal exchange rate. The permanent unemployment shock is identified by the condition that it has a zero long-run effect on productivity and is interpreted as a shock that may stem from an unexpected increase in labour supply or labour demand. Finally, the permanent technology shock is the shock that may have permanent effects on all the variables of the system and may be seen as the result of technical progress and capital accumulation that shift labour productivity in the long run.[6]

4.2. Impulse response functions to permanent shocks

The impulse response functions of model variables, as well as the responses of real wages, to positive permanent import prices, unemployment and technology shocks are depicted in Charts 2 to 4.[7] In order to evaluate how fast the wages and prices approach the new long-run equilibrium level, we com-

(6) Note that this identification conforms to the restriction satisfied by a broad range of models, where only technology shocks have a permanent effect on labour productivity (see, for instance, Galí (1999)).

(7) The impulse response functions for the five original variables of the system are depicted together with 80 percent confidence bands. Note that the impulse responses reflect the impact of a unit shock to the corresponding trend innovation.

puted two measures of persistence defined as the proportion of the total disequilibrium that dissipates in the two years after the shock, and the number of periods required for 99 percent of the total disequilibrium to dissipate (see Table 1). We see the first measure as a simple way of quantifying the speed of reaction in the short-term, so that we will loosely denote it as 'short-term persistence' and the second as a way to measure 'long-run persistence'. When the speed of the responses varies throughout the convergence period, we will need to look at both measures to better characterize the adjustment process. Although the impulse responses and the measures of persistence involve in some cases a relatively high degree of uncertainty, it is possible nonetheless to draw some conclusions on how the EA and US economies react to different shocks.

Table 1

PERSISTENCE OF WAGES AND PRICES

	Δw		Δp		$w - p$	
	US	**EA**	**US**	**EA**	**US**	**EA**
Share of total disequilibrium dissipated after 8 quarters						
Permanent import price shock	0.80	0.42	0.80	0.55	0.28	0.60
Permanent unemployment shock	0.58	0.25	0.65	0.40	0.50	0.64
Permanent technology shock	0.54	0.63	0.58	0.64	0.55	0.44
Number of quarters required for 99 percent of the total disequilibrium to dissipate						
Permanent import price shock	42	44	40	43	43	40
Permanent unemployment shock	41	48	37	47	35	41
Permanent technology shock	39	42	35	42	41	47

Source: Authors' calculations.

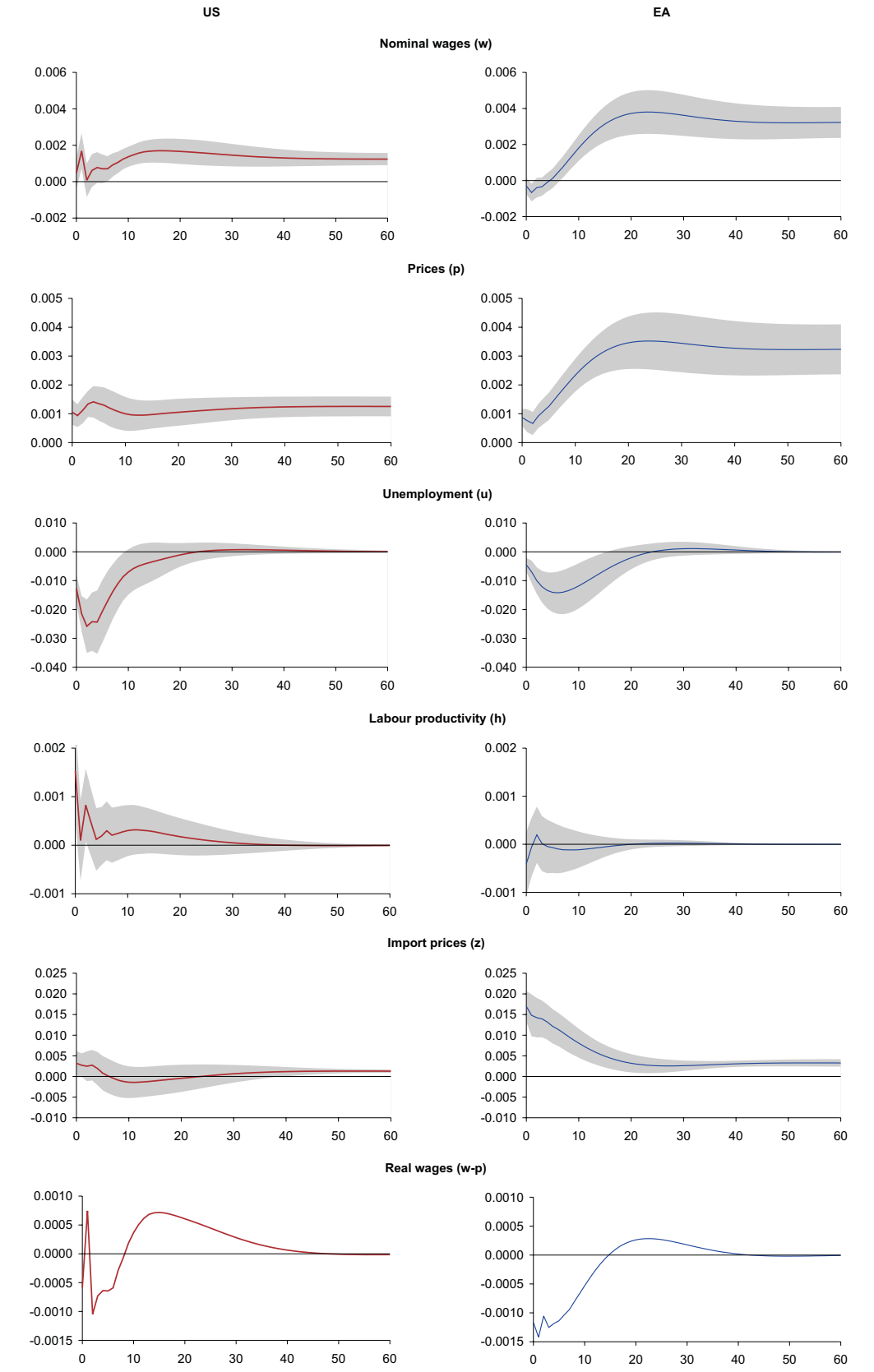
Permanent import price shock

Chart 2 depicts the impulse responses to an unexpected permanent positive import price shock in the US and the EA. As expected, given the property of long-run nominal homogeneity of the model, this shock brings about a permanent increase in nominal wages and prices of the same magnitude. As a result, real wages remain unchanged in the long run. A noteworthy result is that the import price shock has a larger impact on prices (and wages) in the EA than in the US, in line with the estimated parameters of wage and price equations, which reflect the relative openness of the two economies.

As could also be expected, prices increase faster than nominal wages in the short run, so that real wages decrease during the first two years in the US and the first three years in the EA. In addition, the adjustment of real wages displays a very persistent hump-shaped response to this type of shock in both economies, particularly in the US. From Table 1, we can see that real wages emerge as clearly more persistent in the US than in the EA especially in the short-run. In fact, in the first two years after the shock, only about 30 percent of the disequilibrium has dissipated in the US, compared to 60 per-

Chart 2

RESPONSES TO A PERMANENT IMPORT PRICE SHOCK



Source: Authors' calculations.

cent in the EA. In the long run, the difference in the number of periods required for 99 percent of the adjustment to take place is however not so significant. It takes about 11 years for the full adjustment of real wages in the US, compared to 10 years in the EA.

In the case of price inflation (measured by the first difference of the log of prices), the largest impact occurs almost contemporaneously in both economies. Wage inflation also exhibits a strong short-term response in the US, while in the EA the largest impact occurs only after 10 quarters. As regards short-term persistence, both wage and price inflation display a more sluggish response in the EA. From Table 1 we can see that after 2 years only 42 percent and 55 percent of the total disequilibrium of wage and price inflation has dissipated in the EA, compared to 80 percent in the US. At longer horizons, the difference between the two economies partly fades away, but the number of periods required for 99 percent of the total disequilibrium to dissipate for wage and price inflation in the EA still remains slightly above that of the US (around 11 and 10 years, respectively).

Permanent unemployment shock

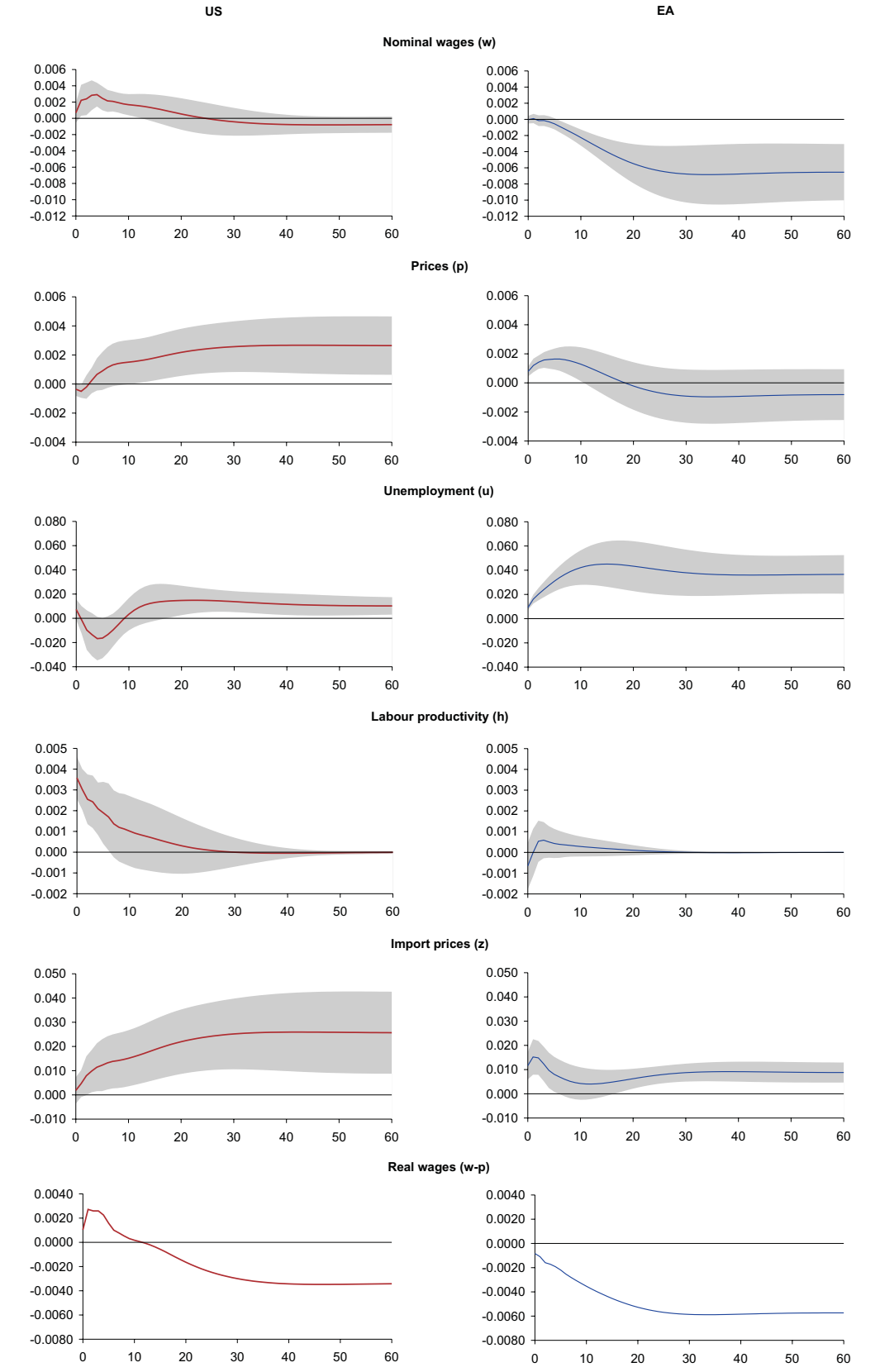
Chart 3 depicts the impulse responses to an unexpected permanent positive unemployment shock. This shock leads to a larger permanent decrease of real wages in the EA than in the US, which stems mainly from the fact that nominal wages decrease in the EA, but remain virtually unchanged in the US. The explanation for this result might be found in the response of import prices and of the unemployment rate itself. The unemployment rate levels off at a higher level in the EA, eventually reflecting greater institutional rigidity of its labour market. In turn, although import prices increase permanently in the long run in both economies (eventually following a currency depreciation induced by higher unemployment), the reaction is stronger in the US, possibly due to higher sensitivity of the dollar to domestic conditions. As a consequence, prices rise more markedly in the US economy relatively to the EA, and partially offset the direct effect of higher unemployment on wages in the long run.

In the short run, labour productivity temporary increases and unemployment temporary falls in the US leading to a rise in nominal wages. Given the sluggish response of prices, real wages increase in the first year after the shock, resuming a downward trend afterwards. This contrasts with the short-term behaviour of real wages in the EA, which start declining immediately after the shock, reflecting the increase in prices. As a result, in the short-run real wages adjust somewhat faster in the EA relatively to the US (the proportion of the disequilibrium in real wages dissipated after 2 years is 64 percent in the EA and 50 percent in the US). However, the long-run adjustment of real wages occurs somewhat faster in the US than in the EA (it takes around 9 years in the US compared to around 10 years in the EA).

As regards wage and price inflation, both variables emerge as more persistent in the EA than in the US, especially at longer horizons. The full adjustment takes about 9 to 10 years in the US compared to about 12 years in the EA.

Chart 3

RESPONSES TO A PERMANENT UNEMPLOYMENT SHOCK



Source: Authors' calculations.

Permanent technology shock

In the context of our estimated models, productivity gains are completely absorbed by nominal wages in the long run in the US, which strongly contrasts with the EA where changes in productivity have no long-run direct impact on wages (*i.e.*, $\delta = 1$ for the US, but $\delta = 0$ for the EA in equation (7)). Thus, the effects of a technology shock may be expected to differ markedly between the two economies. From Chart 4 we find that this is indeed the case, especially where prices and real wages are concerned. The long-run response of nominal wages is similar in both economies, although slightly more pronounced in the case of the US given the estimated long-run wage equation. In what concerns prices, a permanent technology shock causes a permanent decline of import prices in the US, which translates into a decrease of the consumer price level in the long run. In the EA, there is a permanent increase in the equilibrium price level brought about by a positive reaction of import prices.[8] As a consequence, real wages rise more significantly in the long run in the US than in the EA.

In line with the behaviour of nominal wages and consumer prices, the technology shock has a temporary positive impact on wage inflation in both economies, but brings about a symmetric reaction of price inflation (it declines in the US and rises in the EA). The short-run persistence of wage and price inflation is slightly lower in the EA, but the long-run adjustment is somewhat slower than in the US (it takes between 10 and 11 years in the EA and between 8 and 10 years in the US). Real wages emerge as more persistent in the EA than in the US both in the short and the long run (it takes almost 12 years for the full adjustment to take place in the EA, compared to about 10 years in the US).

5. ACCOUNTING FOR THE MAIN DIFFERENCES BETWEEN THE US AND THE EA

According to the results presented in the previous section, wage and price inflation emerge as less persistent in the US compared to the EA in the face of the three permanent shocks. In this section we investigate whether this finding is likely to stem from the use of different sample periods and/or different model specifications rather than from structural dissimilarities between the two economies.

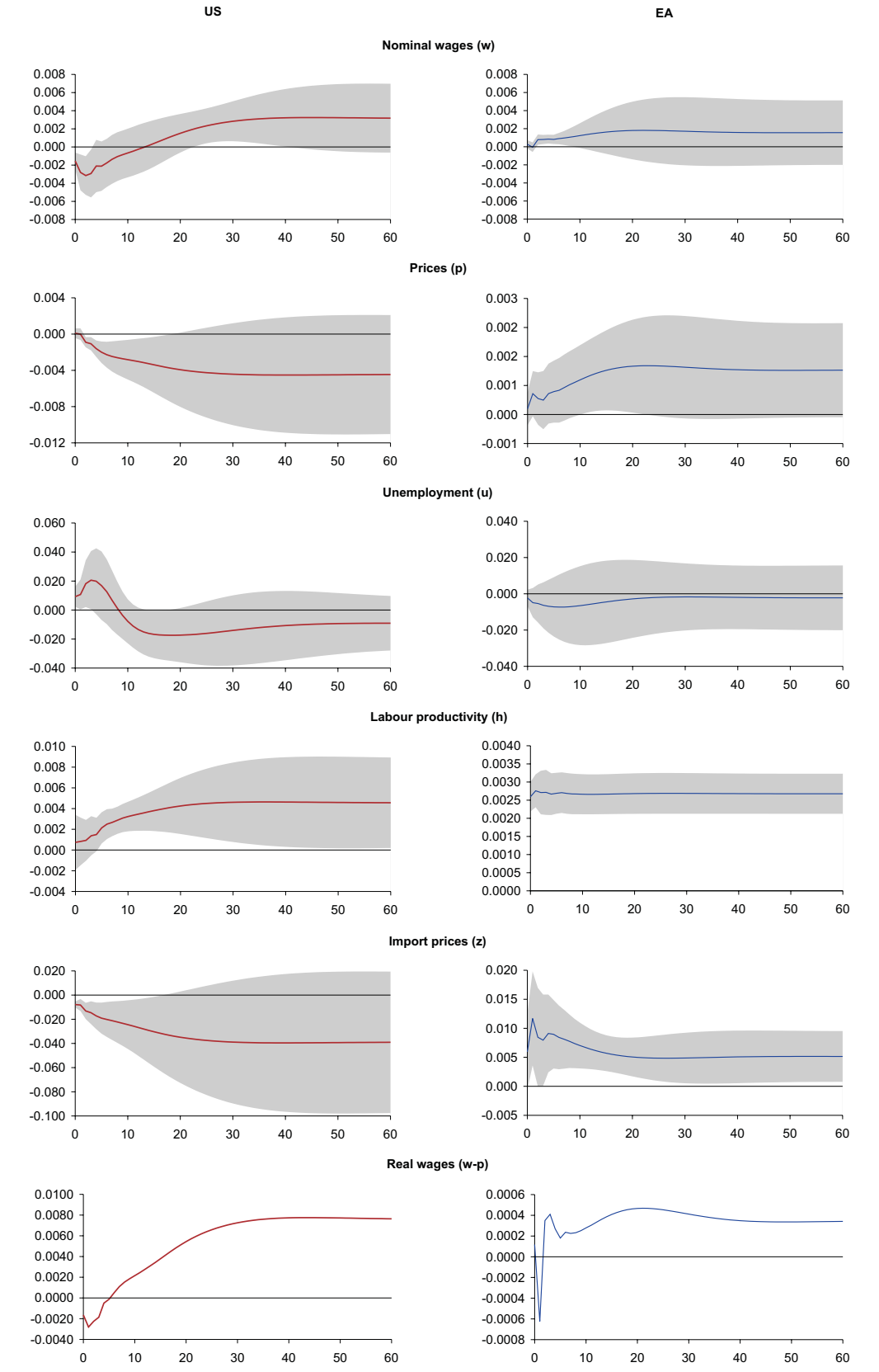
For this purpose, we estimate a new model for the EA that is strictly comparable to the one of the US as far as the specification and sample period are concerned.[9] Importantly, the main qualitative features of the responses to the permanent shocks do not change and the conclusions of

(8) The final effect on import prices (in domestic currency) may be thought of as depending on the relative importance of two channels with opposite effects. The exchange rate channel, which could be expected to bring about a decrease in import prices through a currency appreciation and the foreign price channel, which could be expected to increase import prices through higher import demand brought about by a rise in economic activity. The results suggest that the first channel seems to be stronger in the US, while in the EA the second one seems to predominate.

(9) The new cointegrating VAR model was estimated using the same period as for the US (1993Q1-2007Q4) and includes the quarterly change in the price of oil lagged one period as an exogenous regressor.

Chart 4

RESPONSES TO A PERMANENT TECHNOLOGY SHOCK



Source: Authors' calculations.

section 4 about the relative persistence of the two economies still hold. If anything, the long-run persistence of wage and price inflation in the EA emerges as somewhat higher (especially so for the import price and technology shocks), thus increasing the difference *vis-à-vis* the US economy.[10] Against this background, we believe that the main differences concerning the persistence and features of the responses to the shocks may be traced to some macro and micro structural differences between the two economies, among which international openness, institutional rigidity of the labour market, as well as price and wage setting practices may be expected to play a prominent role.

The different degree of openness implies that import price shocks have significantly different implications for the two economies. On the one hand, import price shocks are expected to have stronger direct long-run impact on the EA, given the larger share of imports in total GDP in this economy, which is reflected in the significantly larger coefficient associated with import prices in the estimated long-run price equation. On the other hand, the higher openness of EA is also expected to imply larger effects stemming from some shocks usually associated with globalisation (imports of final goods, outsourcing of the production of intermediate goods), with implications on the labour market. For instance, a lower workers' bargaining power of immigrant employees has been used to help explain the strong decreasing trend exhibited by the labour share in some EA countries, or in other words why, in the EA, wages have not been able to absorb a significant proportion of productivity gains (see, for instance, Bentolila *et al.* (2008) for Spain and European Commission (2007) for the OECD countries). This, as we have seen, emerges in our model as an estimated coefficient of productivity in the long-run wage equation for the EA which is not statistically different from zero. In strong contrast, the empirical results for the US suggest that wages have been able to completely absorb productivity gains in the long run, which is consistent with the evidence in Feldstein (2008), who shows that in this economy the rise in compensation per employee has been very similar to the rise in productivity. Similar evidence can be seen in European Commission (2007), where the US emerges as the country where the labour share exhibits a closer to stationarity long-run behaviour, in contrast to the EA and Japan, where the labour share displays a decreasing trend during the last twenty years or so.

As regards the institutional rigidity of the labour market (involving, for instance, employment protection, firing and hiring costs), the evidence in the existing literature suggests that the US labour market is more flexible compared to the EA, thus allowing a faster adjustment to shocks hitting the economy (see, for instance, Abbritti and Weber (2008) and Peersman and Robays (2009)).

Finally, the empirical literature mentioned in the introduction of this article clearly suggests that the US and the EA also differ as far as price and wage setting practices are concerned. Using comparable data sets of quantitative micro data on consumer prices, Dhyne *et al.* (2006) find that the estimated monthly frequency of price changes is around 15 percent in the EA and 25 percent in the US, and that the average duration of a price spell ranges from 4 to 5 quarters in the EA compared to 2 to 3 quarters

(10) In order to see whether the use of the price of oil in the two models could be distorting the main conclusions documented in the paper on the relative persistence of the shocks, we also estimated a model for the US without the price of oil, and compared the results to the ones obtained for the EA in the model used in Section 4. Again we find that the conclusion about the relative persistence of the shocks between the two economies does not change.

in the US. These results on quantitative data are consistent with evidence from survey data. In fact, according to Fabiani *et al.* (2006), the median frequency of price changes is one year in the EA, lower than the estimated 1.4 price changes a year in the US obtained in Blinder *et al.* (1998).[11] Empirical evidence for nominal wages is not as extensive as it is for prices. Nevertheless, recent evidence based on survey data suggests that nominal wages in the EA are changed less often than prices. In fact, according to Druant *et al.* (2009) around 60 percent of the firms change base wages once a year and 26 percent less frequently, implying an estimated average duration of wage spells of about 15 months. Even though there is no comparable evidence for the US, it is usually accepted in the literature that wages in the US are less rigid than in the EA (see, for instance, Altissimo *et al.* (2006), Peersman and Robays (2009)).

Thus, overall, our finding of a larger persistence of wage and price inflation in the EA compared to the US appears consistent with the above micro evidence for both economies on wage and price setting practices, as well as on the institutional rigidity of the labour market, which suggest greater wage and price stickiness in the former. Moreover, the relative inflation persistence documented in this article is also consistent with the evidence found in the literature based on time series models with aggregate price data, which suggests that persistence of price inflation in the EA might be larger than in the US (see, for instance, Levin and Piger (2004), Gadzinski and Orlandi (2004), or Altissimo *et al.* (2006)).

6. CONCLUSIONS

This article investigates wage and price dynamics in the United States (US) and the euro area (EA) assuming an economy where wages are determined through a bargaining process and prices are set by imperfectly competitive firms. The analysis is conducted within a structural vector error-correction model (SVECM) where two separate cointegrating relationships for wages and prices are identified by imposing the long-run restrictions implied by the theoretical model. Against this background, we identify three permanent shocks (labelled as import price, unemployment and technology/productivity shocks) and two transitory shocks (labelled as wage and price shocks). By definition, the permanent shocks are allowed to have significant long-run effects on some (or all) the variables of the system as opposed to transitory shocks that do not affect the model variables in the long run.

Our main findings can be summarized as follows. Following an import price shock, wages and prices rise more significantly in the long run in the EA than in the US, in line with the relative degree of international openness of the two economies. However, real wages remain unchanged in the long run. A permanent unemployment shock brings about a larger decrease of real wages in the EA than in the US. This stems mainly from the fact that nominal wages decrease in the EA, but remain virtually unchanged in the US, as a reaction to higher consumer prices brought about by higher import prices. Following a permanent technology shock real wages rise more significantly in the US than in the EA

(11) Altissimo *et al.* (2006) notice that the lower frequency of price changes in the EA cannot be explained by differences in the consumption structure, as EA consumption is characterised by a larger share of food products (which change prices frequently) and a smaller share of services (with less frequent price changes). Thus, the difference in the frequency of price changes would be even larger if both economies shared the same consumption structure.

stemming from a slightly higher response of nominal wages (which absorb a larger proportion of productivity gains) combined with lower consumer prices.

Overall, in terms of long-run persistence, wage and price inflation emerge as more persistent in the EA than in the US in the face of the three permanent shocks, especially so for the unemployment and technology shocks. The evidence for real wages is not so clear-cut, as their relative persistence depends on the type of shock hitting the economy. EA real wages emerge as more persistent following permanent unemployment and technology shocks, but somewhat less persistent in the face of an import price shock. This finding on the relative persistence is robust to the changes in the estimation period and in the models' specifications entertained in this study.

The larger persistence of wage and price inflation in the EA compared to the US, as documented in this article, appears consistent with the micro evidence for both economies on wage and price setting practices and on the institutional rigidity of the labour market, which suggest greater wage and price stickiness in the former. In turn, the relative inflation persistence is also consistent with the evidence found in the literature based on time series models with aggregate price data, which suggests that persistence of price inflation in the EA might be larger than in the US.

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IMPACT OF DOUBLE COVERAGE ON THE UTILISATION OF HEALTH CARE*

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1. INTRODUCTION

The aim of this article is to analyse the impact of health care insurance coverage beyond the National Health System (NHS) on the consumption of doctor visits. Approximately a quarter of the Portuguese population has a second (or more) layer of health insurance coverage on top of the NHS, through employer-provided and voluntary health schemes. The focus will be on the double coverage resulting from employer provided health subsystems, regarding both insurance plans provided to public employees and insurance plans of big companies. Unlike previous studies that estimate average effects, in this article the impact is assessed at different levels of the outcome distribution. Results indicate that the effect of double coverage on the utilisation of health care is especially high in the private subsystems. An interesting finding is that these effects are similar in all outcome distribution, being only slightly lower in the upper tail, showing that double coverage provided by the Portuguese subsystems is a relevant issue in all levels of usage.

The study of double coverage effects is particularly relevant in the context of public subsystems in the Portuguese health sector. Indeed, it was expected that the creation of a public health system in 1979 would prompt the integration of public employees' plans into the NHS, which in fact did not happen. The non-integration of these subsystems raised some equity issues as the NHS provides a less comprehensive health protection plan than those available under public health schemes, which ensure to their beneficiaries a higher level of access to health care services at lower costs (Lourenço (2007) and Pereira (1995)). Moreover, in the context of an upward trend of the ratio of health care spending to GDP, policy makers are increasingly concerned with the incentives resulting from different kinds of health protection plans. In this regard, this work produces some empirical evidence on the effects on the consumption of health care services derived from the supplementary health insurance provided to public employees. Further, the impact of public health subsystems is compared with that of insurance

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plans of companies, in order to assess the relative effect magnitude of double coverage presently in force.

The literature on health economics has been investigating the impact of additional health coverage in several countries (for example Cameron *et al.* (1988) for Australia, Pohlmeier and Ulrich (1995) for Germany and Vera-Hernández (1999) for Spain), usually finding a positive relation between double coverage and health care use. Also, some authors (Lourenço (2007) and Barros *el al*. (2008)) already focused their research on the impact of supplementary insurance provided by Portuguese health subsystems. According to the results the population covered by additional health insurance has a higher consumption of health care services.

As mentioned before, the most distinctive feature of this study *vis-à-vis* previous empirical research is the usage of a quantile regression for counts methodology, recently proposed by Machado and Santos Silva (2005). Existing literature addressing health insurance double coverage focus on mean effects. In contrast, by looking at other points of the conditional distribution, the study unveils the effect over all the utilisation distribution. This is a step forward in the analysis of reforms and is particularly useful for policy making purposes (*e.g.* clarifying whether the policy effect is larger for low or high users, identifying the need for adjustments in key features of the subsystems).

Data was taken from the Portuguese Health Survey of 2005/2006, a cross sectional health dataset that provides a wide range of information at an individual level concerning socioeconomic conditions and health status indicators. After defining the population of interest (and the respective sample), observations were divided according to the type of health care coverage, being chosen three mutually exclusive groups: only the NHS, the NHS plus a public subsystem and the NHS plus a private subsystem. The usage of non-experimental data generally creates an endogeneity problem related to adverse selection since in most cases the decision to buy extra health insurance depends on individual characteristics. The solution may rely on a careful use of instrumental variables. Having in mind this problem, individuals with voluntary health insurance schemes were excluded from the selected population. This issue was not very relevant in the public and private subsystems since membership was compulsory and based on occupation or professional category, and as such it should be unrelated to the expected value of future health care utilisation (unless we consider issues related with occupational choice).

This work has some caveats, shared by most literature on the impact of additional health coverage. In particular, even without directly facing the adverse selection problem, the usage of observational data to estimate causal effects creates several difficulties (especially because the evaluation is made through dummy variables in a regression).[1] Moreover, the economic interpretation can be dubious. First of all, we could not disentangle demand and supply effects, as it is only possible to measure the overall impact trough the utilisation level. Additionally, although the impact of double coverage is often

(1) In the present work this partially results from the unavailability of panel data that would allow comparing outcome before and after the benefit of supplementary health insurance.

associated with moral hazard behaviour,[2] some authors criticize such direct association, arguing with the existence of other important effects. For instance, Vera-Hernández (1999) refers the impact of insurance on individuals' health, which will decrease the future consumption of health care. Also Coulson *et al.* (1995) point to the importance of supply-inducement by providers, in explaining how difficult it is to measure a "pure" moral hazard effect.

The article is structured as follows. Section 2 summarizes key features of the Portuguese health care system. Section 3 describes the dataset and the relevant variables, and presents a preliminary analysis of data. In Section 4 the quantile regression for counts and a discussion of the empirical specification are briefly presented. Section 5 analyses the results and studies the effect of double coverage for different age groups. Section 6 makes some final remarks.

2. OVERVIEW OF THE PORTUGUESE HEALTH CARE SYSTEM

The Portuguese health system is a network of public and private health care providers and different funding schemes. It is possible to identify three overlapping layers: the NHS[3], employer provided public and private subsystems and private voluntary health insurance. While the NHS is mainly financed by general taxation, subsystems resources come from employees and employers compulsory contributions (including, in the public schemes, State funds to ensure their balance). According to Barros and Simões (2007), in 2004 public funding represented 71.2 per cent of total health expenditure (of which 57.6 per cent is related with the NHS and 7.0 per cent with subsidies to public subsystems). Private expenditure is composed by co-payments and direct payments made by patients and, to a lesser extent, by private insurance premiums.

In 1979, with the creation of the NHS, legislation established that all residents have the right to health protection regardless of economic or social status. Until then, the State had full responsibility only for the health care of public employees and some specific health services, such as maternity, child and mental care and the control of infectious diseases. After the outset of the statutory public system, the health subsystems were not integrated into the NHS and continued to cover a variety of public and private employees.

The individuals covered solely by the NHS (the majority of the population) face some constraints in the access to health care, in particular because several services are in practice excluded from the public network and access is difficult sometimes due to time costs (long waiting lists and queuing) and geographical barriers. Lourenço (2007) among others, argues that the NHS coverage restrictions convert its normative completeness into an incomplete health insurance contract. The NHS is designed in a way that beneficiaries should first seek health care through their general practitioner (family doctor) in health care centres and then, if necessary, get appropriate referrals to a public specialist consultation

(2) Moral hazard in this context is defined as the "change in health behaviour and health care consumption caused by insurance" (Zweifel and Manning (2000)). It is well known that the demand for health care reacts to price and insurance, and that is important because it changes the prices of services paid by users, the income of the insured, and the opportunity cost of time in the case of illness.

(3) In the autonomous regions, public health is ensured by regional health services (RHS of Azores and Madeira), following the same principles of the NHS, but implemented by regional governments. Here it is not useful to treat them separately.

(generally as out-patient consultations in public hospitals). This gatekeeper procedure is not strictly followed as there are households who do not have access to a family doctor and, when they have, the time lag between the first step to obtain health care and its actual provision is frequently too long. Additionally, the requirements to obtain referrals are sometimes too demanding. For these reasons, some individuals have their first contact with health care in hospitals' emergency rooms even if their condition would not require it. Given these constraints, the consumption of private services by NHS beneficiaries is very common. The NHS design contemplates a cost-share mechanism that in practice makes the patients pay a mandatory small co-payment to the public provider (variable with the type of service), usually on a fee-for-service basis. There are, however, exemptions for a large share of the population, defined on the basis of age and income. When using health services provided by the private sector, NHS beneficiaries, in the absence of private voluntary insurance schemes, bear their full cost, without being reimbursed afterwards (although part of out-of-pocket expenditure may be recovered through a tax credit).

Nowadays, a considerable share of the population (between 16 and 25 per cent, according to different estimations) still benefits from employer provided health insurance through several subsystems, either private or public. Among the double coverage schemes, the largest public subsystem is *ADSE* (*Direcção-Geral de Protecção Social aos Funcionários e Agentes da Administração Pública*), a health insurance provider that covers most public employees and their dependants (about 13 per cent of the population). Specific schemes exist for example for armed forces personnel. Private subsystems were created for workers and pensioners (and their dependants) of specific companies, like *SAMS* (*Serviços de Assistência Médico-Social*) for banking employees. Each subsystem has a distinct array of medical care insurance arrangements to finance and provide health care. As a whole, it can be said that they are organized differently from the NHS, in particular because of the narrower scope of directly provided services. They basically make available health care through contracts with public/NHS and private institutions and reimburse patients costs for services supplied by private entities without contract. These features make these schemes more comprehensive health protection plans than NHS, representing both complementary and supplementary types of insurance (Lourenço (2007)). The supplementary protection results from the provision/financing of services that are also available in the context of the NHS. The complementarity characteristic is related to the fact that subsystems cover services almost not provided by the NHS, in particular, by reimbursing part of patient's payments to private providers.

3. DATA

Data was taken from the fourth Portuguese Health Survey (PHS), a cross sectional health dataset designed to be representative of the Portuguese household population.[4] The survey provides a wide range of information at an individual level, namely demographic and socioeconomic conditions, type of health insurance, health-care utilization, health status indicators (like chronic diseases and long run and short run disability), lifestyles (like eating habits and sports activity) and costs with health services. The PHS was collected through interviews carried out between February 2005 and January 2006. The sample used in this paper comprises 35,308 observations and was obtained after defining the relevant population and handling of the data (namely, by considering only complete observations). In particular, the population was restricted to individuals without voluntary private health insurance and with less than 80 years old.[5]

In order to explain the impact of double coverage on the consumption of doctor visits and taking into account the raw data of the survey, the dependent variable (y) was defined as the "total number of visits to doctors in the three months prior to the interview". Regarding the regressors, Table 1 presents the covariates used in the analysis clustered into groups encompassing health insurance status, socioeconomic characteristics, health status and, additional ones designed to control for geographic and seasonal effects. The selection was made according to their influence on medical care consumption, taking into account the Grossman's health capital model of demand for health (1972), as well as the results of similar empirical studies (Cameron *et al.* (1988), Pohlmeier and Ulrich (1995), Vera-Hernández (1999), Deb and Trivedi (2002) and Lourenço (2007)). It is not straightforward to understand the utilisation of health care since it results from both patients and doctors decisions. It is possible, however, to find several channels through which the selected variables affect the number of doctor visits.

3.1. Double coverage variables

To account for differences in health insurance coverage, three mutually exclusive groups of observations were considered, namely the "NHS" composed by individuals with only the "default" health system and two double coverage types, the "Public subsystems" for people with NHS plus a public subsystem and the "Private subsystems" for individuals with NHS and a private subsystem. The majority of observations are from the NHS group (81.5 per cent), followed by the public subsystems (15.8 per cent), and only 2.7 per cent have private subsystems. Insurance can be interpreted as a price proxy, being the differences between health systems as regards costs to beneficiaries (as co-payments and non-reimbursements) a direct price, and those related to delivery systems and mechanisms to control for its use an indirect cost of access. When compared to the NHS, subsystems provide

(4) The survey is carried out by the Portuguese Ministry of Health in collaboration with the National Health Institute Ricardo Jorge and the National Statistical Institute. Until now, four questionnaires were elaborated (1987, 1995/1996, 1998/1999 and 2005/2006) using representative samples of the continental population (1st, 2nd and 3th PHS) and of both continental and autonomous regions of Azores and Madeira population (4th PHS). Here, the last available questionnaire is used. Note that it is not a panel survey since the sample changes between surveys.

(5) Also note that we ignore the weights resulting from the sampling procedure. More details about this option can be find in Moreira and Barros (2009).

Table 1

DESCRIPTION OF VARIABLES

Variables	Description
Health insurance status variables	
pubsub	=1 if the individual is covered by a public subsystem
privsub	=1 if the individual is covered by a private subsystem
Health status variables	
sick	=1 if the individual is being sick
limitdays	number of days with temporary (not long run) incapacity
limited	=1 if the individual is limited/handicapped
rheumatism	=1 if the individual has rheumatism
osteoporosis	=1 if the individual has osteoporosis
cancer	=1 if the individual has cancer
kidneystones	=1 if the individual has kidneystones
renalfailure	=1 if the individual has renalfailure
emphysema	=1 if the individual has emphysema
cerebralhemorrhage	=1 if the individual had a cerebral hemorrhage
infarction	=1 if the individual had an infarction
depressivedisorder	=1 if the individual has a depressive disorder
otherchronicaldisease	=1 if the individual has another chronical disease
highbloodpressure	=1 if the individual has high blood pressure
chronicpain	=1 if the individual has a chronic pain
diabetes	=1 if the individual has diabetes
asthma	=1 if the individual has asthma
stress	=1 if the individual has been taking sleeping pills or anxiety pills in the last two weeks
smoker	=1 if the individual smokes daily
meals	=1 if the individual makes at least three meals a day
Socioeconomic and demographic variables	
householdsize	household size of the individual
age	age in years
female	=1 if the individual is female
educmax	number of years of schooling completed with success of the most educated person living in the household
lincome	logarithm of equivalent monthly income in euros
single	=1 if the individual is single and do not cohabits
student	=1 if the individual is student or has it fist job or has a not remunerated job
retired	=1 if the individual is retired
Geographic variables	
Norte	=1 if the individual lives in the region “Norte”
Lisboa	=1 if the individual lives in the region “Lisboa”
Alentejo	=1 if the individual lives in the region “Alentejo”
Algarve	=1 if the individual lives in the region “Algarve”
Açores	=1 if the individual lives in the region “Açores”
Madeira	=1 if the individual lives in the region “Madeira”
Seasonal variables	
winter	=1 if the interview took place in winter
spring	=1 if the interview took place in spring
summer	=1 if the interview took place in summer

more benefits to their beneficiaries by decreasing the price-per-service faced by patients, which whenever demand is elastic, increases their demand for health care (Barros *et al*. (2008)).

As mentioned in the introduction, the estimation of the double coverage effect may be biased if the researcher ignores adverse selection in the decision to obtain additional insurance. In such case, it creates an endogeneity problem that results in an overestimation of the impact of the supplementary insurance variables. Previous studies using data for Portugal assumed that the particular features of the Portuguese subsystems make them exogenous, *i.e.* not correlated with the beneficiaries' health status (*e.g.* Barros *et al*. (2008) and Lourenço (2007)). This happens because it is very implausible that individuals want to work as public employees or in companies with private subsystems just to benefit from this additional health insurance, especially if one takes into account that, by default, people are covered by a health care system (NHS). Moreover, it is also unlikely that employers choose individuals on the basis of unobservable variables related to their health or their household health *status*. The only requirement is that the potential employee is suitable for the job and has no infectious disease which could be controlled through our set of pre-determined variables. Nevertheless, Jones *et al.* (2006a) analysed the effect of supplementary insurance on the probability of visiting a specialist doctor, allowing for potential endogeneity of the insurance variable and, for Portugal, they conclude that the increased probability of utilisation is not due to adverse selection effects.

Additionally, insurance covariates can capture two effects that underestimate the impact of double coverage. Firstly, the fact that the subsystems beneficiaries enjoy more or better treatment than NHS beneficiaries may decrease the future consumption of health care (Vera-Hernández (1999) and Barros *et al.* (2008)). This is because over lifetime, better health care would translate into a significant accumulation of health advantages not totally captured in the other controlled variables. This issue will be addressed in Section 6, by restricting the analysis to young beneficiaries who did not yet had time to accumulate such advantages and compare the results with those of the larger sample. Finally, another important comment on the double coverage coefficients is that they do not reflect an impact of demand and/or supply and as such they cannot be totally associated with moral hazard behaviour but instead to a joint effect of beneficiaries' moral hazard and providers supply-inducement of demand. The latter is related to the fact that doctors may prescribe more tests in the case of patients with health subsystems in order to justify more visits. According to Barros *et al.* (2008), the payments to subsystems providers are relatively low, and as such the magnitude of this effect should be very small. Anyway, the important point here is to capture how much the system design increases the consumption of resources related to doctor visits, as it is difficult to make a direct association to demand/supply impacts or moral hazard effects.

3.2. Other health care consumption covariates

One of the most crucial influences on health care consumption that is important to control for concerns the health status of the interviewed. In the PHS, this feature is only indirectly captured through some questions that reflect details about current health conditions (*e.g.* sickness episodes and temporary in-

capacities) and the presence of chronic disease or pain (*e.g.* rheumatism, cancer and diabetes). Additionally, the consumption of barbiturates as a proxy to the level of exposure to stress, as well as some other regressors related to attitudes with a potential impact on health, like the number of meals and a dummy variable identifying smokers/non-smokers also play a role. Despite being crude measures, these last covariates allow to capture some remaining health aspects and some unobserved influences.

Among the variables representing demographic and socioeconomic characteristics of the interviewed, age is particularly important. According to Grossman (1972), age captures the depreciation of health capital that is expected to increase as the individual gets older, at least after some point of the life cycle, making the healthy times decrease and expanding the demand for health care over the life span. Regarding the effect of gender, it is believed that health depends both on biological differences between men and women through innate features, and differences in life styles and attitudes towards health risk.[6] Additionally, it is also relevant to control for the marital status. Besides arguments of different life styles and attitudes towards risk, it is likely that some decisions when taken by more than one person benefit from more information and advice, which influence health status and efficiency in producing healthy times. To control for the educational level, a variable was defined with the number of schooling years of the most educated person living in the household.[7] It is expected that more educated people are more efficient, and as such, even if they aim at a better health *status* they need relatively less medical care (Jones *et al*. (2006b)). Further, different educational levels are associated with different preferences. The variables *student* and *retired* capture occupational status which may explain some differences in the depreciation rate. Another important variable included in the model is monthly equivalent income.[8] Indeed, there are several reasons to believe that medical utilisation increases with income, as it is a proxy of ability to pay.

The variables that represent the region of residence were included to control for possible behavioural differences in the demand and supply of health care services. The main reason to include them is because they proxy different access condition to medical care supply, since some regional services are differently organized. Moreover, the regions encompass wide areas but nevertheless, when compared in terms of wealth or educational indicators, huge differences are obtained, which could justify different attitudes regarding the use of health care services (not totally captured at the individual level). Finally, because it is likely that individuals' health status may have some seasonal differences, the analysis will include dummy variables to control for the period of the year in which the interview took place.

(6) Age is introduced in the regression through a nonlinear relationship and the analysis is developed with a specification that allows the assessment of the ageing effect by gender.

(7) This particular indicator was chosen, as an alternative to the usual number of schooling years of each individual, because it is believed that the decision about the number of visits to a doctor is at least partially a decision of the household.

(8) In the PHS, income is only compiled for the household as a whole through a categorical ordinal variable with ten thresholds that indicate intervals of net disposable household income in the month prior to the interview (including wages, pensions, and all sorts of social security benefits). A common procedure to control for income effects is including in the model a set of dummy variables, one for each category. Here, such alternative is not very attractive due to the fact that it would be impossible to take into account the composition of households. As such, it was chosen a more flexible and parsimonious modelling strategy (although not problem-free) with the construction a monthly income variable that, in a first stage assigns an income corresponding to the midpoint of the interval, and in a second stage the midpoint is divided by the square root of household size.

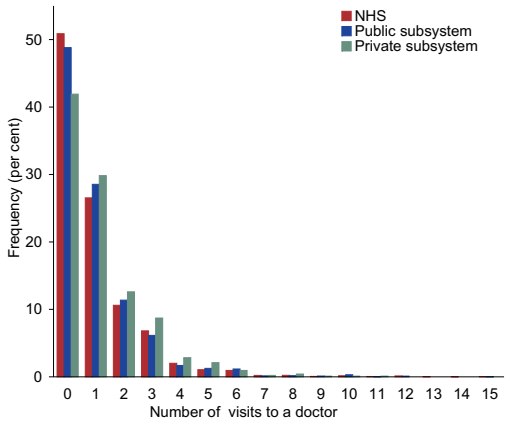
3.3. Preliminary analysis of the data

A preliminary analysis of the empirical distribution of the dependent variable (y), shows that it is a count variable (non-negative integer valued count y= 0, 1, 2, …) with a large proportion of zeros (half of the sample) as well as a long right tail of individuals who make heavy use of health care (Chart 1). These features make the estimation particularly difficult since it will be necessary to use flexible models that accommodate them. For the whole sample, the average number of consultations is 1.01 and the average number of visits for those that have at least one visit is 2.04. Moreover, the unconditional variance is more than three times the unconditional mean. When the average number of visits to a doctor is analysed by health insurance schemes, it is possible to observe that private subsystems beneficiaries are higher users than NHS and public subsystems groups. Indeed, a mean comparison t-test indicates that the unconditional mean does not differ across NHS and public subsystems but differ when one compares NHS with private subsystems.

Table 2 presents the descriptive statistics of the explanatory variables by health insurance type. The mean comparison t-test indicates that most of the differences between the three types are significant, especially regarding socioeconomic pre-determined variables. The NHS group has relatively less years of education and lower income. On its turn, public subsystems beneficiaries are younger (on average about 4 years less than the other groups), have a greater proportion of students and singles and a smaller share of retired persons. The private subsystems group has less women and a smaller household size. As regards the health status distributions of the three groups, it is possible to conclude that the major differences are found between the public subsystem and the NHS. Public employees seem to be the healthier, in particular when some variables related to physical limitations (*limiteddays* and *limited*) and the presence of chronic disease and pain are considered. Moreover, frequent health problems (*e.g.* high blood pressure, diabetes and stress) are relatively more common in the NHS and

Chart 1

EMPIRICAL DISTRIBUTION OF THE NUMBER OF VISITS TO A DOCTOR



Source: PHS 2005/2006 and authors' calculations.

Table 2

DESCRIPTIVE STATISTICS BY HEALTH INSURANCE SYSTEM

	NHS		Public subsystem			Private subsystem		
	mean	st.dev	mean	st.dev	p-value	mean	st.dev	p-value
Health status variables								
sick	0.007	0.001	0.005	0.001	0.008	0.005	0.002	0.363
limitdays	0.613	0.015	0.488	0.030	0.000	0.536	0.077	0.327
limited	0.016	0.001	0.004	0.001	0.000	0.006	0.003	0.000
rheumatism	0.168	0.002	0.120	0.004	0.000	0.134	0.011	0.003
osteoporosis	0.069	0.001	0.060	0.003	0.014	0.068	0.008	0.943
cancer	0.019	0.001	0.020	0.002	0.688	0.022	0.005	0.491
kidneystones	0.048	0.001	0.051	0.003	0.473	0.058	0.008	0.224
renalfailure	0.014	0.001	0.011	0.001	0.196	0.014	0.004	0.971
emphysema	0.034	0.001	0.022	0.002	0.000	0.022	0.005	0.015
cerebralhaemorrhage	0.018	0.001	0.013	0.002	0.000	0.020	0.005	0.654
infarction	0.014	0.001	0.011	0.001	0.103	0.014	0.004	0.956
depressivedisorder	0.074	0.002	0.074	0.004	0.934	0.082	0.009	0.395
otherchronicaldisease	0.319	0.003	0.297	0.006	0.001	0.317	0.015	0.928
highbloodpressure	0.221	0.002	0.178	0.005	0.000	0.222	0.013	0.977
chronicpain	0.148	0.002	0.110	0.004	0.000	0.119	0.010	0.006
diabetes	0.077	0.002	0.054	0.003	0.000	0.074	0.008	0.651
asthma	0.051	0.001	0.057	0.003	0.075	0.049	0.007	0.837
stress	0.119	0.002	0.104	0.004	0.001	0.124	0.011	0.631
smoker	0.162	0.002	0.138	0.005	0.000	0.179	0.012	0.200
meals	0.926	0.002	0.949	0.003	0.000	0.933	0.008	0.402
Socioeconomic and demographic variables								
householdsize	3.387	0.009	3.342	0.017	0.020	3.100	0.037	0.000
age	42.044	0.131	38.984	0.285	0.000	42.946	0.685	0.196
female	0.515	0.003	0.537	0.007	0.003	0.419	0.016	0.000
educmax	8.112	0.026	11.949	0.061	0.000	11.625	0.147	0.000
lincome	6.048	0.003	6.624	0.007	0.000	6.669	0.019	0.000
single	0.350	0.003	0.391	0.007	0.000	0.322	0.015	0.076
student	0.164	0.002	0.247	0.006	0.000	0.188	0.013	0.065
retired	0.185	0.002	0.171	0.005	0.012	0.256	0.014	0.000
Geographic variables								
Norte	0.161	0.002	0.093	0.004	0.000	0.104	0.010	0.000
Lisboa	0.126	0.002	0.146	0.005	0.000	0.232	0.014	0.000
Alentejo	0.136	0.002	0.166	0.005	0.000	0.120	0.011	0.133
Algarve	0.146	0.002	0.122	0.004	0.000	0.181	0.012	0.006
Açores	0.147	0.002	0.205	0.005	0.000	0.169	0.012	0.079
Madeira	0.139	0.002	0.147	0.005	0.127	0.060	0.008	0.000
Seasonality variables								
winter	0.255	0.003	0.254	0.006	0.873	0.314	0.015	0.000
spring	0.258	0.003	0.255	0.006	0.702	0.235	0.014	0.110
summer	0.249	0.003	0.237	0.006	0.052	0.246	0.014	0.825

Sources: PHS 2005/2006 and authors' calculations.

Note: The p-value results of a two-sample mean-comparison test (unpaired) and indicates if the probability of the mean of each variable does not significantly differ across insurance types. For the comparison between the NHS and the public subsystem it was considered H0: $\mu_{NHS} = \mu_{Public\ subsystem}$; and for the comparison between the NHS and the private subsystem it was considered H0: $\mu_{NHS} = \mu_{Private\ subsystem}$.

private subsystem groups. This feature can be partially related with age, which is lower among the public subsystems group. Additionally, it is worth highlighting that public employees seem to be less exposed to stress and that the indicators related to attitudes show a smaller proportion of smokers and a higher average number of meals. The regional distribution of the groups is also unequal in the full sample. These sample differences suggest that a more complete account for them is required, so that an appropriate comparison of health care demand across groups can be made.

4. METHODOLOGY AND IMPLEMENTATION ISSUES

As in most of the empirical research on health care economics, the dependent variable here considered is a non-negative integer count characterized by a large proportion of zeros, a positive skewness and, as a consequence, a long right hand tail. In what concerns econometric tools, until recently, the one-part, Hurdle and finite mixture models have dominated the empirical literature (Deb and Trivedi (2002)). Estimators resulting from these frameworks rely on assumptions about the functional form of the regression equation and the distribution of the error term. As a result, standard models determine entirely the distributional behaviour by the functional form once the conditional mean response is known. An attractive alternative is the usage of nonparametric and semiparametric estimators. Introduced for continuous data in Koenker and Bassett (1978), Quantile Regression offers a complete picture of the effect of the covariates on the location, scale and shape of the distribution of the dependent variable. As a semiparametric method it assumes a parametric specification for the quantile of the conditional distribution but leaves the error term unspecified. It was first applied to continuous health data in Manning (1995). Recently, Machado and Santos Silva (2005) succeeded in applying the quantile framework to count data through a "jittering" process that artificially imposes some degree of smoothness.

The basic idea was to build a continuous auxiliary variable (y^*) whose quantiles have a one-to-one known relationship with the quantiles of the count variable of interest (y). This variable can be obtained by adding to the count variable a uniform random variable, independent of the dependent (y) and independent variables (x).[9] Following the Machado and Santos Silva (2005) suggestion applied to the specific object of this study, the parametric representation of the α-quantile of y^* is defined as:

$$Q_{y^*}(\alpha|x_i) = \alpha + \exp\left[\beta_0(\alpha) + \beta_1(\alpha)pubsub_i + \beta_2(\alpha)privsub_i + \gamma(\alpha)z_i\right], 0 \leq \alpha < 1$$

where $pubsub_i$ and $privsub_i$ represent individuals from the "public subsystem" and "private subsystem", respectively. The vector z_i includes all other characteristics that were controlled for in this regression.[10] In order to apply the standard quantile regression, a monotonic transformation of y^* is created, ensuring that the estimated quantiles are non-negative and linear in the parameters of a vector of

(9) The one-to-one relationship is guaranteed since Machado and Santos-Silva (2005) showed that marginal effects of y^* are easily obtained and interpreted and that there is a correspondence between y^* and y quantile functions: $Q_y(\alpha|x_i) = \lceil Q_{y^*}(\alpha|x_i) - 1 \rceil$ *where* $\lceil a \rceil$ *is a ceiling function.*

(10) In addition to all independent variables referred in Section 3, it is used a third order polynomial in age and a third order polynomial in age crossed with the gender variable.

regressors.[11] Then, the vector of covariates $\beta(\alpha) = \left[\beta_0(\alpha), \beta_1(\alpha), \beta_2(\alpha), \gamma(\alpha)\right]$ is obtained as a solution to a standard quantile regression of a linear transformed variable by minimizing an asymmetrically weighted sum of absolute errors. Machado and Santos Silva (2005) proved that although the quantile regression is not differentiable everywhere, the estimator is consistent and asymptotically normal. Because "noise" has been artificially created for technical reasons, the authors suggested a Monte Carlo procedure - an "average-jittering" - which consists in obtaining an estimator that is the average of m independent "jittering" samples with the same size. The difference between samples is the continuous auxiliary variable because it was created as the sum of *y* (constant between samples) with *m* different draws of the uniform distribution. The main advantage of this procedure is that the resulting estimator is more efficient than the one obtained from a single draw and a misspecification-robust estimator of the covariance matrix is available.

Following this procedure, a direct interpretation of $\beta(\alpha)$ may suggest some misleading conclusions. Note that $\beta(\alpha)$ is a vector of linear partial effects on the linear transformation of *y**. To fully understand the impacts, the analysis should be made through $Q_{y^*}(\alpha|x_i)$, which is not so easily interpreted due to its non-linearity as well as to the fact that it is a function of α-quantile. Being non-linear, the parameter provides an incomplete picture of the covariates' effects on the shape of the distribution. And being a function of α implies, for example, that a variable with the same estimated coefficient in all quantiles will have a proportional effect that varies with α-quantile. To take into account the non-linearity, partial effects can be computed setting the continuous (and count) variables at the mean of the sample and the dummy variables equal to zero $(\tilde{x})$.[12] To facilitate the comparison of the effects across the different models, the semi-elasticities of $Q_{y^*}(\alpha|x)$ with respect to the covariates are presented. Regarding the statistical significance on the variable of interest (*y*), it is possible to test the null hypothesis that a covariate has no effect on $Q_y(\alpha|x)$ because it is equivalent to test whether the variable has no impact on $Q_{y^*}(\alpha|x)$. The problem appears when the variable is significant in quantiles of the auxiliary variable. In such case it could be non significant in the conditional quantile of *y*. This occurs because different quantiles of *y** correspond to the same quantiles of *y*. The question here is that when it is found that $Q_{y^*}(\alpha|x)$ depends on the covariate for several quantiles, then it should be possible to detect a subpopulation for which the semi-elasticity of $Q_y(\alpha|x)$ is different from zero. Machado and Santos Silva (2005) call this "magnifying glass effect" of $Q_{y^*}(\alpha|x)$.

5. RESULTS

The results were obtained from the *qcount* package of STATA (Miranda (2006)) with some slight adjustments. Regarding the number of jittered samples, preliminary experiments showed that the coefficients are not very sensitive to a particular sample of uniform random variables used to *jitter* the data: with 1500 samples almost no changes were detected both in the coefficients and standard deviations.

(11) This is feasible because quantiles are equivariant to monotonic transformations and to censoring from below up to the quantile of interest.

(12) More specifically, the "default individual" is a healthy non-smoker man that does not consume barbiturates but makes less than three meals a day. Regarding its socioeconomic and demographic situation, he is neither single nor retired and belongs to an average household size, educational level and income. Moreover, he lives in the region "Centro" and was interviewed in autumn. Also note that, the vector $\tilde{x}$ is set with the dummies *pubsub* and *privsub* equal to zero, and thus the "default individual" has the NHS insurance plan.

The decision on which quantiles to compute took into account the problem under analysis and the empirical distribution of the relevant outcome. Since the marginal quantiles are zero for all $\alpha \leq 0.50$, it becomes more interesting to compute conditional quantiles on the upper tail of the distribution where the effect of covariates changes rapidly. Note that in the lower tail, a variation in the conditional quantiles of the artificial outcome may be mostly due to the random noise that was added. Therefore, it is expected to find quantiles more flat. Moreover, it is more interesting to look at the behaviour of individuals who make heavy use of health care. In this scenario, and despite the fact that the first quartile is still presented, this work focus on quantiles above the median, computing results for each decile above the median.

Table 3 presents the semi-elasticities estimates of the quantiles regressions according to the procedure defined in the previous section. In what concerns statistical significance (standard errors are presented in Moreira and Barros (2009)), variables are overall significant. The signs of the regressors do not switch across the different quantiles.

Starting with the analysis of insurance variables, it is visible that both public and private subsystems have an increasing positive effect on the number of doctor visits until the 7th decile of y^* and a decreasing positive effect thereafter, being the effect of private insurance plans between 2.6 and 2.9 times higher than the impact of those of public employees.[13] An interesting fact is the similarity between the patterns of both subsystems since, when the ratio between the double coverage dummies is computed across quantiles, it remains almost unchanged. This finding indicates that supplementary health insurance does lead to further utilisation of health care (visits) and its origin is also quite important, as private subsystems double coverage induces more consumption than public subsystems double coverage. In order to better understand the effect of health subsystems on the utilisation of health care, point estimates were used to predict the y-quantile for each observation in a simulation exercise in which all variables are set equal to their actual values, except health insurance status. Regarding this one, three possibilities are considered: NHS, public subsystem or private subsystem. The results measured by relative frequencies are presented in Table 4. Given that half of the sample has zero visits, it is not surprising that the first conditional quartile is zero for almost all observations. When the estimates from different quantiles are compared, it becomes clear that the distribution changes are different across health insurance plans. For example, the proportion of individuals with a predicted y of zero or one consultation is always lower with the additional insurance (either public or private) than with NHS, but these relative effects change with the quantile. More particularly, the proportion for NHS individuals is 91.0, 70.7 and 23.4 per cent for the 50th, 75th and 90th y-quantile, respectively; while with the "public subsystem" the proportion is 89.6, 66.4 and 19.5 per cent for the 50th, 75th and 90th y-quantile, respectively. This means that holding double coverage causes a decreasing path in the difference of the proportion of individuals with a certain (increasing) number of visits that is steeper from the 50th to the 75th y-quantile than from the 75th to the 90th y-quantile.

(13) As already mentioned the direct interpretation of the coefficients has caveats, but also the semi-elasticities depend on the values assumed for the independent variables. Besides $\bar{x}$, other vectors are also analysed. The main messages do not change significantly.

Table 3

QUANTILE REGRESSION FOR COUNTS RESULTS: SEMI-ELASTICITIES

	$\tilde{x}$	P25	P50	P60	P70	P80	P90
Health insurance status variables							
pubsub	*0*	0.026	0.029	0.032	0.036	0.034	0.031
privsub	*0*	0.070	0.080	0.091	0.093	0.092	0.087
Health status variables							
sick	*0*	0.310	0.258	0.260	0.295	0.329	0.630
limitdays	*0*	0.023	0.023	0.024	0.026	0.032	0.039
limited	*0*	0.046	0.071	0.091	0.026	0.180	0.241
rheumatism	*0*	0.046	0.047	0.048	0.054	0.072	0.087
osteoporosis	*0*	0.104	0.072	0.065	0.059	0.055	0.052
cancer	*0*	0.190	0.185	0.174	0.169	0.224	0.374
kidneystones	*0*	0.051	0.052	0.062	0.074	0.111	0.127
renalfailure	*0*	0.058	0.077	0.077	0.091	0.134	0.143
emphysema	*0*	0.030	0.073	0.081	0.091	0.118	0.146
cerebralhemorrhage	*0*	0.045	0.045	0.047	0.064	0.095	0.113
infarction	*0*	0.110	0.121	0.132	0.145	0.152	0.131
depressivedisorder	*0*	0.066	0.081	0.091	0.103	0.125	0.152
otherchronicaldisease	*0*	0.173	0.178	0.195	0.208	0.211	0.228
highbloodpressure	*0*	0.160	0.145	0.144	0.136	0.134	0.125
chronicpain	*0*	0.060	0.068	0.080	0.093	0.111	0.136
diabetes	*0*	0.180	0.139	0.131	0.133	0.153	0.183
asthma	*0*	0.107	0.120	0.131	0.145	0.143	0.140
stress	*0*	0.176	0.135	0.132	0.128	0.153	0.153
smoker	*0*	-0.059	-0.051	-0.050	-0.051	-0.041	-0.018
meals	*0*	0.066	0.053	0.044	0.043	0.038	0.039
Socioeconomic characteristics variables							
householdsize	*3.37*	-0.020	-0.019	-0.019	-0.021	-0.018	-0.009
age when male *	*41.58*	0.004	0.004	0.004	0.005	0.004	0.003
age when female *		0.001	0.000	0.000	-0.001	-0.001	-0.001
female **	*0*	0.155	0.151	0.169	0.209	0.179	0.179
educmax	*8.81*	0.000	0.004	0.005	0.005	0.004	0.003
income	*564.97*	0.000	0.003	0.003	0.003	0.004	0.003
single	*0*	0.000	-0.056	-0.059	-0.070	-0.068	-0.059
student	*0*	0.000	-0.068	-0.077	-0.080	-0.074	-0.085
retired	*0*	0.003	0.050	0.046	0.044	0.058	0.083
Demographic variables							
Norte	*0*	-0.016	-0.011	-0.014	-0.015	-0.024	-0.049
Lisboa	*0*	-0.026	-0.020	-0.025	-0.029	-0.039	-0.054
Alentejo	*0*	-0.076	-0.062	-0.064	-0.063	-0.065	-0.072
Algarve	*0*	-0.070	-0.058	-0.058	-0.055	-0.061	-0.083
Açores	*0*	-0.099	-0.091	-0.099	-0.114	-0.129	-0.160
Madeira	*0*	-0.132	-0.126	-0.139	-0.164	-0.182	-0.207
Seasonality variables							
winter	*0*	0.059	0.059	0.063	0.067	0.066	0.085
spring	*0*	0.031	0.030	0.034	0.035	0.033	0.038
summer	*0*	0.016	0.012	0.008	0.000	-0.009	-0.001

Source: Authors' calculations.
Note: Semi-elasticities are calculated for the vector $\tilde{x}$, presented in the second column. Semi-elasticities marked with * and ** were multiplied by 10 and 100, respectively. The corresponding coefficients and standard errors are available upon to the authors request.

Table 4

FREQUENCIES OF ESTIMATED QUANTILES BY HEALTH INSURANCE SYSTEM

	0	1	2	3	4	5	6	7	8	9	≥10
						NHS					
Qy(25|x)	89.4	8.3	1.4	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0
Qy(50|x)	58.2	32.8	5.5	1.7	0.7	0.4	0.2	0.1	0.1	0.1	0.2
Qy(75|x)	1.3	69.3	17.9	5.6	2.5	1.1	0.7	0.5	0.2	0.2	0.7
Qy(90|x)	0.0	23.4	46.3	15.1	6.2	3.1	1.8	1.1	0.7	0.5	1.8
						Public subsystem					
Qy(25|x)	87.9	9.4	1.6	0.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0
Qy(50|x)	54.0	35.7	6.3	2.0	0.9	0.5	0.2	0.2	0.1	0.1	0.2
Qy(75|x)	0.7	65.7	20.1	6.5	2.9	1.4	0.8	0.5	0.3	0.2	0.8
Qy(90|x)	0.0	19.5	47.2	16.6	6.7	3.5	1.9	1.2	0.8	0.6	2.0
						Private subsystem					
Qy(25|x)	83.6	12.3	2.4	0.8	0.3	0.2	0.1	0.1	0.1	0.1	0.1
Qy(50|x)	46.8	40.3	7.5	2.6	1.2	0.6	0.3	0.2	0.1	0.1	0.3
Qy(75|x)	0.2	60.0	23.4	7.6	3.6	1.8	0.9	0.7	0.5	0.3	1.0
Qy(90|x)	0.0	13.2	47.7	19.5	7.7	4.0	2.3	1.5	1.0	0.7	2.4

Source: Authors' calculations.
Note: The estimates are based on a simulation exercise that start by predicting the y^*-quantile for all 35,308 individuals setting all control variables in their actual values except the health insurance status, which is set at one of the three possible cases. After that, the y-quantiles are computed applying $Q_y(\alpha|x_i) = [Q_{y^*}(\alpha|x_i) - 1]$ and tabulated according to their frequencies.

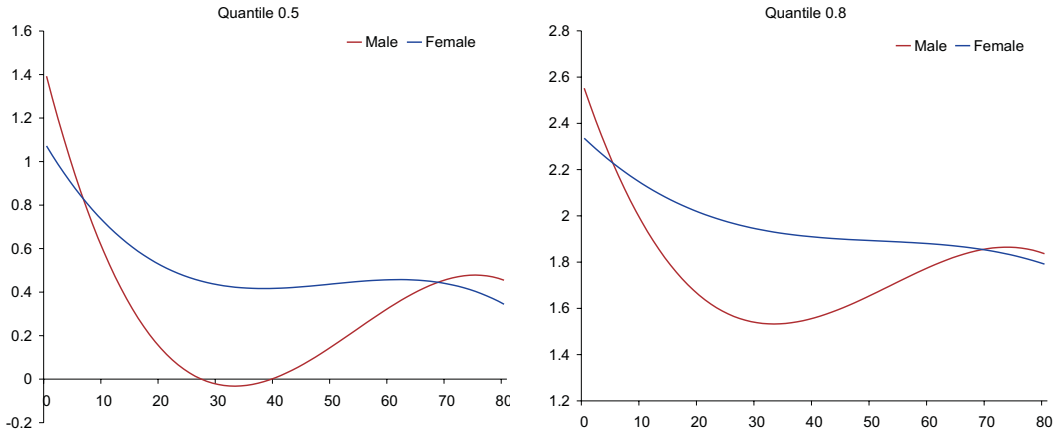
Regarding the effects of health status variables as a whole, it is visible that most regressors have a positive impact that increases with the quantile. As expected, being sick is important to determine whether or not the individual visits a doctor but, taking into consideration the results of the last decile, it is much more important in explaining the subsequent visits. The same kind of behaviour is observed for the effect of long term incapacity, since for the first quantiles it is not significant whereas for higher levels of consumption it becomes a very important explanatory variable. Amongst chronic diseases there is evidence of a positive increasing effect along the estimated quantiles, except for the dummy *osteoporosis* that has a decreasing impact, while *infarction*, *other chronic disease*, *high blood pressure*, *diabetes* and *asthma* have a constant effect over the distribution. The proxy for the level of exposure to stress has an effect that does not vary much across quantiles, and the other covariates related to attitudes towards health care have decreasing effects. The negative impact of being a smoker contrasts with the results of Lourenço (2007), which although using a slightly different variable found positive effects on the consumption of visits to a doctor. These results seem to indicate that individuals that take better care of their health by not smoking and having a higher number of meals also complement their care by being more pro-active in the visits to doctors, and these attitudes towards health care more than offset the impact of the improved health (and correspondingly lower demand for doctor visits) stemming from non-smoking and having a higher number of meals.

As a whole, the impact of variables related to socioeconomic characteristics seems similar across quantiles. Concerning the household size effect, the results indicate that an individual consumes on

average less consultations if the number of members of his/her household is larger. These findings are in accordance with the previous parametric models and are similar to the ones found by Winkelmann (2006). A possible economic explanation for this effect is the presence of "economies of experience" within the family due to the fact that decisions taken by more than one person benefit from more in-depth information, which on its turn influence health status and efficiency in producing healthy times. It is also plausible that scale economies play a role if it is true that when visiting a doctor patients often also ask questions concerning symptoms of diseases of their relatives in order to prevent further visits. Regarding the effect of age, from Chart 2 it is visible that the consumption of health care is very high in the first years of life and decreases until 30 - 40 years old, more for men than for women, and thereafter it increases for men while remaining fairly constant for women. These results seem intuitive: the initial decreasing path may be related to the fact that children often require more health care (having therefore periodic doctor appointments); and after some point in the life cycle it is expected an increasing recourse to health services if age is understood as an indicator of the depreciation rate of health (Grossman (1972)). Most studies on health care demand consider that age has a quadratic relationship with health care utilization (Pohlmeier and Ulrich (1995), Winkelmann (2006) and Lourenço (2007)). This option was tried but both coefficients did not appear significant and, when checked, a third order polynomial allowed a much better fit to the data. Additionally, ageing and gender effects are modelled together. Note that in our specification, it makes little sense to interpret the dummy *female* alone. The advantages of assessing the ageing effect by gender type are clear from Chart 2: men tend to consume less while women's behaviour towards health demand is smoother over the life cycle. By comparing the effects on the median with the 8th decile of y^*, it can be observed that the pattern of the effects is similar but as a whole the impact of age is less pronounced in explaining high levels of visits to a doctor. This is very much in line with the results of Winkelmann (2006) who shows that in the upper tail of the distribution of the number of visits age has a minor effect.

Chart 2

EFFECT OF AGE IN THE 5TH AND 8TH DECILES OF y^*



Source: Authors' calculations.
Note: The curves are computed as $Q_{y^*}(\alpha|\hat{x}) + female + [\gamma_{age}(\alpha) + \gamma_{agexfemale}(\alpha) * female]\, age + [\gamma_{age^2}(\alpha) \gamma_{agexfemale^2}(\alpha) female]\, age^2 + [\gamma_{age^3}(\alpha) + \gamma_{agexfemale^3}(\alpha) female]\, age^3$ being $\hat{x}$ equal $\bar{x}$ except for age that is set equal 0.

The level of income has a positive but negligible effect on health care utilisation, constant across the different quantiles. Conceptually, it is possible to find at least two channels for income influence. The first derives from the Grossman's model (1972), in which income sets the budget constraint and, therefore, the ability to pay for health care. The second channel is related to the fact that different levels of income can explain differences in the opportunity cost of being ill and in the cost of visiting a doctor, especially if we closely relate income with the wage rate. In Portugal, the first channel may not actually exist as a consequence of the design of health care systems. This is broadly applicable to both private and public subsystems and to NHS beneficiaries, although the latter to a minor extent. Direct costs of beneficiaries are relatively small as most of the cost of a consultation with a doctor is borne by the health care system, which is financed predominantly by general taxation or employers and employees compulsory contributions. In this context, the second channel may be more relevant and it is consistent with the estimated small effect of income over all the outcome distribution. Also the educational level has a small positive impact on health care utilisation that does not change significantly across the estimated quantiles. The previous empirical evidence of Pohlmeier and Ulrich (1995), Winkelmann (2006) and Lourenço (2007) also found small positive effects for both income and education influences. Concerning the effect of marital status, the results point out that single people visit doctors less often. These findings may indicate that they are less risk-averse regarding their health. As to the occupational status, the estimated semi-elasticities are positive for retired individuals and negative for students, meaning that the utilisation of health care increases over the life cycle, being lower when we study, higher when we work and much higher when we retire. In the interpretation of the results it is important to be aware that these particular variables may capture to some extent Grossman's income and age effects.

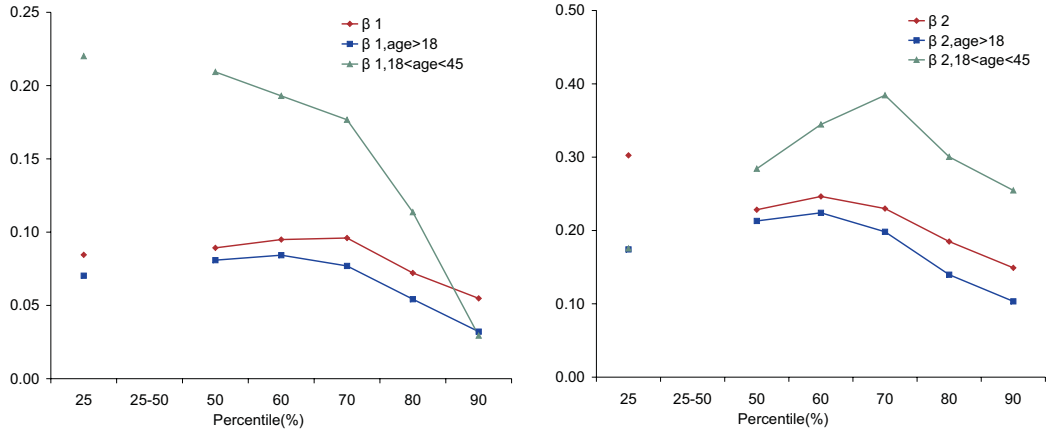
Finally, the coefficients related with area of residence indicate that individuals from the *Centro* region seek for more doctors' consultations, followed by the *Norte* and *Lisboa*. Individuals from the autonomous regions consume much less health care services than those from the mainland. Regarding estimated effects in the different quantiles, it can be concluded that they are more or less constant in most cases and growing in the case of *Norte* and *Lisboa*. The seasonal variables indicate that individuals consume fewer visits to doctors in summer while in autumn doctor's consultations reach a peak.

6. FURTHER RESULTS: CUMULATIVE HEALTH EFFECTS OF DOUBLE COVERAGE

As mentioned in Section 3.1, some individuals may have enjoyed health insurance double coverage for a long period of time which may generate cumulative health benefits from a better medical follow-up over time (Barros *et al.* (2008)). If this occurs, the difference in the number of doctor visits between the two groups should decrease with age. The idea is that the recent beneficiaries of a health subsystem (more likely the younger generations) did not have time to accumulate such health benefits, whereas the older beneficiaries (more likely the older generations) had time to do so, and that will make them relatively healthier when compared with individuals who only have access to the NHS. If this outcome

Chart 3

EFFECTS OF THE PUBLIC AND PRIVATE SUBSYSTEMS ON DIFFERENT AGE GROUPS



Source: Authors' calculations.

is not fully controlled through the health status variables, $\beta_1(\alpha)$ and $\beta_2(\alpha)$ can be positively biased. Given this situation, it is interesting to study the empirical specification previously presented for different age groups: a subsample of individuals with more than eighteen years old (28,736 observations) and a second subsample of individuals with age between eighteen and forty five (12,637 observations). Chart 3 presents a comparison of the estimated double coverage coefficients focusing on the upper tail results. The most important fact is that the effects of both public and private subsystems are higher for the younger generations and this occurs over the whole distribution. When the analysis is restricted to individuals with more than eighteen years old, both $\beta_1(\alpha)$ and $\beta_2(\alpha)$ become slightly lower *vis-à-vis* the previous estimates, whereas the younger cohort (the one with individuals with more than eighteen and less than forty five) has the largest estimated effects. The differences are very expressive, especially for public employees. This is consistent with Barros *et al.* (2008) findings. For different levels of visits to the doctor, beneficiaries from private subsystems and public subsystems behave now in a quite different way. Regarding the public subsystems, quantile regression results show that the supplementary insurance effect of the younger cohort decreases considerably across the distribution, which indicate that the double coverage is relatively lower among young high users. Also note that this was not the case for the full sample and that the coefficients of the different age groups are similar in the 9th decile. For the private subsystem, the estimated impact of the younger group increases until the 7th decile and decreases thereafter. This path is similar to that obtained for the full sample. The results seem to confirm the possibility that the estimated impacts for the elder groups are lower, may be reflecting accumulated health benefits from the existence of the subsystems.[14]

(14) The change in the population under analysis and the reduction of the sample (in particular of the number of individuals with subsystems) should, however, be taken into account.

7. CONCLUSIONS

This article examines the impact of additional coverage on the utilisation of visits to the doctors at different levels of the outcome distribution, contributing to the empirical literature on health insurance. More particularly, it presents evidence for Portugal as it is about differences in the utilisation behaviour between individuals only covered by the NHS and individuals covered by additional health subsystems. The approach consisted in studying differences in the number of doctor consultations between NHS and public and private subsystems, using a recent quantile regression estimator for count data. As such, the analysis overcomes the limitations of traditional parametric count data models by investigating the effect of covariates on the shape of the distribution, without imposing restrictive assumptions. The selection bias is minimized by using only individuals who benefit from health insurance double coverage on a mandatory basis and by analysing its impact on different age cohorts.

The results show that the additional coverage is important in explaining the consumption for doctor consultations. That is, supplementary insurance leads to a relatively higher increase in utilisation (visits to a doctor) for regular (less evident among heavy) users of the health system. When the effects of public and of private health insurance plans are compared, it is clear that the double coverage resulting from private schemes health has a much higher impact than that stemming from the health insurance plan of public employees. Another important finding is that the relative effect of both sources of double coverage is almost constant across quantiles, which means that they display a similar path along the distribution. The analysis for the youngest cohort shows that the estimated effects of both public and private health insurance on top of the NHS are higher than the ones for the full sample, possibly reflecting accumulated health benefits.

To explain the differences in the utilisation of doctor consultations between the different health insurance status, several demographic, socioeconomic and health status variables, besides the geographic and seasonal effects were controlled for. Not surprisingly, results indicate that the existence of chronic diseases or pain is extremely relevant in explaining doctor visits, especially for high users. Among the demographic and socioeconomic characteristics, age assumes a unique role, especially when combined with gender. In the first years of living the consumption of health care is very high and it decreases until 30-40 years old, more for men than for women, and thereafter it increases for men and remains fairly constant for women. Education and income present significant positive effects (constant over the whole distribution), although less important than those of other regressors. Results from quantile regression are similar to those from previous literature in terms of the significance of key covariates, but the combination of age and gender is novel in the literature.

In short, health insurance double coverage creates additional utilisation of health care. This additional consumption effect is probably only slightly higher for medium-intensity users than for heavy users. Also interesting is the large difference in impact according to the type of health insurance double cov-

erage. The second layer of health insurance coverage adds more to utilisation when provided by private organizations than when obtained from government financed entities.

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PORTUGUESE INTERNATIONAL TRADE IN SERVICES*

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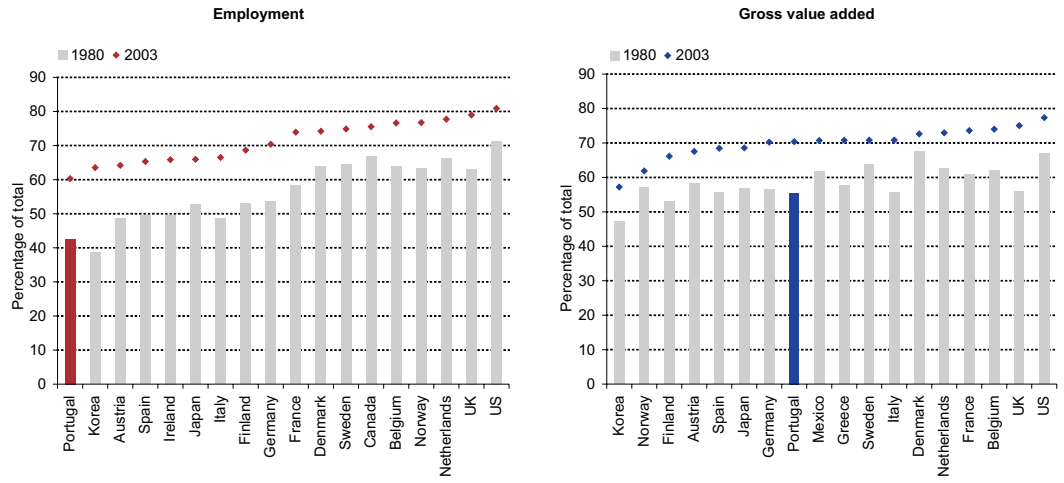
1. INTRODUCTION

The economic relevance of the services sector has been increasing for some decades. The shift to services translated into rising shares of this sector in total gross value added (GVA) and in total employment in most industrialized countries (Chart 1). In addition, trade in services expanded rapidly since the eighties, as technological changes allowed a strong growth of international exchanges of electronically transmitted business services. However, the underlying assumption in classical economic theory was that services were essentially non-tradable, as opposed to manufactured goods which were considered tradable and thus subject to international competition. Nowadays, this distinction is still broadly valid, though the borderline between the two categories has clearly moved in a way that more services became tradable. In fact, as discussed in Blinder (2006), the available technology – especially in transportation, information and communications – largely determines what can be traded internationally and what cannot. Sectors such as community, social and personal services, clearly related with the activity of general government, and wholesale and retail trade remain almost exclusively non-tradable in the classical sense. Similarly, sectors like transportation, communications and tourism

Chart 1

SHARE OF THE SERVICES SECTOR IN THE ECONOMY



Sources: OECD-STAN database and authors' calculations.
Note: France's last year for employment data = 2002.

Sources: OECD-STAN database and authors' calculations.

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have a long tradition of a significant presence in international transactions. On the contrary, sectors like financial services, computer and information services and other business services have been gaining share in international trade as a result of the sharp progress in information and communication technology. Thus, it is important to briefly summarize the main drivers of these structural changes.

Several simultaneously competing and complementary explanations have been presented in the literature to account for the rising share of services in GVA and employment.[1] The first explanation was initially proposed by Clark (1951), who argued that services satisfy higher needs than goods, *i.e.*, the so-called "hierarchy of needs" hypothesis. Under this hypothesis, the higher the income, the larger the share used for the purchase of services. This would explain the higher relevance of services in GVA and employment in higher income countries. Baumol (1967, 2001) challenged this interpretation, arguing that the increase in the share of services employment is the result of a differential in productivity growth and stating that, when measured at constant prices, the relative demand for services does not depend on income. Nevertheless, since productivity in services increases less than in manufacturing, the share of employment in services would be higher in high-income countries. In addition, if wages evolve closely in the different sectors, *i.e.*, not reflecting the differences in productivity, the share of services in nominal output would also rise with income. The two arguments are complementary as they provide explanations for the higher shares of services in both employment and output. The contradictory point lies on the overall demand-income elasticity in services, though within each sector it is possible to identify cases where such elasticity is higher or lower than one.

A complementary explanation for the shift to services is based on social preferences and the role of the public sector in the economy. The long-run tendency for the public sector to grow relative to national income is a stylized fact in public economics – the so-called "Wagner's Law". The Wagner's Law has been widely tested empirically with different results across countries and time periods, but it has generally received ample support (see, for instance, Henrekson (1993) and Peacock and Scott (2000)). This phenomenon can partly account for the increased share of services in employment and output over time.

Another explanation for the rising share of services in output and employment is based on the organization of production in different sectors of the economy. In national accounts, firms are typically classified according to their main activity, regardless of other secondary activities carried out within the firm. In addition, in labour market surveys, workers are classified not according to the specific characteristics of their activity but rather on the sectoral classification of the workplace. In parallel, the reorganization of production within firms has been changing and some activities are presently performed more efficiently and cheaply through outsourcing (see Abraham and Taylor (1996)). Therefore, as this phenomenon develops the share of output and employment in services activities increases. Nevertheless, this is just the result of the reallocation of activities between sectors and not a change in the type of activities that are carried out in the economy. In the same vein, the increased participation of women in

(1) See Schettkat and Yocarini (2006) for an overview of the literature on the shift to services and ECB (2006) for a detailed analysis of the evolution of the services sector in the euro area.

the labour market implied some outsourcing of domestic activities, increasing the share of services in total employment and output.

The explanations for the increased importance of services in international trade are partly related with the above trends and partly linked with the underlying reasons for the increase in the international trade of manufactured goods (see Hoekman (2006) for an overview of the liberalization of trade in services). Firstly, advances in information and communication technologies are increasingly allowing cross-border trade in services. Secondly, the overall reduction in political and economic trade barriers and the participation of new countries in world trade stimulated imports and exports of services. Thirdly, market liberalization in specific services sectors like airline, trucking and rail transportation increased their international exchanges. Fourthly, globalization and the related mobility of capital and labour lead to a strong expansion of trade in tourism, financial and communications services, also contributing to increase their shares in domestic employment and output. Finally, the international fragmentation of production, with firms producing different stages of production in separate countries according to local comparative advantages, has an impact in international trade of services because several business services are outsourced to foreign countries (see Mankiw and Swagel (2006) for a discussion).

This paper examines Portuguese international trade in services at a relatively disaggregated level over the last two decades and taking a large set of countries as benchmark. It is organized as follows. Section 2 describes the data used to analyse the evolution of Portuguese trade in services and discusses some conceptual issues related with the definition of international trade in services. Section 3 examines the main trends in Portuguese trade in services over the last twenty years. The analysis of the geographical and sectoral pattern of specialization of Portuguese exports of services is included in Section 4. The traditional Balassa (1965) index of revealed comparative advantage is used to examine the relative sectoral specialization of Portuguese exports of services. Finally, Section 5 presents some concluding remarks.

2. SERVICES SPECIFICITIES AND DATA

The services sector has several specificities that lead to essential differences between trade in services and trade in goods (see Hoekman and Mattoo (2008)). Firstly, services are intangible and hence its international trade does not involve shipping, in contrast with goods transactions. As a consequence, services are inherently more difficult to monitor, measure and tax. Secondly, services are non-storable, so its production and consumption tend to occur simultaneously. Thirdly, services are highly differentiated, as they are sometimes tailored to the needs of customers. In addition, all services require some form of interaction between producer and user, the so-called joint production. It can be a direct person-to-person contact (*e.g.*, haircut), a telecommunication (*e.g.*, internet banking) or an exchange of written documents. Some services may require the consumer to move to the location where the services are supplied (*e.g.*, tourism), while others may require the producer to move his location (*e.g.*, maintenance engineering). As a result, even with the strong improvements in information and

communication technologies, services are still less tradable than goods.

Since services are intangible, in general, tariffs cannot be levied on services transactions, except for a few activities like transportation and tourism. Therefore, barriers to trade in services are mostly non-tariff barriers, like quotas, prohibitions and government regulations. These restrictions can take the form of limits on the market shares of foreign providers of services or on the scope of their activities. Government regulations on the services sector often act as important barriers to trade. These regulations include, for instance, provisions on licensing and certification, technical and environmental standards or government procurement and sourcing policies. In fact, as discussed in Conway and Nicoletti (2006), services are the sectors in which most economic regulation is concentrated and where domestic regulations are more relevant for economic activity. Several studies examine the impact of barriers to trade in services and its process of liberalization, in particular after the General Agreement on Trade in Services (GATS).[2] The GATS, which came into force in 1995, resulted from the Uruguay Round and its implementation is under the aegis of the World Trade Organization. It extends the multilateral trading system to the services sector, as the General Agreement on Tariffs and Trade (GATT) does for merchandise trade. However, as discussed in Hoekman (2008), at present still little progress has been made in liberalizing services trade and investment.

The intangible nature of trade in services also makes these flows very difficult to measure. As such, finding efficient ways of collecting data on services international transactions is a statistical challenge. There are several studies devoted to the measurement of trade in services (see, for instance, Lipsey (2006) and Sturgeon *et al.* (2006)) and most country studies on trade in services also discuss this issue in detail. In line with the classical approach to trade in services, balance of payments data is still the main source used to measure international trade in services. Nevertheless, there is a broad consensus that the growth of services trade is being significantly underestimated, as we will discuss in detail below.

The literature on international trade in services is still limited when compared with the large number of studies on international trade in goods. Part of the explanation for the relatively scarce literature relates with the novelty of the phenomenon and with the difficulties in compiling and interpreting data on international trade in services. Lejour and Smith (2008) edited a selection of papers on the globalization of trade in services, which provides a useful summary of the main research issues. Several individual and cross-country studies on the pattern of specialization of exports of services have also been produced in the recent years. For example, ECB (2008) presents an overview of services trade in the euro area and other major exporters of services, Bensidoun and Unal Kesenci (2008) analyse the pattern of trade in services of several OECD countries and Lee and Lloyd (2002) examine the relevance of intra-industry trade in services for 20 individual OECD countries. A few recent studies estimate gravity equations for bilateral services trade, using large samples of countries and comparing them to those of goods trade. Head *et al.* (2009) and Kimura and Lee (2006) find that the distance effect is more important for services than for goods, Ceglowski (2006) finds similar distance effects, while Lejour and

(2) See Hoekman and Braga (1997) for a discussion of the several policies used to restrict trade in services.

Verheijden (2007) find that distance seems to be somewhat less important for trade in services than for trade in goods in Europe.[3] The international outsourcing of services is another area where the empirical evidence is still scarce but further investigation is progressing fast (see Crinò (2009) for a review of the literature on services offshoring). Amiti and Wei (2005, 2006), Liu and Trefler (2008), Geishecker and Görg (2008) and Hijzen *et al.* (2007) are examples of empirical studies on the effects of services offshoring, the latter using firm-level data. The studies on international trade in services using firm-level data are even scarcer, given the lack of comparable data. A couple of exceptions are Hijzen *et al.* (2006) that analyse imports and exports of services at the firm-level in the UK, Breinlich and Criscuolo (2008) that present a set of stylized facts on firms engaging in international trade in services in the UK and Eickelpasch and Vogel (2009) that study the determinants of the export behaviour of German services firms.

In this paper the source of data for international trade in services is the Balance of Payments services account, which measures services transactions between resident and non-resident entities, in accordance with the IMF (1993) Balance of Payments Manual (5th edition). This definition of international trade in services is narrower than the one of GATS, which has broadened the statistical concept of trade in services, moving away from an approach based on a subset of the balance of payments and reflecting instead the modes by which services are supplied in practice.

In order to understand the consequences on the analysis arising from alternative definitions of trade in services, it is necessary to provide additional detail and examples. The UN *et al.* (2002) Manual on Statistics of International Trade in Services describes in detail the four modes through which services may be traded internationally, taking into account the location of both suppliers and consumers of traded services. Mode 1 (cross-border supply) applies when suppliers in one country provide services to consumers in another country without either of them moving into the territory of the other. This mode is similar to the traditional notion of trade in goods, where both the consumer and the supplier remain in their respective territory. Freight transport services, correspondence courses and telediagnosis are examples of cross-border supply of services. Mode 2 (consumption abroad) comprises the cases when a consumer resident in one country moves to another country to obtain a service. Tourism services and related activities are typical examples of consumption abroad. Medical treatment of non-resident persons and language courses taken abroad are other examples of mode 2. Mode 3 (commercial presence) includes the situations when firms supply services internationally through the activities of their foreign affiliates. Medical services provided by a foreign-owned hospital and services supplied by a domestic branch of a foreign bank are examples of supplies through commercial presence. Most mode 3 services concern domestic sales of foreign affiliates that are not included in the Balance of Payments services data, as they are considered transactions between residents. Statistics on foreign affiliates trade in services (FATS) are the main sources of data on international trade in services through mode 3. The main exception refers to short-term construction projects done by unincorporated site offices, which are recorded in the Balance of Payments under construction services. Mode 4

(3) Grunfeld and Moxnes (2003) and Mirza and Nicoletti (2004) analyse bilateral services exports for large samples of countries using gravity models but with a different focus. Both studies confirm the importance of size and distance for services exports.

(presence of natural persons) describes the process by which an individual moves temporarily to the country of the consumer in order to provide a service. This mode of supply includes trade in services in the Balance of Payments sense, like auditing services by a foreign auditor or entertainment services by a foreign artist on tour in the host country. In addition, mode 4 also includes non-permanent employment in the country of the consumer, which is recorded in the Balance of Payments as labour income.

From the discussion above it results that the Balance of Payments trade in services broadly covers modes 1, 2, a significant part of mode 4 and a small part of mode 3. Overall, the Portuguese trade in services is being underestimating when it is measured as Balance of Payments transactions in services. This underestimation can be significant since recent evidence points to the fact that foreign direct investment (FDI) is an important channel for the international provision of services, as many of them remain effectively non-tradable in the traditional sense (see Bensidoun and Unal Kesenci (2008)). Nevertheless, services data based on the GATS approach was not fully available, so it was not an option for this work.

The data used in this paper comes from the CHELEM Balance of Payments Database of the CEPII (CHELEM-BAL), which reports balance of payments flows for around 200 individual countries and geographical zones, covering the whole world.[4] The data is provided in current US dollars (millions) and in accordance with the IMF (1993) Balance of Payments Manual (5th edition). The classification of services follows the Extended Balance of Payments Services Classification (EBOPS) which contains 11 main components. The sample period starts in 1967 and ends in 2006, but the detailed information on the different types of services is only available from 1995 onwards. In addition, bilateral data from the Banco de Portugal Balance of Payments database is used to examine the geographical specialization of Portuguese exports of services.

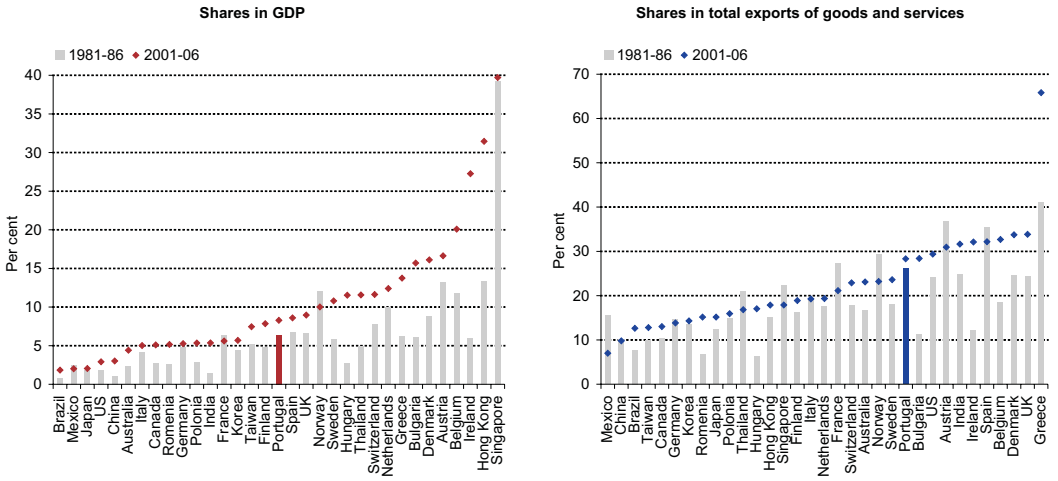
3. PORTUGUESE INTERNATIONAL TRADE IN SERVICES (1985-2006)

The services sector in Portugal increased its weight not only in GVA and employment but also in international trade, in line with the evolution observed in most industrialized countries (Chart 2). In fact, the reduction of information and communication costs, the sharp increase in technological progress and the removal of political and economic barriers to trade led to a significant growth of the international transactions of services. Portuguese exports of services represent 28.3 per cent of total exports of goods and services in the period 2001-2006, which compares to 26.1 per cent in the period 1981-1986. Greece, which is an economy typically associated with significant services exports, stands out with a ratio of services exports in total exports of goods and services of 65.8 per cent in the average of the 2001-2006 period. The ratio of Portuguese exports of services to GDP also increased, from 6.4 per cent in the average of the years 1981-1986 to 8.3 per cent in the period 2001-2006. In spite of this increase, Portuguese exports of services as a ratio of GDP are still lower than in most European coun-

(4) See Boumellassa and Unal Kesenci (2006) for a detailed description of this database.

Chart 2

EXPORTS OF SERVICES



Sources: CHELEM-BAL database and authors' calculations.

Sources: CHELEM-BAL database and authors' calculations.

tries, particularly in Ireland that shows a ratio above 25 per cent in 2001-2006. The growing importance of internationally traded services in Ireland is partly linked with the significant presence of foreign-owned subsidiaries in the financial and high-technology sectors.[5] Other services export-oriented economies in this period are Hong Kong and Singapore, with ratios close to 30 and 40 per cent, respectively.

Portugal has been recording surpluses in the services account in the last decades, which contrasts with the systematic deficits in the goods account. In the average of the period 1985-2006, the Portuguese services account showed a surplus of 1.9 per cent of GDP (Chart 3). In terms of total exports and imports of services as a percentage of GDP, both flows have increased their importance in the Portuguese economy and tended to move in the same direction in most years. The main contribution to the positive balance in Portuguese international transactions of services came from the travel sector, with an average surplus of 2.8 per cent of GDP over the last two decades, though with some decline in the first half of the nineties. On the contrary, there was a reduction of the negative contribution of net exports of other services since the nineties. In fact, the evolution of the balance of other services was significant, from a deficit of 2.1 per cent of GDP in 1990 to a surplus of 0.6 per cent of GDP in 2006.

The market share of Portugal in world exports of services increased over the last decades. This fact contrasts with the disappointing evolution of Portuguese export market shares of goods over the last 20 years.[6] Over the 1985-2006 period, Portuguese exports of services show a cumulative increase of market share of 32.8 per cent in nominal terms (Chart 4). This cumulative growth of Portuguese export share in services resulted mostly from gains obtained until the mid-nineties, since there was a stabilization of market shares over the last decade. The increase of Portuguese market share is higher than the one observed in Spain, where the export share in services increased by 20.7 per cent in cumulative

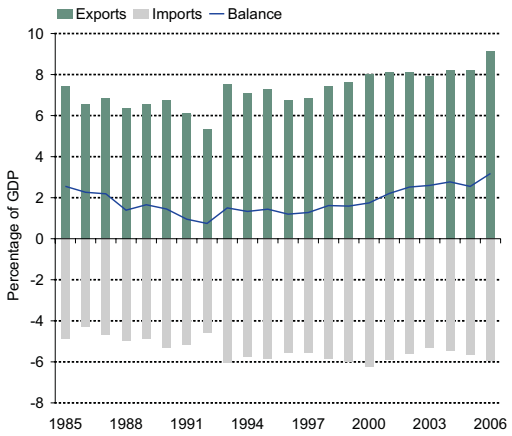
(5) See Grimes (2006) for a detailed analysis of the internationalisation of services activities in Ireland.

(6) See Amador and Cabral (2008) for an analysis of the evolution of Portuguese market shares in world exports of goods.

Chart 3

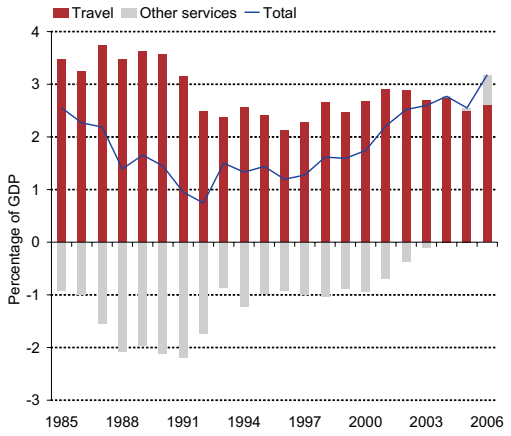
PORTUGUESE SERVICES ACCOUNT

Exports and imports of services



Sources: CHELEM-BAL database and authors' calculations.

Balances – travel versus other services

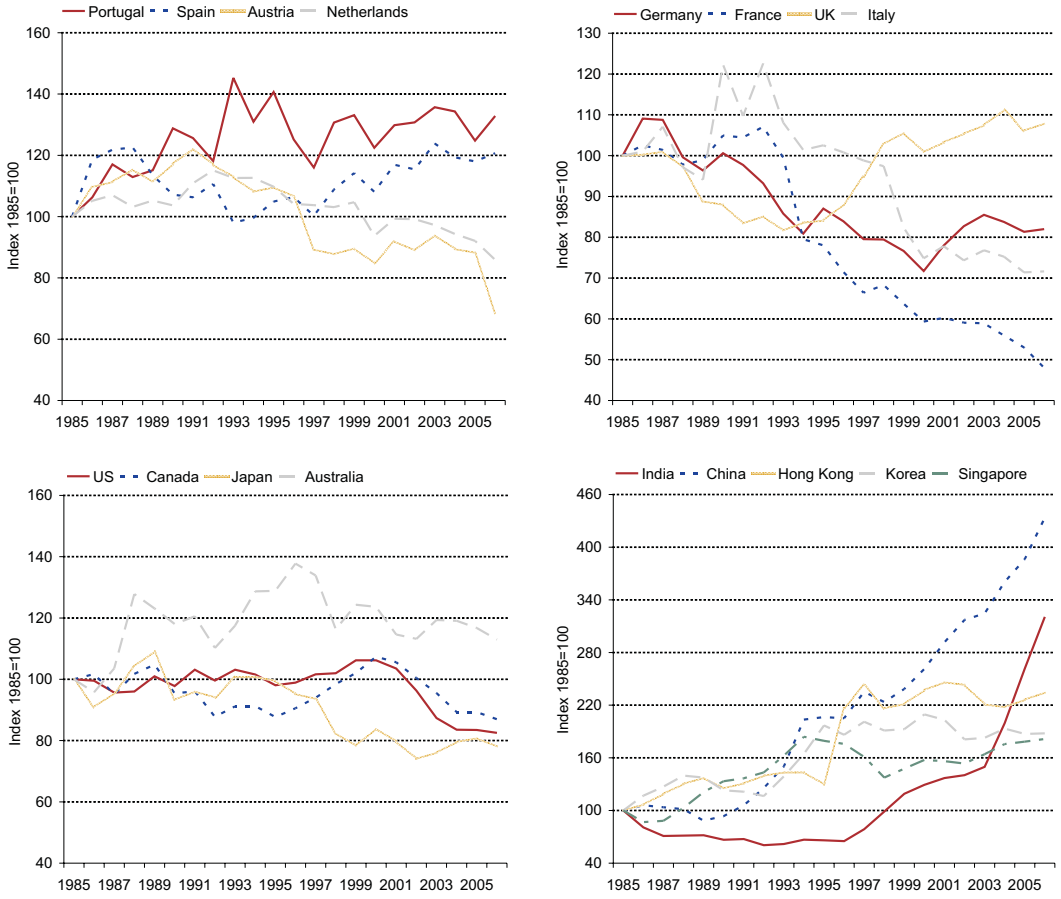


Sources: CHELEM-BAL database and authors' calculations.

Chart 4

MARKET SHARE IN WORLD EXPORTS OF SERVICES

Cumulative results in nominal terms



Sources: CHELEM-BAL database and authors' calculations.

terms over the 1985-2006 period. Other European Union (EU) countries like Austria and the Netherlands recorded important cumulative losses in the same period. Regarding Greece and Ireland, the data on exports of services is very volatile until the late nineties. Nevertheless, these countries are typical benchmarks for the Portuguese economy, so we computed the cumulative changes of market share in the period 2000-2006. Ireland experienced a remarkably strong gain of market share in this period (105.0 per cent), while the Greek economy recorded a modest cumulative increase (2.1 per cent), lower than the one of Portugal in the same period (8.5 per cent).

The export market shares in services of large industrialized EU economies, like Germany and Italy, declined by 18.0 and 28.4 per cent in cumulative terms between 1985 and 2006, respectively. In addition, in France, there was a strong and sustained reduction of share in world exports of services since the nineties, reaching a cumulative loss of more than 50 per cent in the period 1985-2006. On the contrary, the UK recorded a cumulative increase in its market share in world services exports of 7.8 per cent in this period. As for the group of extra-EU large industrialized economies, the export shares of the US and Canada showed relatively similar paths over the 1985-2006 period, with cumulative losses of 17.5 and 13.1 per cent, respectively. The exports of services of Japan also lost market share over this period (22.0 per cent), while Australia had a cumulative gain of 12.9 per cent from 1985 to 2006.

Emerging economies in East Asia gained substantial market shares in world exports of services over the last two decades, similarly to what is observable in the goods markets. The nominal market share of Hong Kong in world exports of services increased by 134.4 per cent in cumulative terms from 1985 to 2006, while Korea and Singapore had cumulative gains of share of more than 80 per cent in the same period. Important players like China and India experienced impressive cumulative gains of 333.7 and 220.7 per cent, respectively. Nevertheless, the large scale of these economies and the low initial shares in world services exports contributed to this path. Overall, the Portuguese economy performed positively in terms of the evolution of services export shares. In the next section, we detail the analysis of Portuguese exports of services by looking at the geographical and sectoral specialization, comparing the latter with that of the world.

4. THE SPECIALIZATION PATTERN OF PORTUGUESE EXPORTS OF SERVICES (1995-2006)

4.1. Geographical specialization

This subsection examines the main destination countries of Portuguese exports of services over the 1996-2006 period using data from the Banco de Portugal Balance of Payments database. Chart 5 includes a geographical breakdown of Portuguese exports of services, including the 15 trading partners with a share above 1 per cent in the 2001-2006 period, which account together for more than 90 per cent of total exports. Portuguese exports of services are mostly directed to other advanced European countries, with the US, Brazil, Angola and Canada being the main exceptions. The set of top five destinations of Portuguese exports of services coincides with that identified for the exports of goods, *i.e.*,

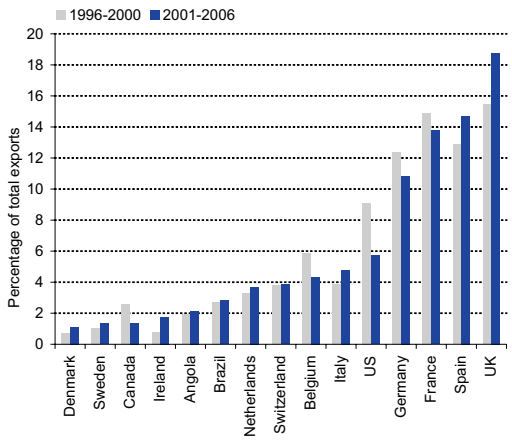
UK, Spain, France, Germany and the US (in descending order of importance). Nevertheless, the ranking of the main five partners in Portuguese exports of services is different from the one in exports of goods, where Spain and Germany are the leading destinations. The main destination of Portuguese exports of services is the UK and its share increased strongly over this decade, from 15.5 per cent in the average of the period 1996-2000 to 18.7 per cent in the period 2001-2006. Spain is the second main destination and its share also increased over this period, from 12.9 per cent in 1996-2000 to 14.7 per cent in the most recent period. However, the proportion of Spain in total Portuguese exports of services is much lower than the corresponding share observed in Portuguese exports of goods. France and Germany are also important destinations of Portuguese exports of services, with shares of 13.8 and 10.8 per cent in 2001-2006, respectively, but their shares declined over this decade. The US is the fifth major destination, but its share in total Portuguese exports of services decreased from 9.1 percent in 1996-2000 to 5.7 per cent in the most recent period. The shares of Belgium and Canada in total Portuguese exports of services also decreased by more than 1 percentage point over this period. On the contrary, Portuguese exports of services to Ireland and Italy grew clearly above average.

Recently, a few empirical studies applied the traditional gravity formulation to the international trade of services and found evidence that geographical proximity tends to play a somewhat stronger role in services than in goods (see Kimura and Lee (2006)). In the Portuguese case, the verification of this result is not straightforward. On the one hand, the closest country (Spain) shows a higher importance in the trade of goods than in the trade of services. On the other hand, not very distant European countries like France, Belgium, Switzerland and the Netherlands present somewhat higher shares in Portuguese exports of services than in exports of goods.

Chart 6 further examines the main trading partners of Portuguese exports of services by displaying the composition of exports by destination country in the average of the 2001-2006 period. The travel sec-

Chart 5

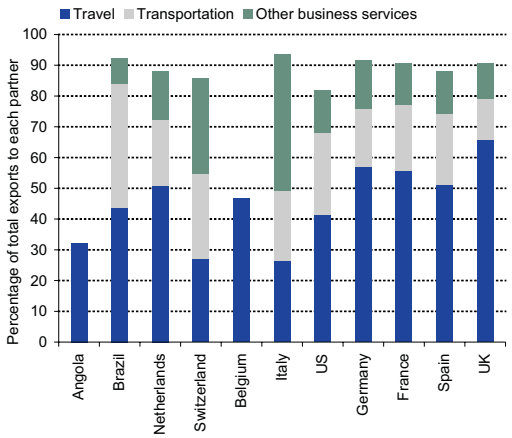
MAIN TRADING PARTNERS IN PORTUGUESE EXPORTS OF SERVICES



Sources: Banco de Portugal Balance of Payments database and authors' calculations.

Chart 6

COMPOSITION OF PORTUGUESE EXPORTS OF SERVICES TO MAIN TRADING PARTNERS, AVERAGE 2001-2006



Sources: Banco de Portugal Balance of Payments database and authors' calculations.

tor represents more than 50 per cent of total Portuguese exports of services to Germany, France, Spain and the Netherlands, and more than 65 per cent in the case of the UK. Transportation is typically the second largest type of services exported to these geographical destinations. This sector is especially important in Portuguese exports of services to Brazil, where it represents more than 40 per cent of total. In the cases of Switzerland and, in particular, Italy, other business services account for the largest share of Portuguese exports of services to these countries.

4.2. Sectoral specialization and Balassa indices

This subsection is devoted to the sectoral specialization of Portuguese exports of services over the 1995-2006 period. It starts by examining the shares of each sector in total Portuguese exports of services. In Portugal, three sectors have substantial shares in services exports (Table 1). Travel is the most important sector, representing more than 50 per cent of Portuguese exports of services in the average of the 1995-2006 period. However, there was a significant reduction of the share of this sector in total exports in the last years, in particular since 2001. In contrast, the share of the second most relevant sector in Portuguese exports of services, the transportation sector, increased since 1999, accounting for around 20 per cent of total in the most recent period. Portuguese exports of transport services include mostly air transport of passengers but exports of freight services increased strongly over this period, in particular in

Table 1

STRUCTURE OF PORTUGUESE EXPORTS OF SERVICES BY MAIN CATEGORIES
Shares as a percentage of total exports of services

	Shares in Portuguese exports		
	1995-2000	2001-2006	1995-2006
Transportation (205)	17.4	19.9	19.0
of which: Air transport, Passenger (211)	9.5	8.4	8.8
Other transport, Freight (216)	2.3	4.6	3.7
Travel (236)	59.3	52.2	54.9
Communications services (245)	2.9	3.2	3.1
of which: Telecommunications (247)	2.7	2.9	2.8
Construction services (249)	2.5	2.6	2.6
Insurance services (253)	0.8	0.7	0.8
Financial services (260)	2.7	1.4	1.9
Computer and information services (262)	0.6	0.9	0.8
of which: Computer services (263)	0.6	0.9	0.8
Royalties and license fees (266)	0.3	0.3	0.3
Other business services (268)	11.0	16.2	14.2
of which: Merchanting (269)	4.8	7.4	6.4
Miscellaneous business services (273)	5.9	8.4	7.4
Personal, cultural and recreational services (287)	1.4	1.3	1.3
Government services (291)	1.1	1.2	1.2
Other services not elsewhere specified (nes)	0.0	0.0	0.0

Sources: CHELEM-BAL database and authors' calculations.
Note: Extended Balance of Payments Services Classification (EBOPS) codes in parenthesis.

road transport freights. Portuguese exports of other business services also grew strongly over the last ten years, corresponding to more than 16 per cent of total exports of services in the 2001-2006 period. Portuguese exports of merchanting and other trade-related services increased strongly since 1999, reaching 7.4 per cent of total exports in the most recent period. Legal, accounting, management consulting and public relations services and architectural, engineering and other technical services also represent a rising share of Portuguese exports of services. As regards other categories of services, there was a slight increase of the shares of communications services and of construction services in Portuguese exports over this period. The increase of the export proportion of communications services is mostly associated with telecommunications. There was also an increase of the relative importance of computer and information services, due to higher exports of computer services, though they still represent a small proportion of exports in the most recent period. On the contrary, there was a significant reduction of the share of exports of financial services, from 2.7 per cent in 1995-2000 to 1.4 per cent in 2001-2006.

The evolution of the Portuguese export structure of services must be placed in perspective against the world average to evaluate the relative specialisation of Portugal and to identify the comparative advantages revealed *ex-post* by international trade. For that purpose, the analysis of the specialization of Portuguese exports of services is developed through the computation of the traditional Balassa (1965) index of revealed comparative advantages, as it is usually done for international trade in goods.[7] The Balassa index is defined as the ratio between the share of a given sector in total exports of the country under analysis and the share of that sector in total world exports. If the indicator reaches a value higher than 1, then the country is classified as being relatively more specialized in that sector, that is, as having a revealed comparative advantage in the sector.

Portugal reveals a clear and sustained comparative advantage in the travel sector over the last decade (Table 2). The sector of communications services has also high specialization coefficients over the sample period, although smaller than those observed in the travel sector. Portuguese exports of services are also relatively specialized in personal, cultural and recreational services, but some reduction of the Balassa indices is observed over the period. On the contrary, there was an increase of the Portuguese specialization in construction services, which resulted in Balassa indices above 1 since 2001. All other services sectors have indices lower than 1 in the average of the periods analysed.

The analysis of the relative specialization of Portuguese exports of services can be enhanced by taking a set of countries as a benchmark, thereby investigating their relative behaviours. Table 3 presents the Balassa indices of the main sectors in Portugal, in other EU countries and in several non-European countries, including some developing Asian countries, in the period 2001-2006. Starting with the comparison between Portugal and the other initial EU Cohesion Fund beneficiaries (Spain, Greece and Ireland), there are contrasting situations. Comparing Portugal and Spain, some similarities are evident, namely the strong specialization of both countries in the travel sector. However, in the cases of Greece and, especially, of Ireland the differences in terms of relative specialization are remarkable. In Ireland, the shares

(7) However, in this case the results of the Balassa index reflect only part of Portuguese international trade in services. As mentioned previously, our definition of international trade in services is limited to the international transactions included in the balance of payments services account, thus not taking into consideration other modes of supplying foreign markets.

Table 2

THE SPECIALIZATION OF PORTUGUESE AND WORLD EXPORTS OF SERVICES BY MAIN CATEGORIES
Shares as a percentage of total exports of services and Balassa indices

	Shares in Portuguese exports			Shares in world exports			Balassa indices		
	1995-2000	2001-2006	1995-2006	1995-2000	2001-2006	1995-2006	1995-2000	2001-2006	1995-2006
Transportation (205)	17.4	19.9	19.0	22.9	21.4	22.0	0.8	0.9	0.9
Travel (236)	59.3	52.2	54.9	31.4	27.5	29.0	1.9	1.9	1.9
Communications services (245)	2.9	3.2	3.1	2.0	2.2	2.1	1.4	1.4	1.4
Construction services (249)	2.5	2.6	2.6	2.6	2.0	2.2	1.0	1.3	1.2
Insurance services (253)	0.8	0.7	0.8	1.8	2.3	2.1	0.5	0.3	0.4
Financial services (260)	2.7	1.4	1.9	4.5	6.2	5.5	0.6	0.2	0.3
Computer and information services (262)	0.6	0.9	0.8	1.8	4.1	3.2	0.3	0.2	0.3
Royalties and license fees (266)	0.3	0.3	0.3	4.7	5.0	4.9	0.1	0.1	0.1
Other business services (268)	11.0	16.2	14.2	22.3	23.6	23.1	0.5	0.7	0.6
Personal, cultural and recreational services (287)	1.4	1.3	1.3	1.1	1.2	1.2	1.3	1.1	1.1
Government services (291)	1.1	1.2	1.2	3.3	2.6	2.9	0.3	0.5	0.4
Other services not elsewhere specified (nes)	0.0	0.0	0.0	1.5	1.8	1.7	0.0	0.0	0.0

Sources: CHELEM-BAL database and authors' calculations.
Notes: Extended Balance of Payments Services Classification (EBOPS) codes in parenthesis. All Balassa indices higher than 1 are highlighted.

of computer and information services and of insurance services in total exports of services are much higher than the world average, resulting in extremely high specialization coefficients. Irish exports are also relatively specialized in financial services, but to a much lesser extent than in the two previous categories. As regards Greece, its exports of services are mainly concentrated in two categories: transportation and travel. In particular, the proportion of the sector of transportation services in Greek exports is more than twice the world average in the period 2001-2006.

In what concerns other countries, the cases in which we detect the higher indices of revealed comparative advantage in the 2001-2006 period include several situations that have been separately documented in the literature. For example, the US and Japan have strong revealed comparative advantages in royalties and licence fees. In addition, Japan and Germany present high Balassa indices in construction services. In Canada, the shares of personal, cultural and recreational services and of insurance services in total exports are much higher than the world average, resulting in strong specialization coefficients. The UK, a leading world financial market, shows a very high revealed comparative advantage in financial services. Korea and, to a lesser extent, Singapore stand out for their specialization in the transportation sector. Singapore is also relatively specialized in other business services and in insurance services, while the highest specialization coefficients of Hong Kong are in other business services, financial services and transportation services. Finally, India is identified by its widely debated and extremely strong revealed comparative advantage in computer and information services, showing the highest Balassa index of Table 3. In contrast, China's exports of services seem more broad-based, with Balassa indices above 1 in travel, construction services and other business services.[8]

(8) See Bussière and Mehl (2008) for a detailed analysis of the integration of India and China in world markets.

Table 3

THE RELATIVE SPECIALIZATION OF EXPORTS OF SERVICES – BALASSA INDICES
Average 2001-2006

	Portugal	Spain	Ireland	Greece	Italy	Germany	France	UK	Netherlands
Memo item:									
Share in total world exports of services	0.6	3.8	2.2	1.3	3.7	6.3	4.9	8.4	3.2
Transportation (205)	0.9	0.8	0.2	2.2	0.7	1.1	1.1	0.7	1.3
Travel (236)	1.9	1.9	0.3	1.5	1.5	0.7	1.4	0.5	0.5
Communications services (245)	1.4	0.7	0.7	0.5	1.1	1.0	1.2	1.3	1.9
Construction services (249)	1.3	0.8	0.0	0.4	1.3	2.6	1.6	0.2	1.9
Insurance services (253)	0.3	0.3	7.1	0.3	0.8	1.4	0.5	1.7	0.2
Financial services (260)	0.2	0.5	1.6	0.1	0.2	0.6	0.2	3.2	0.2
Computer and information services (262)	0.2	0.9	8.2	0.1	0.2	1.3	0.3	1.3	1.0
Royalties and license fees (266)	0.1	0.1	0.2	0.0	0.2	0.8	0.9	1.3	0.9
Other business services (268)	0.7	0.8	1.0	0.2	1.3	1.2	1.0	1.2	1.5
Personal, cultural and recreational services (287)	1.1	0.9	0.5	1.0	0.8	0.5	1.5	1.5	0.8
Government services (291)	0.5	0.3	0.3	0.1	0.5	1.9	0.3	0.7	1.0
Other services not elsewhere specified (nes)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	Portugal	US	Canada	Japan	India	China	Hong Kong	Korea	Singapore
Memo item:									
Share in total world exports of services	0.6	16.1	2.3	4.3	1.8	2.8	2.6	1.8	2.0
Transportation (205)	0.9	0.8	0.8	1.6	0.5	0.9	1.4	2.4	1.8
Travel (236)	1.9	1.0	0.9	0.3	0.5	1.5	0.6	0.6	0.4
Communications services (245)	1.4	0.7	1.7	0.3	1.6	0.4	0.6	0.5	0.5
Construction services (249)	1.3	0.5	0.2	3.6	0.6	1.5	0.4	0.1	0.6
Insurance services (253)	0.3	0.8	2.8	0.3	0.7	0.3	0.3	0.1	1.2
Financial services (260)	0.2	1.2	0.4	0.8	0.4	0.0	1.6	0.5	0.9
Computer and information services (262)	0.2	0.5	1.6	0.3	10.2	0.6	0.1	0.0	0.3
Royalties and license fees (266)	0.1	3.0	1.2	3.2	0.0	0.1	0.1	0.8	0.2
Other business services (268)	0.7	0.8	1.1	1.0	1.0	1.3	1.7	0.9	1.6
Personal, cultural and recreational services (287)	1.1	1.7	2.9	0.1	0.1	0.1	0.3	0.4	0.3
Government services (291)	0.5	2.1	0.9	0.7	0.3	0.3	0.0	1.2	0.1
Other services not elsewhere specified (nes)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Sources: CHELEM-BAL database and authors' calculations.
Notes: Extended Balance of Payments Services Classification (EBOPS) codes in parenthesis. All Balassa indices higher than 1 are highlighted.

5. CONCLUSIONS

Over the last decades, there has been a general trend of sectoral re-allocation towards the services sector in most developed countries. The share of the services sector in the Portuguese economy increased over the last two decades, reaching 70.4 percent of total gross value added and 60.3 per cent of total employment in 2003 (55.5 per cent and 42.6 per cent in 1980, respectively). In addition, Portugal has accompanied the trend of growing importance of services exports, which presently represent more than 28 per cent of total Portuguese exports.

This paper characterizes Portuguese international trade in services over the last two decades, defined as the cross-border flows included in the balance of payments services account. A comparative perspective of the main features of Portuguese trade in services is provided, as most of the analysis is carried out considering also other countries as benchmarks.

Travel is the most important sector in Portuguese trade in services and it has been a major factor behind the maintenance of an average surplus in the services account close to 2 per cent of GDP in the last two decades. Nevertheless, the contribution of net exports of other services has progressively moved from clearly negative in 1990 to slightly positive in 2006.

The market share of Portuguese exports of services behaved favourably over the last decades, in contrast with the disappointing evolution of export shares of goods. Over the last two decades, the nominal rate of change of Portuguese exports of services was higher than that of world services exports, leading to a cumulative increase of market share of 32.8 per cent from 1985 to 2006. This increase is higher than those observed in several European countries, but much smaller than those registered in some developing Asian economies.

Portuguese exports of services are mostly directed to other advanced European countries, with the main five destinations matching those of exports of goods, though with a different ranking. The main destination of Portuguese exports of services is the UK and its share in total exports increased strongly to 18.7 per cent in the 2001-2006 period. The travel sector constitutes the bulk of Portuguese exports of services to the UK, representing more than 65 per cent of total in this period. Spain is the second main destination of Portuguese exports of services, with a share of 14.7 per cent in the most recent period, which is much lower than the corresponding share observed in Portuguese exports of goods. France and Germany are also important destinations of Portuguese exports of services, accounting individually for more than 10 per cent of total.

The travel sector is the most important sector in Portuguese exports of services, representing more than 50 per cent of total. However, the share of this sector declined over the last years, in particular since 2001. The second most relevant sector in Portuguese exports of services is the transportation sector, with a share of around 20 per cent in the 2001-2006 period, while exports of other business services account for more than 16 per cent of total exports in this period. In contrast with the evolution observed in the travel sector, there was a significant increase in the shares of these two sectors in total

Portuguese exports of services over the last years.

Portugal has a clear and sustained comparative advantage in travel services over the last decade, as measured by the Balassa index. The sector of communications services has also high Balassa indices over this period, although smaller than those observed in the travel sector. In the period 2001-2006, Portuguese exports of services are also relatively specialized in construction services and in personal, cultural and recreational services. Comparing Portugal and Spain, some similarities are evident in terms of relative export structures, namely the strong specialization of both countries in the travel sector. In the cases of Greece and, especially, of Ireland the differences are substantial. Ireland has extremely high specialization coefficients in computer and information services and in insurance services, while the share of transportation services in Greek exports is more than twice the world average. In addition, we identify several country-specific features that have been separately documented in the literature. The UK stands out for its specialization in financial services and Germany has high Balassa indices in construction services. The US and Japan have strong revealed comparative advantages in royalties and licence fees, while Korea has a strong specialization in the transportation sector. In India, the shares of computer and information services in total exports are remarkably higher than the world average, resulting in the highest Balassa index of all countries and sectors considered.

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CHRONOLOGY OF MAJOR FINANCIAL MEASURES

January to October 2009

2009

January

- 9 January (Circular Letter of Banco de Portugal No. 4/2009/DET, Treasury and Issue Department)

  Informs on the implementation by cash-in-transit companies of the regulations applicable to euro banknote recycling, and on which companies are qualified for such activity in 2009, pursuant to Decree-Law No. 195/2007 of 15 May.

- 14 January (Circular Letter of Banco de Portugal No. 9/09/DSBDR, Banking Supervision Department)

  Credit institutions are requested to send to Banco de Portugal, within 10 working days, a summary evaluation of the implementation of Decree-Law No. 171/2008 of 26 August, which approved borrower protection measures in housing credit regarding the renegotiation of loan conditions.

- 14 January (Circular Letter of Banco de Portugal No. 10/09/DSBDR, Banking Supervision Department)

  Provides clarification on the implementation of Decree-Law No. 51/2007 of 7 March as regards advance payments in credit agreements concluded for the purchase, construction and improvement of permanent or secondary residential property or residential leased property, as well as for the acquisition of land for the construction of owner-occupied housing.

- 15 January (Instruction of Banco de Portugal No. 21/2008, BNBP 1/2009)

  Regulates reporting to Banco de Portugal of actual or contingent liabilities arising from credit operations, under any form, to be centralised and published by this central bank. Revokes Instruction No. 7/2006, published in the Official Bulletin No. 6 of 16 June 2006.

- 26 January (Circular Letter of Banco de Portugal No. 14/09/DSBDR, Banking Supervision Department)

  Following the conclusions of the meeting held by the Committee of Experts as regards the evaluation of measures against money laundering and terrorist financing (MONEYVAL), credit institutions and financial companies are advised to maintain enhanced surveillance procedures, and to examine with special caution all operations undertaken or intermediated by entities or institutions established in Azerbaijan.

- 28 January (Circular Letter of Banco de Portugal No. 15/09/DSBDR, Banking Supervision Department)

  Provides clarification on the procedures to be adopted by the institutions subject to the supervision of Banco de Portugal as regards the register of write-offs of loans in off-balance-sheet items.

- 28 January (Instruction of Banco de Portugal No. 1/2009, BNBP 2/2009)

  Introduces changes in Instruction No. 1/99, published in the Official Bulletin No. 1 of 15 January 1999, which laid down the general rules governing the Intervention Operations Market.

- 29 January (Circular Letter of Banco de Portugal No. 16/09/DSBDR, Banking Supervision Department)

  Informs that the list in Annex 1 of Instruction of Banco de Portugal No. 26/2005 should be replaced by the list of countries or jurisdictions integrating the concept “equivalent third country”, for the purposes of the implementation of Law No. 25/2008 of 5 June, defined in the Executive Order No. 41/2009 of 17 December 2008, published in the Official Gazette, Series II, Part C, No. 8 of 13 January 2009.

February

- 3 February (Circular Letter of Banco de Portugal No. 19/09/DSBDR, Banking Supervision Department)

  Provides clarification on interest charged after total early repayment of lending for house purchase and, as a result, on the interpretation of Article 5 (2) of Decree-Law No. 51/2007 of 7 March, as reworded by Decree-Law No. 88/2008 of 29 May.

- 09 February (Instruction of Banco de Portugal No. 4/2009, BNBP 3/2009)

  Defines the locations, schedules, rules and conditions for euro banknote deposits and withdrawals over the counter at Banco de Portugal.

- 16 February (Instruction of Banco de Portugal No. 2/2009, BNBP 2/2009)

  Regulates the opening and operation of current accounts with Banco de Portugal and creates the AGIL (Portuguese acronym for: Integrated Settlement Management Application), for the local management of access to current accounts held with Banco de Portugal by institutions that are not direct participants in TARGET2-PT.

- 16 February (Instruction of Banco de Portugal No. 3/2009, BNBP 2/2009)

  Regulates the Interbank Clearing System (SICOI), which comprises the following sub-systems: cheques, bills of exchange, direct debits, Interbank Electronic Transfers and transactions via ATMs.

- 17 February (Circular Letter of Banco de Portugal No. 2/2009/DMR, Market and Reserve Management Department)

  Discloses, effective as of 1 March 2009, the new price list of the services provided by SITEME (market electronic transfer system), which replaces the one annexed to Circular Letter of Banco de Portugal No. 9/DMR of 15 December 2006. The changes introduced in the price list are mainly a consequence of the closure of the interbank money market (*Mercado Monetário Interbancário – MMI*) on 31 December 2008.

- 20 February (Circular Letter of Banco de Portugal No. 20/2009/DSB, Banking Supervision Department)

  Makes known that the understanding presented in Circular Letter of Banco de Portugal No. 49/2001/DSB of 29 November 2001 is no longer applicable, given the accounting framework established in Notice of Banco de Portugal No. 1/2005 of 28 February 2005.

- 26 February (Instruction of Banco de Portugal No. 5/2009, BNBP 03/2009)

  Amends Instruction of Banco de Portugal No. 1/99 of 15 January 1999, which regulated the intervention transactions market (*Mercado de Operações de Intervenção – MOI*).

- 26 February (Circular Letter of Banco de Portugal No. 06/2009/DMR, Market and Reserve Management Department)

  Makes known the alterations introduced in Instruction of Banco de Portugal No. 1/99 of 15 January 1999, relating to the end of the period of transition to TARGET2, on 2 March 2009.

- 27 February (Circular Letter of Banco de Portugal No. 24/2009/DSB, Banking Supervision Department)

  Transmits some recommendations regarding the professional qualification and independence of management and auditing bodies.

March

- 2 March (Circular Letter of Banco de Portugal No. 10/2009/DET, Treasury and Issue Department)

  Informs that the cash-in-transit company ESEGUR, S.A., has set up in the Autonomous Region of Madeira - Funchal, a Cash Recycling Centre for the recycling of euro banknotes.

• 5 March (Notice of Banco de Portugal No. 1/2009, Official Gazette No. 45, Series II)	Amends some paragraphs of Notice of Banco de Portugal No. 5/2007 of 27 April (regulatory framework governing own funds requirements and solvency ratio).
• 19 March (Circular Letter of Banco de Portugal No 32/09/DSBDR, Banking Supervision Department)	Following the introduction of regulatory amendments, conveys the understanding of Banco de Portugal as to the recognition of significant credit risk transfer
• 20 March (Decree Law No 64/2009, Official Gazette No 56, Series 1, Ministry of Finance and Public Administration)	Establishes extraordinary mechanisms to reduce the nominal value of shares of public limited companies.
• 23 March (Circular Letter of Banco de Portugal No 33/09/DSBDR, Banking Supervision Department)	Conveys the understanding of Banco de Portugal and of the Securities Market Commission as to the delimitation of competences in the supervision of complex financial products.

April

• 1 April (Executive Order No 333-B/2009, Ministry of Finance and Public Administration)	In accordance with the provisions laid down in Article 3 of Decree-Law No 8/2007 of 17 January, approves new forms (Annexes C and F) for the annexes to the statement on Simplified Corporate Information to be used from 1 January 2009 irrespective of the year/fiscal year the statement refers to
• 14 April (Circular Letter of Banco de Portugal No 33/09/DSB, Banking Supervision Department)	Conveys the understanding of Banco de Portugal and of the Securities Market Commission as to the delimitation of competences in the supervision of complex financial products

May

• 7 May Guideline of the European Central Bank (2009/391/EC) Official Journal of the European Union No 123 Series L	Amends Guideline ECB/2000/7 on monetary policy instruments and procedures of the Eurosystem (ECB/2009/10). Section 2.1, first paragraph, second indent, third period is hence replaced accordingly. The present Guideline enters into force on 11 May 2009. The NCB of participating Member States are the addressees of the Guideline. The NCB mentioned in No 1 must report to the ECB, by 11 May 2009, the measures they intend to adopt in order to implement the provisions laid down in this Guideline
• 8 May (Executive Order No 493-A/2009, Official Gazette No 89, Supplement, Ministry of Finance and Public Administration)	In compliance with the provisions laid down in Article 23 of Law No 63-A/2008 of 24 November 2008, defines the necessary procedures to implement said law as regards the capitalisation of credit institutions with recourse to public investment. Empowers Banco de Portugal to monitor and audit the fulfilment by the beneficiary credit institutions of requirements established under this scheme. This executive order shall enter into force on the day following its publication.
• 12 May (Decree-Law No 103/2009 in the Official Gazette No 91, Series I, Ministry of Finance and Public Administration)	Creates an extraordinary credit line to protect own permanent homes in case at least one of the borrowers of a loan for the purchase of own permanent home becomes unemployed. This rule shall apply irrespective of the type of credit or its credit system, as long as these loans are, in every respect, for the purchase of own permanent homes. This credit line supports a 50 percent reduction

in the monthly principal and interest instalment by the borrower for a maximum period of 24 months. This Decree-Law shall enter into force on the day following its publication.

- 19 May (Instruction of Banco de Portugal No 6/2009, BNBP)

Determines which items are to be included by applicant institutions in their plan to raise own funds, to be submitted to Banco de Portugal within the scope of the application to the capitalisation operations envisaged in Law nº 63-A/2008 of 4 November.

- 19 May (Circular-Letter No 44/09/DSBDR, Banco de Portugal. Banking Supervision Department)

Recommends that institutions, when revaluating real estate acquired as a result of mortgage credit repayment, shall identify any signs of significant changes in value and adjust the values of the latest evaluations available accordingly, or obtain new evaluations, within the scope of a systematic monitoring procedure through a dedicated structure, thereby complying with a range of minimum requirements, similar to those defined in Part 2, point 8, b) and c) of Annex VI to Notice No 5/2007.

- 19 May (Circular-Letter No 45/09/DSBDR, Banco de Portugal. Banking Supervision Department)

Publishes assessment criteria regarding the eligibility of certain items for original own funds.

- 20 May (Circular-Letter No 47/09/DSBDR, Banco de Portugal. Banking Supervision Department)

Provides clarification on the opinion conveyed by Banco de Portugal in its Circular-Letter No 61/2008/DSB of 30 September, confirming that Decree-Law No 171/2008 of 26 August prohibits the collection of any fees associated with the renegotiation of loan conditions, specifying that this prohibition covers any change in the insurance company.

June

- 2 June (Decree-Law No 133/2009 of the Ministry of the Economy and Innovation, Official Gazette No 106 Series 1)

Transposes into the national law Directive 2008/48/EC of the European Parliament and of the Council of 23 April 2008 on credit agreements for consumers. This Decree-Law enters into force on 1 July 2009. At the end of the first year after the date of its entry into force, and biannually in subsequent years, Banco de Portugal shall prepare an evaluation report on the impact of its implementation, and, making use of all the means at its disposal, shall make that information public.

- 3 June (Circular-Letter No 50/09/DSBDR Banco de Portugal. Banking Supervision Department)

Provides clarification on the internal control reports of the financial group to be submitted by offshore entities, pursuant to Notice No 5/2008.

- 5 June (Decision No 13364-A/2009 Ministry of Finance and Public Administration. Secretary of State for Treasury and Finance's Office, Official Gazette No 109 Supplement. Series 2, Part C)

Authorises that the State personal guarantee continues to be used within the scope of the bank loan granted to Banco Privado Português, S.A., by a group of credit institutions. Its maturity is extended for six months. The other terms and conditions of the guarantee granted under Decision No 31268-A/2008 of 1 December remain unchanged.

- 16 June (Decree-Law No 142/2009, Official Gazette No 114, Series 1, Ministry of Finance and Public Administration)

Introduces the sixth amendment in the Legal Framework of Mutual Agricultural Credit, approved by Decree-Law No 24/91 of 11 January, with a view to adapting the management model of mutual agricultural credit banks to the structures laid down in the Company Law, considering developments in the financial system. This De-

cree-Law enters into force on the day following its publication. The Central Mutual Agricultural Credit Bank and the mutual agricultural credit banks should adjust their statutes in compliance with the provisions of the present Decree-Law, and elect new members of the Boards until the date of the first general meeting to be held during 2010.

- 17 June (Decree-Law No 144/2009, Official Gazette No 115, Series 1, Ministry of Finance and Public Administration)

Creates the "ombudsman for financial services" (credit mediator), who will operate in Banco de Portugal. His tasks will be to protect and promote the rights, guarantees and legitimate interests of any person or entity involved in credit operations, and to contribute to improving access to credit from the financial system. This Decree-Law enters into force on the day following its publication.

- 17 June (Instruction of Banco de Portugal No 7/2009, BNBP 7/2009)

Amends Instruction No 21/2008, published in the Official Bulletin No 1/2009 of 15 January, enabling it to cover the credit line created for the protection of permanent and owner-occupied dwellings in the event of unemployment.

- 19 June (Law No 28/2009, Official Gazette No 117, Series 1, Parliament)

Reviews the sanctionatory regime of the financial sector in the criminal and breach-of-regulations fields, and establishes the regime for the approval and disclosure of the remuneration policies applicable to members of the management and auditing boards of public-interest bodies. This law enters into force on the day following its publication. All processes pending on the date of its entry into force will continue to be subject to previously prevailing substantive and procedural legislation.

- 25 June (Decree-Law No 148/2009, Official Gazette No 121, Series 1, Ministry of Finance and Public Administration)

Introduces the fourth amendment in Decree-Law No 252/2003 of 17 October, which approves the legal regime governing collective investment undertakings and their managing companies, transposing into the national legal system Directive 2007/16/EC of the European Parliaments and of the Council of 19 March, relating to undertakings for collective investment in transferable securities (UCITS).

July

- 7 July (Notice of Banco de Portugal No 2/2009, Official Gazette No 137, Series II, Part E)

Amends Notice of Banco de Portugal No 12/92, as regards the derivation of the value of asset items to be deducted, for the calculation of own funds, and defines the accounting treatment of gains and losses in those asset items. This Notice enters into force on the day following its publication.

- 13 July (Decree-Law No 158/2009, Official Gazette No 133, Series 1, Ministry of Finance and Public Administration)

Approves the Accounting Standard System and revokes the National Chart of Accounts, approved by Decree-Law No 44/77 of 7 February.

- 13 July (Decree-Law No 160/2009, Official Gazette No 133, Series 1, Ministry of Finance and Public Administration)

Approves the legal system governing the organisation and functioning of the Accounting Standard Commission and revokes Decree-Law No 367/99 of 18 September.

- 13 July (Circular Letter of Banco de Portugal No 22/2009/DET, Treasury and Issue Department)

Announces the specific rules governing the implementation of the Protocol between Banco de Portugal and Caixa Geral de Depósitos on euro banknote deposits and withdrawals in Angra do Heroísmo and Horta.

- 14 July (Notice of Banco de Portugal No 3/2009, Official Gazette No 143, Series II, Part E)

  Indicates the systems covered by Decree-Law No 221/2000 of 9 September on settlement finality in payment and securities settlement systems.

- 15 July (Instruction of Banco de Portugal No 8/2009, BNBP 7/2009)

  Lays down that information to be provided by credit institutions and financial companies to consumers shall be processed through the Standard European Consumer Credit Information form according to the models attached.

- 20 July (Decree-Law No 162/2009, Official Gazette No 138, Series I, Ministry of Finance and Public Administration)

  Amends the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law No 298/92 of 31 December 1992, Decree-Law No 345/98 of 9 November, which regulates the operation of the Mutual Agricultural Credit Guarantee Fund, and the legal framework relating to the system for the compensation of investors, approved by Decree-Law No 222/99 of 22 June, which transposed into Portuguese law Directive 2009/14/EC of the European Parliament and the Council of 11 March 2009 amending Directive 94/19/EC on deposit-guarantee schemes as regards the coverage level and the payout delay.

- 30 July (Circular Letter of Banco de Portugal No 57/2009/DSBDR, Banking Supervision Department)

  Recommends that credit institutions grant functional autonomy to their own consumer ombudsmen, so that these may be regarded as a second instance in the review of customer complaints.

August

- 5 August (Circular Letter of Banco de Portugal No 58/2009/DSBDR, Banking Supervision Department)

  Reiterates that institutions must comply with the recommendations of the Financial Stability Forum and the Committee of European Banking Supervisors, published in the 18 June 2008 reports on transparency and asset valuation, in line with the principle of proportionality.

- 12 August (Decree-Law No 185/2009, Official Gazette No 155, Series I, Ministry of Finance and Public Administration)

  Transposes into the national legal system Directive 2006/46/EC of the European Parliament and of the Council of 14 June 2006 amending Council Directives 78/660/EEC on the annual accounts of certain types of companies, 83/349/EEC on consolidated accounts, 86/635/EEC on the annual accounts and consolidated accounts of banks and other financial institutions and 91/674/EEC on the annual accounts and consolidated accounts of insurance undertakings. This Decree-Law also adopts simplification measures for commercial companies and civil law companies having a commercial form by amending the rules set out in Código de Registo Predial (land registration code), approved by Decree-Law No 224/84 of 6 July, Código das Sociedades Comerciais (company law), approved by Decree-Law No 262/86 of 2 September, Código do Registo Comercial (commercial register law), approved by Decree-Law No 403/86 of 3 December, Estatuto dos Benefícios Fiscais (statute of tax incentives), approved by Decree-Law No 215/89 of 1 July, Regulamento Emolumentar dos Registos e do Notariado (regulation on registration and notarial fees), approved by Decree-Law No 322-A/2001 of 14 December, Código da Insolvência e da Recuperação de Empresas (corporate insolvency and rescue law), approved by Decree-Law No 53/2004 of 18 March, and Regulamento do Registo de Automóveis (car registration law), approved by Decree No 55/75 of 12 February.

• 13 August (Instruction of Banco de Portugal No 11/2009, BNBP 9/2009)	Summarises the procedures used to calculate the annual percentage rate of change (Portuguese acronym: TAEG) in accordance with the general rules, assumptions and formula defined in Decree-Law No 133/2009 of 2 June.
• 13 August (Instruction of Banco de Portugal No 12/2009, BNBP 9/2009)	Determines the information to be supplied to Banco de Portugal in order to calculate the highest annual percentage rate of change (Portuguese acronym: TAEG) to be applied to each type of contract under Decree-Law No 133/2009 of 2 June.
• 14 August (Instruction of Banco de Portugal No 13/2009, BNBP 2/2009)	Determines the information to be regularly supplied by institutions subject to the supervision of Banco de Portugal to ensure the periodic monitoring of their liquidity situation. This Instruction revokes Circular-Letter No 86/2007/DSB of 2 October 2007.
• 15 August (Extract from the decision (2009/C 192/04), Official Journal of the European Union)	Extract from the decision on reorganisation measures applied at the Banco Privado Português, S.A. under Article 3 of Directive 2001/24/EC of the European Parliament and of the Council on the reorganisation and winding-up of credit institutions (Directive 2001/24/EC). Publication provided for in Article 6 of that Directive and in Article 18 of Decree-Law No 199/2006 of 25 October 2006.
• 17 August (Instruction of Banco de Portugal No 9/2009, BNBP 8/2009)	Establishes the procedures to be adopted on counterfeit/suspect banknotes and coins. Revokes Instruction of Banco de Portugal No 5/2006, published in the Official Gazette No 4/2006 of 17 April 2006.
• 17 August (Instruction of Banco de Portugal No 10/2009, BNBP 8/2009)	Amends Instruction of Banco de Portugal No 19/2005, published in the Official Gazette No 6 of 15 June 2005, which contains provisions on the monitoring of interest-rate risk in the banking portfolio.
• 17 August (Decree-Law No 192/2009, Official Gazette No 158, Series I, Ministry of the Economy and Innovation)	Second amendment to Decree-Law No 51/2007 of 7 March, which governs banking practice at the level of housing loans, extending its scheme to other credit agreements collateralised by the same property and reinforcing the consumer's right to information. Extends to this type of credits the scheme laid down in Decree-Law No 171/2008 of 26 August. Creates the revised Effective Annual Rate (Portuguese acronym: TAER) that should be indicated to consumers whenever the purchase of other financial products or services is proposed. Lays down a one-year limitation period of enforceability for non-compliance with the conditions agreed on with the purpose of reducing the spread. This Decree-Law shall enter into force 60 days after its publication.
• 20 August (Notice of Banco de Portugal No 4/2009, Official Gazette No 161, Series II, Part E)	Lays down a series of information requirements to be observed by credit institutions when taking simple bank deposits from the public. This notice shall apply to all types of deposit envisaged in Decree-Law No 430/91 of 2 November and to the respective accounts. It publishes, as an annex, a standardised information form for deposits, which must be made available to customers prior to the opening of the deposit account. This notice shall enter into force 90 days after its publication. Amended and re-published by Rectification Declaration No 2086/2009 of 21 August, in Official Gazette, Series II, Part E, No 165 of 26 August 2009.

- 20 August (Notice of Banco de Portugal No 5/2009, Official Gazette No 161, Series II, Part E)

Lays down the information requirements to be observed by credit institutions in the trading of complex financial products, which are taken to mean index-linked deposits and dual deposits. It publishes, as an annex, templates of information brochures, which must be made available to customers prior to the signing of agreements regarding such financial products. This notice shall enter into force 90 days after its publication. Amended and re-published by Rectification Declaration No 2087/2009 of 21 August, in Official Gazette, Series II, Part E, No 165 of 26 August 2009.

- 20 August (Notice of Banco de Portugal No 6/2009, Official Gazette No 161, Series II, Part E)

Lays down rules regarding the characteristics of bank deposits, from the simplest to those taking the form of complex products. It also updates rules regarding value dates and the availability date of operations arising from deposit agreements. This notice shall enter into force on the date of its publication. Amended and re-published by Rectification Declaration No 2088/2009 of 21 August, in Official Gazette, Series II, Part E, No 165 of 26 August 2009.

- 26 August (Law No 84/2009, Official Gazette No 165, Series I, Parliament)

Authorises the Government to regulate access to the activity of payment institutions and the provision of payment services, as well as to set out the sanctions to be applied within the scope of the provision of payment services, transposing into national legislation the provisions of Directive 2007/64/EC of the European Parliament and of the Council of 13 November 2007 on payment services in the internal market. This authorisation shall have a duration of 180 days and enter into force on the day after its publication.

September

- 1 September (Law No 94/2009, Official Gazette No 169, Series I, Parliament)

Approves measures derogating banking secrecy and special taxation for unjustified asset increases of above €100,000, thereby introducing changes, as follows: to the Personal Income Tax Code, approved by Decree-Law No 442-A/88 of 30 November; the 19th change to the General Tax Law, approved by Decree-Law No 398/98 of 17 December; and the 16th change to the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law No 298/92 of 31 December.

- 1 September (Notice of Banco de Portugal No 7/2009 Official Gazette No 180, Series II, Part E)

Taking into consideration the provisions of Articles 118-A, 122 (4), 197 (1), and 199-B (1) of the Legal Framework of Credit Institutions and Financial Companies, approved by Decree-Law No 298/92 of 31 December, this Notice determines that credit shall not be granted to entities having their head office in an offshore jurisdiction considered as non-cooperative or whose ultimate beneficiary is unknown. It defines offshore jurisdiction and non-cooperative offshore jurisdiction, establishing that the competent prudential supervisory authorities shall send Banco de Portugal a statement ensuring that there are no obstacles to the reporting of information. This notice shall enter into force on the day following its publication.

- 9 September (Instruction of Banco de Portugal No 14/2009, BNBP 10/2009)

Regulates the key aspects of supervision activities to be carried on by Banco de Portugal as regards entities qualified to recycle euro banknotes and coins, which are subject to such supervision, as well as the duties these entities must comply with.

• 11 September (Decree-Law No 222/2009, Official Gazette No 177, Series I, Ministry of the Economy and Innovation)	Sets forth consumer protection measures in the signing of life insurance contracts associated with housing loans and introduces the 9th change to Decree-Law No 349/98 of 11 November. This Decree-Law shall enter into force 90 days after the date of its publication.
• 18 September (Instruction of Banco de Portugal No 15/2009, BNBP 10/2009)	Lays down the limits to the granting of credit by agricultural banks pursuant to the provisions of Article 28(2) and Article 36-A (6) of the Legal Framework of Mutual Agricultural Credit and Mutual Agricultural Companies (Portuguese acronym: RJCAM).
• 18 September (Instruction of Banco de Portugal No 17/2009, BNBP 10/2009)	Lays down the rules to be complied with by agricultural banks in the reporting of data to Banco de Portugal relating to their associates.

October

• 2 October (Circular Letter No 64/09/DSBDR, Banco de Portugal. Banking Supervision Department)	Clears doubts about the filling-in of the tables annexed to Instruction No 13/2009 on the periodic reporting of liquidity data.
• 8 October 2009 (Circular Letter of Banco de Portugal No 29/2009/DET, Treasury and Issue Department)	Makes known that a service is available, at the request of individuals, for the provision of information concerning situations involving loss, larceny, theft, forgery, counterfeiting and illegal use of personal identification documents, addressed to the authorities subject to the supervision of Banco de Portugal.
• 8 October (Notice of Banco de Portugal No 8/2009 Official Gazette No 197, Series II, Part E)	Lays down the minimum information requirements that must be complied with in the disclosure of the general conditions of priced financial products and services made available to the public by credit institutions and financial companies having their head office or branch in the national territory. Revokes Notice No 1/95.
• 12 October (Instruction of Banco de Portugal No 21/2009, BNBP 11/2009)	Presents the tables of the price brochures, the respective instructions for completion and other operational features, and establishes the deadlines for sending them to Banco de Portugal.
• 12 October (Circular Letter of Banco de Portugal No 8/2009/DMR, Markets and Reserve Management Department)	Makes known, in accordance with the provisions laid down in Article 5 (4) of the Regulation of the European Central Bank on the application of minimum reserves (ECB/2003/9) of 12 September 2003, the time limit for the notification of minimum reserves and the calendar of the maintenance periods in 2010 and 2011 (quarterly basis reporting).
• 12 October (Circular Letter of Banco de Portugal No 9/2009/DMR, Markets and Reserve Management Department)	Makes known, in accordance with the provisions laid down in Article 5 (4) of the Regulation of the European Central Bank on the application of minimum reserves (ECB/2003/9) of 12 September 2003, the time limit for the notification of minimum reserves and the calendar of the maintenance periods in 2010 and 2011 (monthly basis reporting).
• 13 October (Decree-Law No 317/2009, Official Gazette No 198, Series I, Ministry of Finance and Public Administration)	Establishes the tax regime applicable to products sold by insurance companies, pension fund management companies and mutual associations, and changes to 15 July the deadline for the electronic reporting of data relating to the declarations under the simplified corporate information. This Decree-Law shall apply from 1 January 2009.

• 15 October 2009 (Instruction of Banco de Portugal No 16/2009 BNBP 10/2009)	Sets out the requirements that must be met for the authorisation of the opening up of branches of agricultural banks that are not members of the Central Mutual Agricultural Credit Bank.
• 15 October 2009 (Instruction of Banco de Portugal No 18/2009 BNBP 10/2009)	Revokes Instruction of Banco de Portugal No 87/96, published in BNBP No 1 of 17 June 1996.
• 15 October 2009 (Instruction of Banco de Portugal No 19/2009 BNBP 10/2009)	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 2010.
• 15 October 2009 (Instruction of Banco de Portugal No 20/2009 BNBP 10/2009)	Sets at 10% the limit for the irrevocable payment commitment applicable to annual contributions in 2010.
• 16 October 2009 (Instruction of Banco de Portugal No 22/2009 BNBP 11/2009)	Introduces changes in Instruction of Banco de Portugal No 3/2009, published in the Official Bulletin No 2 of 16 February 2009, which regulates the Interbank Clearing System (SICOI).
• 16 October 2009 (Instruction of Banco de Portugal No 23/2009 BNBP 11/2009)	Introduces changes in Instruction of Banco de Portugal No 33/2007, published in the Official Bulletin No 1 of 15 January 2008, which regulates the operation of the Target 2 national system.
• 16 October 2009 (Instruction of Banco de Portugal No 24/2009 BNBP 11/2009)	Regulates the granting of intraday credit and the contingency liquidity facility.
• 21 October (Circular Letter of Banco de Portugal No 30/2009/DET, Treasury and Issue Department)	Makes known that Banco de Portugal will provide to the banking system as from January 2010 a computer application for the integrated management of cash deposit and withdrawal operations at its cash offices, identifying the associated services and operational facilities. Cash and mandate management services will go live on 4 January 2010 and adherence will be compulsory for credit institutions. The remaining services will be implemented by stages during the first half of 2010.
• 30 October (Decree-Law No 317/2009, Official Gazette No 211, Series I, Ministry of Finance and Public Administration)	Approves the legal framework governing the taking up of the business of payment institutions and the provision of payment services. Transposes into Portuguese law Directive 2007/64/EC of the European Parliament and of the Council of 13 November on payment services in the internal market. Provides for a transitional regime applicable to exchange offices and credit card issuing or management companies. This Decree-Law shall enter into force on 1 November 2009.