INTERIM FINANCIAL STABILITY REPORT

DECEMBER 2009

BANK OF GREECE
EUROSYSTEM

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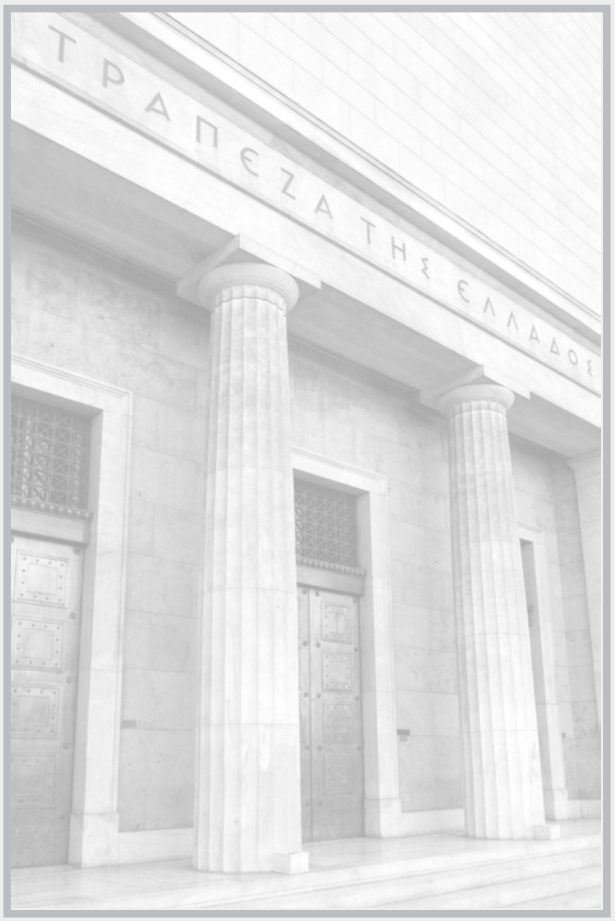

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Financial stability can be defined as a condition in which the financial system as a whole — comprising banks and other financial intermediaries, money, credit and capital markets and market infrastructures (payment and clearing and settlement systems)— is resilient and able to withstand any unexpected shocks or unwinding of imbalances, thus minimising the likelihood of disruptions which are severe enough to jeopardise the efficient allocation of savings and the smooth flow of money and credit into the socially most beneficial uses and activities.

Unless otherwise indicated, the cut-off date for the data included in this report was 30 November 2009.

FOREWORD

Financial stability contributes to economic and social welfare, as it promotes the efficient allocation of resources and the channelling of available savings into the socially most beneficial uses at the lowest possible cost.

The Bank of Greece has been entrusted with the statutory task of monitoring and assessing financial stability in Greece. According to its Statute, the Bank is mandated to "supervise credit institutions, as well as other enterprises and institutions of the financial sector" and "promote and oversee the smooth operation of payment systems, as well as of trading, settlement or clearing systems for over-the-counter (OTC) transactions in securities and other financial instruments" (Article 3, points d and e); the objective of prudential supervision is "to enhance the stability and effectiveness of the credit system and of the financial sector in general" and "ensuring transparency of the procedures and terms of transactions carried out by those subject to supervision" (Article 55A).

In the context of its institutional role and the ongoing monitoring of developments relevant to banking supervision and financial stability, the Bank of Greece is publishing today its Interim Financial Stability Report. The report reviews the developments that followed the publication of the Financial Stability Report of June 2009 up until the end of November 2009; it identifies the main sources of risk and vulnerability for financial stability; finally, it focuses on some more specific topics related to financial stability.

George A. Provopoulos
Governor

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I EXECUTIVE SUMMARY

Since the publication of the Financial Stability Report in June 2009, the factors determining the stability of the domestic financial system have worked in different directions. The signs of stabilisation in the global and European economy have had a positive effect, although this has been offset by the fact that Greece experienced a lagged economic downturn compared with other countries. Moreover, the global money and capital markets are gradually returning to normal, amid some residual shocks and occasional surges in pressures, in particular for economies which are seen by markets as having to provide concrete proof of their willingness and ability to remedy their large fiscal imbalances and chronic structural weaknesses.

Unlike what is the case in many other countries, the causes of Greek economy's problems do not originate from the banking sector or its linkages with the global financial system. Given the current international environment, reversing the unfavourable market sentiment is the key macroeconomic policy challenge facing Greece. The ability of the domestic economy to keep pace with, and exploit the opportunities offered by, the incipient global economic recovery, as it takes hold, will depend crucially on the speed at which fiscal imbalances are rectified and the confidence of households, business firms, markets and the international community in the country's fiscal outlook, growth potential and, ultimately, economic self-reliance is restored.

The same factors that will bolster confidence will also determine the ability of the domestic financial system to maintain, also in the future, the remarkable resilience it has shown even in the toughest stretches of the global crisis. The data available so far confirm that, despite the negative impact of the macroeconomic environment and the market sentiment, the key aggregates of the Greek banking sector have remained fundamentally sound and do not *per se* pose risks to financial stability. However, the occasional reactions of international markets and the second-round effects from domestic economic developments call for constant vigilance.

In advanced economies, there are growing signs of a forthcoming recovery, albeit a mild and gradual one, while in the emerging economies of Asia activity is picking up. Overall, however, it seems that the recovery of the global economy in 2010 will be rather slow. The global financial system has not yet fully returned to normality. It will also take time before we can see the full impact of the unprecedented non-standard measures implemented by governments and central banks to offset the negative feedback effects between the financial sector and the real economy.

The emerging economies, including the countries of South-Eastern Europe, have faced significant challenges this year. The threat of "twin" crises (a banking and a balance of payments crisis) in these countries has been averted in a timely manner. Despite some temporary problems with their external financing, these economies have not witnessed excessive capital outflows. Decisive factors in preventing the worst scenarios from materialising were, on the one hand, the economic measures taken by most of these countries and, on the other, the support of the international community via relevant international organisations and foreign credit institutions operating in the region. Yet, although the imbalances were contained, the short-term economic outlook of the region remains vulnerable, which points to an urgent need to press ahead with the necessary structural adjustments, in order to ensure that the economies in the region get back on the track of strong and sustainable growth.

The period after the first quarter of 2009 saw a gradual abatement of pressures on the stability of the domestic financial system coming from developments in international money and capital markets. The tentative signs of an improvement in money market conditions, which emerged in the second quarter of 2009, became clearer during the

months from July to November. However, although the generalised market tensions have eased, country- and case-specific pressures remain. A crucial contribution to the easing of tensions in the euro area was made by the Eurosystem's enhanced credit support measures. Also positive, to some extent, was the impact of developments in bond and equity markets. However, the high volatility that was observed in some markets during October and November and intensified in the first ten days of December acted as a reminder of the need to effectively address the deeper causes of such volatility.

By contrast to a halt in downward trends seen in other economies, the performance of the Greek economy deteriorated in the second half of 2009, reflecting fiscal developments, a continued loss of competitiveness, the climate of uncertainty and chronic structural weaknesses. Most of the key aggregates of the Greek economy declined, and the prospect of their recovering over the coming months is uncertain.

Subdued economic activity in Greece during 2009 has weighed heavily on the net financial position of non-financial corporations and households. With respect to corporations, the drop in turnover and a tendency towards extending longer-term credit to customers have put pressure on some of their financial indicators, such as profitability and internal liquidity ratios. The impact was more pronounced on businesses in sectors and industries that were relatively harder hit by the economic downturn. On the other hand, there has been some alleviation of corporate debt servicing cost, partly due to the decline in bank lending rates, which was significant over the year as a whole but occurred gradually and was accompanied by a tightening of credit standards. As regards households, falling lending rates have translated into a reduced debt servicing burden, but the deteriorating prospects for employment and disposable income tend to increase the likelihood of loan defaults.

The above developments inevitably affected the financial results and indicators of the banking sector. Overall, figures for the first half of 2009 and provisional data for the third quarter of 2009 broadly point to a considerable decline in the profitability of Greek banks, an increase in implied exposure to credit and market risks, a small decrease in liquidity risk, as well as a rise in capital adequacy ratios. Lower profitability was primarily due to considerable higher loan-loss provisions. Profitability benefited markedly from the favourable conditions prevailing in capital markets, which allowed an increase in net income from financial operations, at a time of declining net interest and commission income. During the period under review, the performance of banks and their groups also benefited from reduced funding costs (reflecting the credit support measures of the ECB), as well as from the measures taken by the government in order to enhance liquidity in the economy (Law 3723/2008).

As a result of the worsened financial position of firms and households, in September 2009 the non-performing loans to total loans ratio (NPL ratio) stood about two percentage points higher than at the end of 2008. The increase in NPL ratios was broadly based across all loan categories. In this respect, the coverage ratio (i.e. accumulated provisions over NPLs) also fell visibly. Against this background, it becomes imperative that banks increase provisioning and pursue prudent profit distribution and bonus policies.

The liquidity of the Greek banking system improved during the reviewed period, as reflected in the evolution of compulsory liquidity ratios and the downward trend in the loan-to-deposit ratio. Underlying this improvement in liquidity ratios were, most importantly, banks' recourse to the Eurosystem's refinancing operations and an enhancement of their deposit bases. In the next few months, it is important that banks diversify their funding sources and reduce their reliance on the Eurosystem for liquidity,

weighing the alternative funding sources in a timely manner and in line with the ECB's strategy for a gradual withdrawal of non-standard support measures.

Another very positive development during the year was the improved capital adequacy of Greek commercial banks and their groups, mainly as a result of a considerable increase in regulatory capital. Particularly important from the viewpoint of banking system stability was a qualitative improvement in own funds, chiefly owing to the completion of considerable capital increases through payment in cash. In the current phase, it is essential that banks formulate a clear medium-term strategy, in particular with respect to the desirable level of their capital base and the use of alternative funding sources. In so doing, they should assess not only the current conditions, but also the projected financial and macroeconomic developments and prospects, which are still surrounded by a high degree of uncertainty.

In view of the need to prudently deal with the consequences of the economic downturn in Greece and the countries where they have presence, Greek banks should maintain capital buffers comfortably above the supervisory minimums, by increasing, *inter alia*, capital generation. Given the uncertainties in the international environment, banks should enhance their capacity to absorb not only foreseeable losses, but also potential losses arising from unexpected shocks. In formulating their strategies, banks should also take into consideration the proposed changes in the international supervisory and regulatory framework. These changes will imply, among other things, increased quantitative and qualitative capital requirements, higher provisioning for credit risk and a more balanced mix of alternative funding sources.

Box 1.1

DEVELOPMENTS IN THE BANKING SECTOR IN THE JANUARY-SEPTEMBER 2009 PERIOD

The most important development in the third quarter of 2009 was a quantitative and qualitative improvement in the prudential own funds of Greek commercial banks and their groups. This is attributable to the completion of capital increases through payment in cash by five banks (totalling €2.2 billion), which boosted considerably capital adequacy ratios at banking system level (see the table below). During the same period, the profitability of Greek banks and their groups fell markedly year-on-year (banks: -38.6%, banking groups: -42.3%), mainly as a result of high provisions for credit risk. A substantial share of pre-tax profits stemmed from financial operations and securities transactions, i.e. non-recurring income. Profitability indicators also fell considerably, while the cost-to-income ratio improved slightly.

Regarding banking risks, in the third quarter of 2009 credit risk increased further, albeit at a declining rate. The quarter-on-quarter rise in the NPL ratio was 40 basis points (from 6.8% in June 2009 to 7.2% in September 2009), compared with 80 basis points and 100 basis points in the second and first quarter of 2009 respectively. Nevertheless, banks should increase provisioning for credit risk, not only as a buffer against further increases in the NPL ratio but also in order to increase the coverage ratio (i.e. accumulated provisions over NPLs), which remains low.

In September 2009, capital requirements for market risk declined in comparison with June 2009, as banks sold part of their bond portfolios. During the same period, the loan-to-deposit ratio of banks (and their groups) showed a small improvement, while their reliance on the Eurosystem for funding decreased.

Key vulnerability and shock-absorption capacity indicators of Greek commercial banks and banking groups

(percentages)

	Banks		Banking groups	
	December 2008	September 2009	December 2008	September 2009
Asset quality[1]				
Non-performing loans (NPLs) – total	5.0	7.2		
– Housing loans	5.3	6.9		
– Consumer loans	8.2	11.7		
– Business loans	4.3	6.4		
Coverage ratio (accumulated provisions over NPLs)	48.9	41.9		
Liquidity				
Loan-to-deposit ratio	108.4	104.7	115.1	113.4
Capital adequacy				
Capital adequacy ratio (CAR)	10.7	13.2	9.4	11.7
Tier I ratio	8.7	11.7	7.9	10.6
	Jan.-Sept. 2008	Jan.-Sept. 2009	Jan.-Sept. 2008	Jan.-Sept. 2009
Profitability[2]				
Net interest margin	2.2	1.9	2.9	2.6
Cost-to-income ratio	56.5	52.7	55.8	51.9
Return on assets – ROA (after tax)	0.5	0.2	1.0	0.5
Return on equity – ROE (after tax)	8.9	4.7	14.6	7.5

Sources: Bank of Greece and financial statements of banks and banking groups.
1 NPL data on international activities are not comparable and therefore the NPL ratio on a consolidated basis is not reported.
2 Profitability data refer only to Athex-listed Greek commercial banks and their groups.

II THE MACROECONOMIC ENVIRONMENT

1 INTRODUCTION

The period following the publication of the previous Financial Stability Report in June 2009 was marked by signs of stabilisation and of a gradual recovery of the global economy, although the sustainability of positive growth rates has yet to be confirmed. World and euro area GDP are both expected to show positive growth again in 2010. The economies of South-Eastern European countries still face major challenges, given their high dependency on capital inflows which makes them vulnerable to adverse developments in the international macroeconomic environment.

Developments are also negative for Greece, which in 2009 recorded its worst economic performance since joining the euro area. GDP growth is expected to remain in negative territory in the last quarter of 2009, with rigidities in factors of production and final product markets impeding the return of the Greek economy to an upward path.

The decline in economic activity has inevitably affected the key financial aggregates of non-financial corporations. According to data for the first half of 2009, compared to the corresponding period of 2008, the turnover, pre-tax profits and liquidity of corporations fell, while their leverage ratio dropped only marginally. As far as households are concerned, their debt servicing capacity was negatively impacted, although their debt-to-income ratio is expected to be lower at the end of 2009 than at the end of 2008.

2 THE IMPACT OF THE EXTERNAL ENVIRONMENT ON THE GREEK ECONOMY[1]

2.1 INTERNATIONAL DEVELOPMENTS

The extensive measures adopted worldwide to support the financial system and the real economy have substantially contributed to stabilising the global economy. The advanced economies are showing signs of stabilisation and of a gradual recovery, while the major emerging economies (e.g. China and India) have seen their economic activity growth start to pick up. These developments should not, however, foster complacency, as the short-term global economic outlook remains subject to high uncertainty. The smooth exit from the crisis will require proper planning on behalf of the authorities, as well as a restoration of consumer and investor confidence and the orderly functioning of financial markets.

According to the IMF, world GDP is expected to resume positive growth in 2010 (3.1%), after declining by -1.1% in 2009, with the emerging and developing Asian economies being the key drivers and the advanced economies expected to register definitely lower growth rates (see Chart II.1). In the euro area, for which a gradual and slow recovery is anticipated, GDP growth will, according to December 2009 Eurosystem staff projections, be between 0.1% and 1.5% (and between -4.1% and -3.9% for 2009).[2] Inflation in the advanced economies fell markedly in 2009, mainly as a result of the drop in international fuel prices, and is expected to remain very low in 2010, against a backdrop of subdued economic activity and adverse labour market developments.

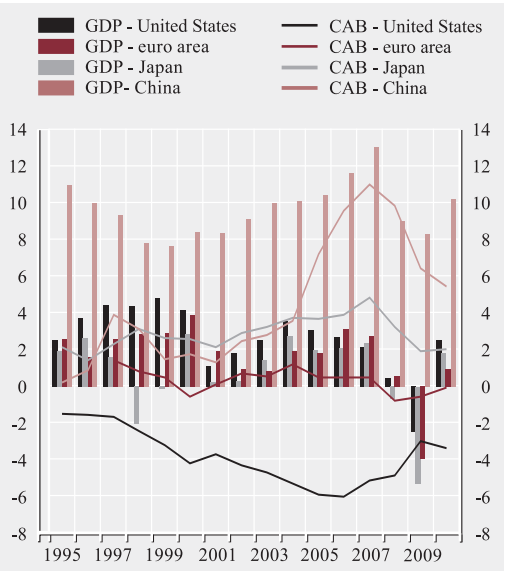
In financial markets, which were particularly hit by the global economic crisis, the first signs of a turnaround are reflected in the tendency toward normalisation of money market interest rates. Positive indications have also been provided by stock prices which, after the first quarter of 2009, bounced back from the very low levels they had reached following the intensification of the crisis in the autumn of

1 The following analysis has taken into account the latest Eurosystem staff macroeconomic projections (3.12.2009), as well as the forecasts of the OECD (*Economic Outlook*, Preliminary Edition, 19.11.2009), the European Commission (*Autumn Economic Forecasts*, 3.11.2009), the IMF (*World Economic Outlook*, 1.10.2009), and other available data.

2 According to IMF forecasts, GDP growth will be slightly positive (0.3%) in 2010, after a sharp drop in GDP (-4.2%) in 2009, while the unemployment rate will climb to 11.7% (in average annual terms). European Commission forecasts for the euro area in 2010 anticipate a higher GDP growth rate (0.7%) and a lower unemployment rate (10.7%).

Chart II.1 Global imbalances: GDP and current account balance (CAB) (1995-2010)

(annual percentage changes in volume and percentage of GDP)



Source: OECD, Economic Outlook, prelim. edition, November 2009.
Note: Estimates for 2009 and forecasts for 2010.

2008. World trade also shows signs of stabilising, while survey data point to an improving economic climate.

All of these positive signs should, however, be interpreted with caution. The adverse feedback loop between the financial sector and the real economy, and the unusually strong correlation between economies worldwide during the crisis are hampering the global economy's exit from the crisis. The recovery is still fragile, and the financing conditions for households and enterprises have not yet returned to normal. Credit growth to the private sector, for instance, remains very low in the euro area.[3] Meanwhile, as pointed out by the IMF, bank balance sheets worldwide have yet to be entirely cleansed of their toxic assets. In addition, the risks surrounding the recovery prospects for the global economy are compounded by risks associated with persistent global macroeconomic imbalances and protectionism, both of which are expected to intensify as the repercussions of the economic crisis become more visible, especially in the labour market.

Finally, the extensive implementation of a number of conventional and non-conventional measures of expansionary monetary and fiscal policy calls for caution. Although such measures have helped avert a collapse of the global financial system, the protracted decline of GDP in 2009, combined with the ample liquidity in the global monetary system and the extremely high fiscal deficits caused by the recession, can become serious destabilising factors in the medium term.

Governments, central banks, as well as European and international institutions all remain vigilant in addressing the repercussions of the economic crisis. The need to keep extraordinary fiscal stimulus measures in place until the recovery is fully secured has been recognised, both at a European and at an international level.[4] In the meantime, however, governments and monetary authorities will also need to develop exit strategies, so that these stimulus measures can gradually be withdrawn in a coordinated manner, as soon as the conditions allow it, without posing a threat to fiscal stability or to the progressively better functioning of the financial system.

2.2 THE SOUTH-EASTERN EUROPEAN ECONOMIES[5]

The impact of the global crisis has put severe strain on the economies of South-Eastern (SE) Europe, most of which have so far seen their real output fall by more than 5% (see Table II.1). This significant downturn is due, on the one hand, to the transmission of real and financial shocks from more advanced economies and, on the other, to important domestic imbalances. These domestic imbalances were

3 See "The euro area bank lending survey", ECB, October 2009.
4 See the Conclusions adopted by the Ecofin Council, 20 October 2009, and the European Council, 29/30 October 2009, as well as the Statement issued by the G-20 Summit leaders in Pittsburgh, 24/25 September 2009.
5 The discussion of South-Eastern European economies here covers: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Former Yugoslav Republic of Macedonia (FYROM), Montenegro, Romania, Serbia and Turkey.

Table II.1 Real GDP growth in South-Eastern European countries

(annual percentage changes)

Country	2006	2007	2008	2009*			
				Q1	Q2	Q3	2009 forecast
Albania	5.5	6.3	6.8	6.0	-	-	0.7
Bosnia-Herzegovina	6.9	6.8	5.5	-	-	-	-3.0
Bulgaria	6.3	6.2	6.0	-3.5	-4.9	-5.8	-6.5
Croatia	4.7	5.5	2.4	-6.7	-6.5	-	-5.2
FYROM	4.0	5.9	4.9	-0.9	-1.4	-	-2.5
Montenegro	8.6	10.7	7.5	-	-3.5	-	-4.0
Romania	7.9	6.2	7.1	-6.2	-8.7	-7.1	-8.5
Serbia	5.2	6.9	5.4	-3.5	-4.0	-	-4.0
Turkey	6.9	4.7	0.9	-14.3	-7.0	-	-6.5

Sources: National central banks, IMF and Reuters.
* Data for 2009 are expected to be revised.

mainly reflected in a strong dependency on capital inflows and high private sector indebtedness in foreign currency, with potentially negative implications in the medium term.

At the present stage, despite previous problems with external financing and the ongoing recession, the countries of SE Europe appear to have steered clear of a financial collapse. The threat of twin crises (i.e. a banking and a balance of payments crisis) seems to have been warded off. Although individual banks have been facing problems, there have been no bankruptcies; in terms of balance of payments, in spite of reduced external financing, there have been no mass capital outflows either. These developments have eased the depreciation pressures on domestic currencies, while the downward trend of asset prices seems to have largely run its course.

The role of the international community through relevant institutions has been decisive in averting the worst-case scenarios. The International Monetary Fund, the World Bank, the European Commission and other institutions and bodies have provided significant financial support and made a key contribution to restoring market and investor confidence. Particularly important in safeguarding financial stability in the region was the support provided by foreign parent banks to their local branches and subsidiaries. These banks' exposure levels in the region have not decreased, while rollover rates have remained close to 100%.

Worsening economic conditions contributed to the deterioration of the SE European countries' fiscal positions in 2009, even though their public (external) debts remain low. Fiscal expansion came from automatic stabilisers and, in some cases, from discretionary fiscal stimulus measures. With regard to monetary policy, disinflation and the decline in credit expansion have shifted policy focus and enabled a gradual easing of monetary policy in several countries. It should be noted that monetary policy did not rely solely on interest rate cuts, but also on other tools, such as changes in reserve requirement ratios (aimed to ensure that liquidity needs in domestic and/or foreign currency are met). Generally speaking, the countries of South-Eastern Europe with floating rate regimes gave top priority to ensuring financial stability, whereas those with fixed exchange rate regimes also focused on maintaining exchange rate stability.

In spite of a sizeable correction of imbalances in the economies of the region, significant risks

remain. First, with their inflation and current account deficits persisting at relatively high levels, some countries are still highly dependent on capital inflows and thus remain particularly vulnerable, especially so long as the crisis continues. Second, financial stability remains —albeit less so— subject to risks associated mainly with adverse (second-round) effects from the economic downturn, in the form of a surge in non-performing loans. Finally, one of the main challenges lying ahead for the SE European economies is the need to press ahead with structural adjustment, so that they can soon get back on a track of strong and sustainable growth.

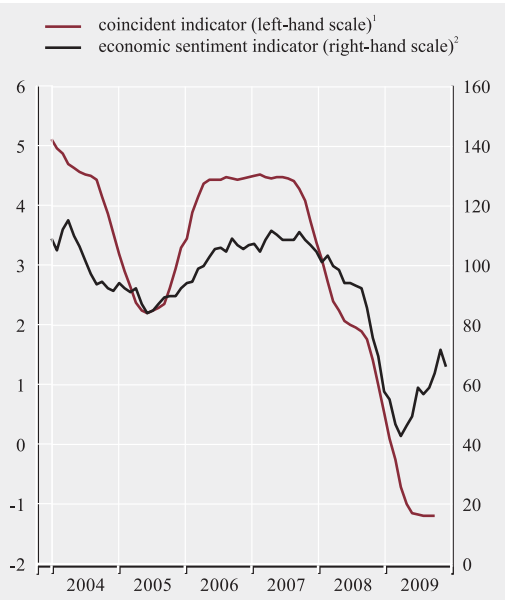
3 THE DOMESTIC ECONOMIC ENVIRONMENT

3.1 MACROECONOMIC DEVELOPMENTS AND PROSPECTS

Greece recorded its worst economic performance in 2009 since joining the euro area. This performance has been negatively affected by the impact of the international financial turmoil and, most importantly, by adverse domestic factors, both conjunctural and structural. In the period January-September 2009, economic activity declined, while early indications for the fourth quarter are less encouraging; for instance, the rate of change in the coincident indicator of economic activity compiled by the Bank of Greece[6] dropped to negative levels in September 2009 (-1.2%), from 0.5% in December 2008 (see Chart II.2).

During the period April-October 2009, the results of business and consumer surveys, which record the expectations and intentions of enterprises and households, suggested a more moderate deterioration in economic conditions without, however, signalling a definite turnaround or specifying when the recovery is likely to get well under way, as the relevant survey-based indicators are still clearly below the average of the past few years. For instance, the economic sentiment indicator for Greece, compiled by the European Commission, declined for some fifteen consecutive months to an unprecedented low in March 2009. It then recovered partially in the period April-October, but nonetheless remained relatively low, before declining once again in November.

Chart II.2 The coincident indicator of economic activity compiled by the Bank of Greece and the European Commission's economic sentiment indicator for Greece (January 2004-November 2009)



Sources: Bank of Greece (coincident indicator) and European Commission (economic sentiment indicator).
1 Monthly rates of change on an annualised basis.
2 Monthly data.

Chronic structural weaknesses, such as the country's low trade openness, as well as factor and product market rigidities —unless dealt with decisively— are expected to be a major stumbling block to the recovery of the Greek economy. Although these factors may have contributed in the short term to temporarily mitigating the impact of the global crisis, in the medium term they will be a drag on the Greek economy and prevent it from keeping up with

6 This indicator is derived as the "single main component" of short-run indicators and reflects the growth rate of underlying economic activity, smoothing out any excess variability in its component indicators.

and taking advantage of the recovery in the world economy, once it takes hold.

Turning to specific economic developments, in the first nine months of 2009 a decline was recorded in the turnover of major activities in the services sector, such as wholesale trade and car trade. There was also a decline in the transport sector in the first half of the year. Tourism (hotels-restaurants) did not post encouraging results, in spite of the signs of recovery observed in the second quarter of 2009 after a decline in the first quarter. Gross fixed capital formation continued its downward course, falling by 15.9%[7] in January-September 2009, compared with the corresponding period of 2008, after already declining by 7.4% in 2008 as a whole. According to NSSG short-term indicators, total industrial production also declined, across all main industrial groupings, at an average annual rate of -9.7% in the first ten months of 2009 (2008: -4.0%). The decline in manufacturing production over the same period was even stronger (January-October 2009: -11.8%, compared with -4.7% for 2008 as a whole).

One factor that supported economic activity during the January-September 2009 period was an increase in public consumption (10.9% at constant prices,[8] according to provisional NSSG national accounts estimates), which contributed 1.7 percentage points to GDP growth. It should, however, be noted that this increase in public consumption is reflected in a considerable overrun in ordinary budget expenditure. Indeed, a fiscal relaxation was observed on both the revenue and the expenditure sides in 2008 and even more so in 2009, leading to a significant widening of the fiscal deficit, with adverse repercussions on Greece's credit rating and, consequently, borrowing costs and medium-term growth prospects.

As regards the projected path of key economic aggregates in 2009 —based on the latest available national accounts data, the current trends of key short-term economic indicators, the estimates and forecasts of international organisations for global economic developments— the average rate of change in GDP for 2009 as a whole is expected to contract by 1.2% (January-September: -1.1%), after positive growth rates of 2.0% in 2008 and 4.5% in 2007. The projected GDP growth for 2009 assumes a small dampening effect on GDP from a partial liquidation of inventories which had peaked in 2008 and contributed 1.1 percentage points to GDP growth that year.

Domestic demand is expected to decline in 2009 (after stagnating in 2008), thus contributing negatively to the change in GDP, while gross fixed capital formation is expected to contract by some 17% in 2009 as a whole. By contrast, the change in the real external balance should make a positive contribution, exclusively on account of the projected strong decline in imports of goods and services.

Private consumption, which has been the main driver of domestic demand for over a decade, is expected to fall by around 1% in 2009 as a whole (after increasing by 2.3% in 2008), thus contributing to a negative rate of change in domestic demand.

Lastly, the exports of goods and services, after increasing by 4.0% in 2008, are expected to decrease in 2009 by a sizeable 17%. The weakness of domestic demand is also reflected in the imports of goods and services, which for 2009 as a whole are projected to fall by close to 20% (2008: +0.2%).

3.2 BALANCE SHEET CONDITION OF NON-FINANCIAL CORPORATIONS

Greek firms' balance sheets deteriorated in the first half of 2009, due to unfavourable domestic macroeconomic developments and to the global economic downturn, which among other sectors negatively affected Greek exports.[9]

7 Calculated at constant prices and excluding the change in inventories.
8 13.5% at current prices.
9 The global economic downturn and the strong decline in world trade volumes caused the exports of goods to shrink by 32.2% at current prices in the period January-September 2009 over the corresponding period of 2008 (based on balance of payment statistics compiled by the Bank of Greece).

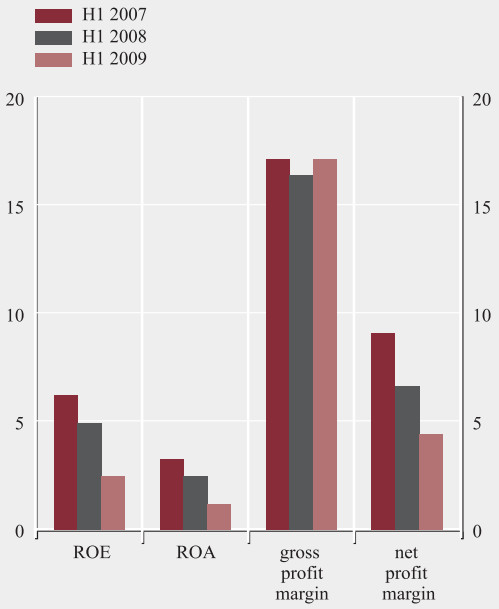
Some of the key indicators of these corporations, such as profitability and liquidity ratios, worsened,[10] whereas their financial condition benefited from the substantial drop in bank lending rates from November 2008 onwards. This positive impact, however, is expected to be only temporary, given that interest rates are not unlikely to increase as the euro area economy comes out of the crisis and the ECB's non-standard monetary policy measures are gradually withdrawn.

3.2.1 Profitability

The pre-tax profits of all corporations in the sample shrank by 51.5% in the first half of 2009 relative to the corresponding period of 2008. This inevitably affected their net profit margin,[11] as well as their return on equity (ROE) and return on assets (ROA) ratios (see Chart II.3).[12] A decomposition of profitability shows that the decrease in profits for the corporations in the sample was mainly due to a drop in turnover (by 27% in the first half of this year, compared with the same period of 2008) and to the fall in their operating and non-operating income which outpaced the decline in their operating and non-operating expenses.[13] For the months ahead, survey results point to divergent developments in turnover across sectors, with stabilisation and even recovery expected in the construction and trade sectors, and a declining path anticipated in industrial output.

Chart II.3 Profitability ratios of non-financial corporations (2007-2009)

(percentages)



Sources: Bank of Greece and ICAP.
Notes:
1 Calculations are based on aggregated six-month financial statement data for a sample of some 250 non-financial corporations from the ICAP database.
2 The gross profit margin is defined as the ratio of gross profit to sales. The net profit margin is defined as the ratio of net pre-tax profit to sales.
3 Return on equity (ROE) and return on assets (ROA) are defined as the ratios of pre-tax profits to total equity or assets respectively.

3.2.2 Financing

The debt financing of non-financial corporations comes mostly from the domestic banking system.[14] The annual growth rate of credit[15] to non-financial corporations by Monetary

10 The relevant indicators discussed here were compiled using data from the financial statements of a sample of some 250 non-financial corporations, as available from the ICAP database for the January 2007-June 2009 period. Excluded from the sample were three large-sized corporations (OTE, DEH and OPAP) to avoid size-related distortion to aggregate figures.

11 The gross profit margin is defined as the ratio of gross profit to sales. The net profit margin is the ratio of net pre-tax profit to sales.

12 The ROE and ROA ratios measure the rate of return on investment in a company and are defined as the ratios of pre-tax profits to total equity or assets, respectively.

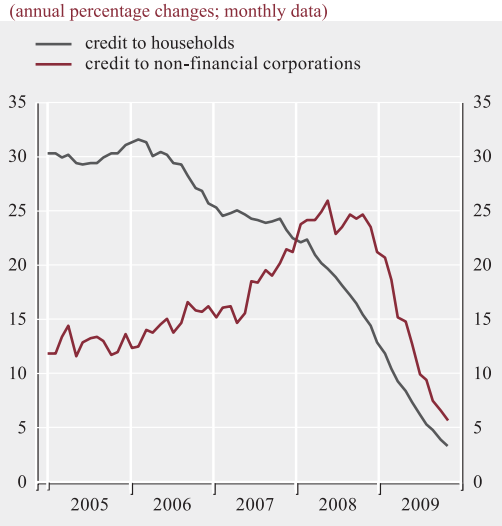
13 The operating and non-operating income of the non-financial corporations in the sample fell by 24% and 49%, respectively, in the first quarter of 2009, compared with the same period of 2008, while operating and non-operating expenses fell by 13% and 30% respectively.

14 According to debt figures from national financial accounts, from 2003 to the second quarter of 2009, around 80% each year of the non-financial corporations' total liabilities involved loans and debt securities held in portfolios of domestic Monetary Financial Institutions (MFIs).

15 Credit (stock at a given point in time) to non-financial corporations by domestic MFIs is defined as the sum of outstanding MFI loans, MFI holdings of corporate bonds and the outstanding amounts of securitised loans and securitised corporate bonds. The net flow of credit (during a given period) is defined as the difference in the outstanding stock of credit between the beginning and the end of the reference period. Loan write-offs during the reference period are added and the sum is adjusted for valuation differences on loans denominated in foreign currency. Specifically, exchange rate differences due to the appreciation of the euro vis-à-vis foreign currencies are added, whereas exchange rate differences due to the depreciation of the euro vis-à-vis foreign currencies are deducted. Changes in the outstanding amounts of credit for individual loan categories are calculated in a similar manner. Finally, it should be noted that the net flows and rates of change in credit for the first nine months of 2009 also include loans and corporate bonds transferred by domestic credit institutions to their subsidiaries abroad. The analysis of credit is based on data from MFI financial statements.

Chart II.4 Credit[1] to non-financial corporations and households by domestic MFIs (2005-October 2009)

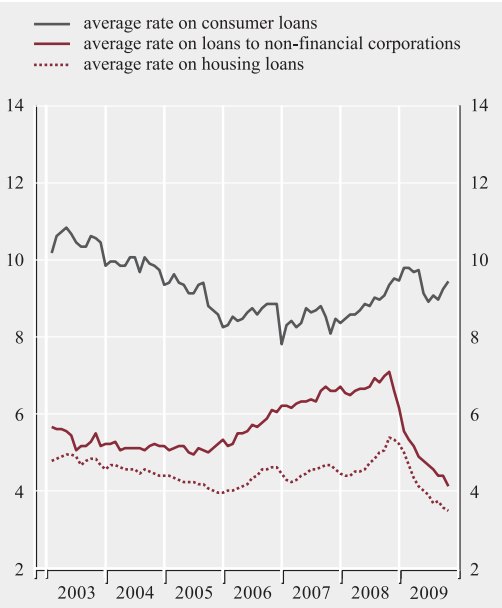
(annual percentage changes; monthly data)



Source: Bank of Greece.
1 Comprising the outstanding amounts of MFI loans to non-financial corporations and households, MFI holdings of corporate bonds and the outstanding amounts of securitised loans and securitised corporate bonds. The rates of change are adjusted for exchange rate variations and write-offs carried out by banks during the reference period. For a more detailed definition of credit, see footnote 15 in the main text of this chapter.

Chart II.5 Interest rates on new bank loans in Greece (January 2003-October 2009)

(percentages per annum)



Source: Bank of Greece.

Financial Institutions (MFIs) dropped sharply throughout January-October 2009 (October 2009: 5.6%, December 2008: 21.2%; see Chart II.4). This development is associated, on the supply side, with the tightening of credit terms and conditions by domestic MFIs[16] and, on the demand side, with corporate reluctance to take on new investments.[17] The quarterly net flow of MFI credit to non-financial corporations rose slightly between the first and the second quarter of 2009 and increased further in the third quarter, remaining, however, significantly below its end-2008 level. Banks' funding conditions are estimated to have improved slightly in the fourth quarter of 2009, as money and capital markets seem to be stabilising. If this continues in the future, *ceteris paribus,* it would positively affect the supply of credit by Greek banks. Moreover, business and bank lending surveys point to a forthcoming small pick-up in demand for corporate loans, also supported by the observed decline in relevant lending rates (see Chart II.5).

3.2.3 Leverage

According to national financial accounts data, the debt of non-financial corporations[18] as a percentage of GDP interrupted its previously upward trend and declined slightly to 65.2% in June 2009, from 66.0% in December 2008 (see Chart II.6). It nonetheless remained significantly lower than the euro area average (June 2009: 103.9%).

The debt-to-assets and debt-to-equity ratios of all corporations in the sample under review remained virtually unchanged in June 2009, compared with one year earlier. However, their

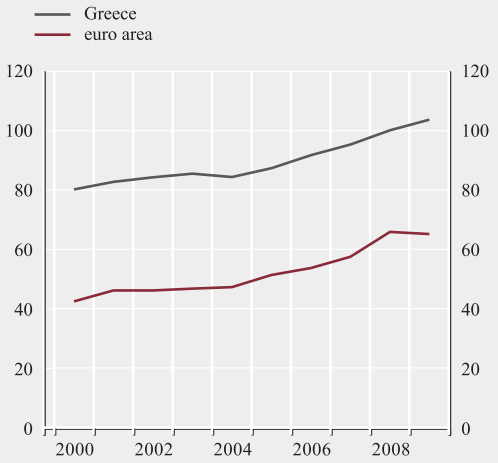
16 According to the results of the Bank Lending Surveys of April, July and October 2009, banks tightened credit terms and conditions in the first and second quarters of 2009, and maintained them unchanged in the third. The Bank Lending Survey is conducted by the Bank of Greece on a quarterly basis, as part of a Eurosystem-wide survey.

17 See *Monetary Policy – Interim Report,* October 2009, Chapter IV.1.

18 The debt of non-financial corporations comprises loans, debt securities issued, as well as pension fund reserves. Debt data are derived from the financial accounts of the non-financial corporate sector, which record the sector's total financial assets and liabilities.

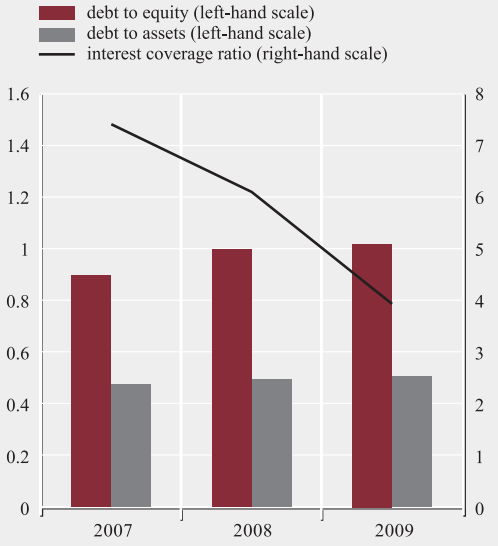
Chart II.6 Debt[1] of non-financial corporations in Greece and the euro area (2000-June 2009)

(as a percentage of GDP)



Sources: Bank of Greece and ECB (debt), Eurostat and NSSG (GDP); Bank of Greece and Eurostat estimates for 2009 GDP.
1 Debt comprises loans, debt securities issued and pension fund reserves. Debt data are derived from the financial accounts of the non-financial corporate sector, which record, *inter alia*, the sector's total financial assets and liabilities.

Chart II.7 Leverage ratios of non-financial corporations (2007-2009)



Sources: Bank of Greece and ICAP.
Notes:
1 Calculations are based on aggregated six-month financial statement data for a sample of some 250 non-financial corporations from the ICAP database.
2 Debt ratios are defined as debt (total liability) divided by total equity or by total assets as at June of the relevant year.
3 The interest coverage ratio is defined as earnings before interest and taxes divided by interest expenses; data refer to the first half of each year.

ability to service their interest expenses out of their earnings decreased, as evidenced by the decline in their interest coverage ratio[19] (see Chart II.7), since the decrease in their earnings was more pronounced than that of their interest expenses. The moderate decline in the corporations' interest expenses can be attributed, among other factors, to the higher risk premiums incorporated by Greek banks into their lending rates in the face of an increase in non-performing loans. This, as a result, contained the drop both in bank lending rates and in corporations' interest expenses.[20]

3.2.4 Liquidity

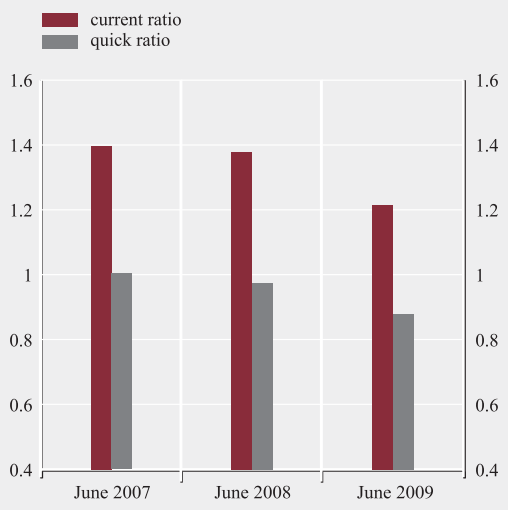
According to available data, the liquidity of the sample's corporations worsened, as both their current and quick ratios[21] stood lower in June 2009 than in June 2008 (see Chart II.8).

3.3 BALANCE SHEET CONDITION OF HOUSEHOLDS

The impact of macroeconomic aggregates on the financial condition of households and, therefore, on their debt servicing ability was mixed. On the one hand, lower employment and the slowdown in average wage and other income growth raised the probability of certain households defaulting on their debt obligations by more than expected. On the other hand, the drop in lending rates has reduced loan servicing costs, while the decrease so far in house prices makes a sharper fall in the future seem unlikely. Overall, for both 2009 and 2010, adverse income prospects and the likely return to higher interest rates, as the euro area

19 The interest coverage ratio is defined as earnings before interest and taxes divided by interest expenses; data refer to the first half of the year.
20 See *Monetary Policy – Interim Report*, October 2009.
21 The current ratio is defined as the ratio of short-term (current) assets to short-term liabilities; the quick ratio is computed in a similar way, except that current assets are taken net of inventories. As mentioned in previous reports, these ratios reflect a corporation's ability to service its short-term liabilities by selling readily realisable assets.

Chart II.8 Liquidity ratios of non-financial corporations (2007-2009)



Sources: Bank of Greece and ICAP.
Notes:
1 Calculations are based on aggregated six-month financial statement data for a sample of some 250 non-financial corporations from the ICAP database.
2 The current ratio is defined as the ratio of short-term (current) assets to short-term liabilities as at June of the relevant year; the quick ratio is computed in a similar way, except that current assets are taken net of inventories.

economies begin to come out of the recession, are expected to have a negative impact on households' financial condition.

3.3.1 Developments in household credit and indebtedness

The annual growth rate of MFI lending to households,[22] continuing its downward trend since February 2006, declined markedly in the first ten months of 2009 to 3.3% in October 2009 (December 2008: 12.8% – see Chart II.4). Credit expansion was slower for both housing loans (October 2009: 4.0%, December 2008: 11.5%) and consumer loans (October 2009: 2.4%, December 2008: 16.0%), due to supply as well as demand factors. Households' expectations of a worsening in their financial position and of a fall in prices in the housing market negatively impacted their demand for credit. On the supply side, the unfavourable prospects for the economy and the real estate market, as well as a perceived deterioration in consumer creditworthiness, caused banks to tighten their credit terms and conditions for lending to households.[23]

As regards household indebtedness, the debt ratio (i.e. household debt over disposable income) edged down slightly at the end of the first half of 2009 to 70.6%[24] (December 2008: 71.2%),[25] for the first time after a protracted period of strong rises (see Chart II.9). The debt ratio for households in Greece thus remained significantly lower than in the euro area as a whole (June 2009: 94.1%[26]; see Chart II.9), and is projected, by end-December 2009, to stand slightly above its level of end-June 2009.

3.3.2 Interest rate risk for households

Households' average interest payment burden (as a percentage of their gross disposable income) displayed a downward trend in 2009, after rising continuously in previous years (see Chart II.10). This was exclusively due to the decrease in interest payments on housing loans, mainly on account of the significant interest rate declines on new and outstanding housing loans during this period, while the increase in the average outstanding amount of

22 Credit (stock at a given point in time) to households by domestic MFIs is measured as the sum of the outstanding balances of loans held by MFIs in their asset portfolios and securitised loans. The net flow of credit (in a given period) is defined as the difference between outstanding credit balances between the beginning and the end of the period. Loan write-offs effected during the reference period are then added and the total is adjusted upwards (downwards) for valuation gains (losses) on loans denominated in foreign currencies.

23 Looking at credit developments over a shorter-term horizon, the net flow of credit to households in the third quarter of 2009 mainly concerned housing and, to a lesser extent, consumer loans, while the annual growth rate of consumer loans declined more in that quarter (compared with the second quarter of the year) than that of housing loans (consumer loans: 2009: third quarter: 5.3%, second quarter: 9.1%; housing loans: 2009: third quarter: 5.1%, second quarter: 7.3%). This trend is confirmed by the results of the latest Bank Lending Survey (October 2009), according to which banks somewhat eased their credit standards on housing loans in the third quarter of 2009 (compared with the previous quarter), but tightened their consumer credit standards (see Chart II.11).

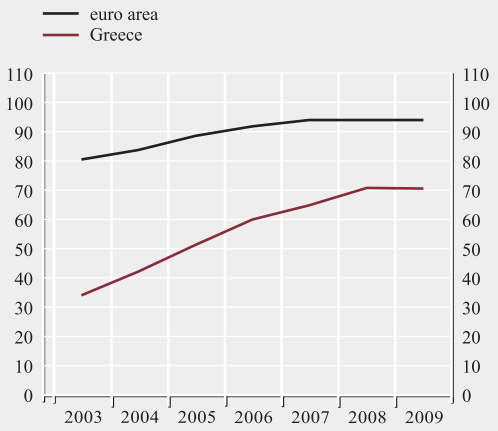
24 Projection for gross disposable income at end-2009.

25 After the recent revision of NSSG national accounts data for households' disposable income, the ratio figures for the entire 2000-2008 period turned out to be lower than on the basis of the unrevised data mentioned in the Financial Stability Report of June 2009.

26 Disposable income for the euro area as a whole in June 2009 has been calculated by cumulative flows over the four quarters through June 2009.

Chart II.9 Household debt[1] in the euro area and Greece (2003-June 2009)

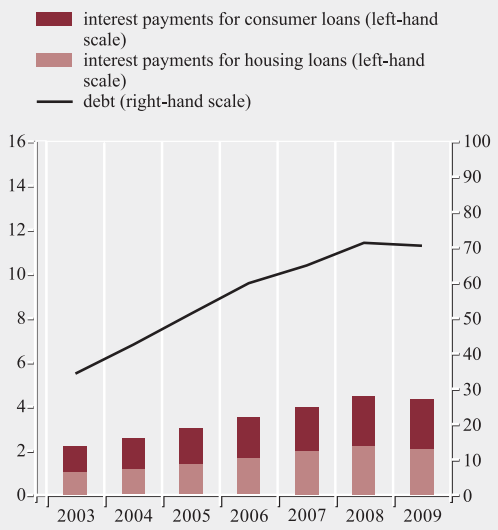
(as a percentage of gross disposable household income)



Sources: Bank of Greece and ECB (outstanding household debt), Eurostat and NSSG (gross disposable household income).
1 Household debt comprises the outstanding amounts of loans and securitised loans to households. Debt data are derived from the financial accounts of the household sector, which record the sector's total financial assets and liabilities. Bank of Greece estimate of Greek households' income in 2009. For the euro area as a whole, income in June 2009 is calculated as the cumulative sum of flows over the four quarters to Q2 2009.

Chart II.10 Household debt[1] and interest payments[2] (2003-June 2009)

(as a percentage of gross disposable household income)



Sources: Bank of Greece and NSSG.
1 Household debt comprises the outstanding amounts of loans and securitised loans to households. Debt data are derived from the financial accounts of the household sector, which record the sector's total financial assets and liabilities. For 2009, Bank of Greece estimate of Greek households' income in 2009.
2 Interest payments are approximated by multiplying the average annual interest rate by the average annual outstanding amount of credit to households per category of loan.

housing credit was limited.[27] The total decrease in interest rates so far has significantly reduced the risk of households having difficulty meeting their interest payments. It is estimated that this risk will remain low in 2010, even though interest rates are likely to increase.

3.3.3 Household income risk

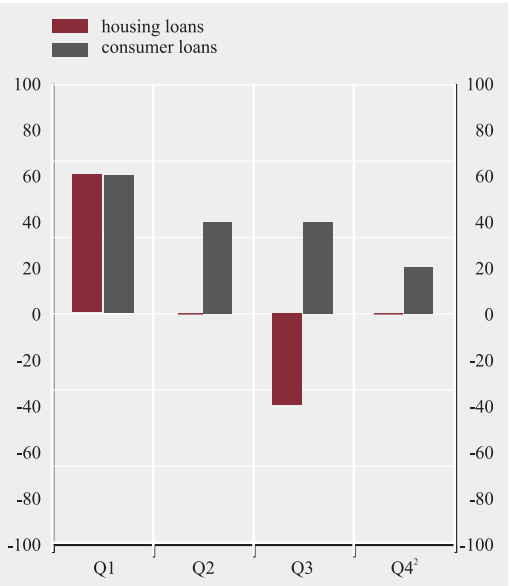
Income risk refers to the likelihood of a reduction in a household's ability to repay its debts (with a negative impact on the stability of the financial system), as a result of a decrease in disposable income and/or of job loss.

The deterioration in the domestic macroeconomic environment in 2009 and, particularly, in labour market conditions (in the form of a decrease in the number of persons employed or in average hours worked) and the slowdown in real disposable income growth have negatively impacted the debt servicing ability of certain households this year.[28] This is a crucial development, given that income risk is one of the major parameters that affect household debt repayment ability. The increase in income risk proved to be higher than initially expected[29] (owing, for one, to a stronger rise in the unemployment rate, to 9.1% on average during the first nine months of 2009, from 7.6% in the corresponding period of 2008), as suggested, *inter alia*, by the findings of the latest Bank Lending Survey (October 2009).[30] The tightening

27 The average interest payment burden on consumer loans remained unchanged over the first three quarters of 2009 compared with 2008, as interest rates on consumer credit dropped only slightly. This is the first year during which interest expenses stabilised, after the rises recorded in previous years.
28 See *Monetary Policy – Interim Report 2009*, October 2009, Chapters IV.2 and IV.3. A significant deceleration in average real wages in the economy as a whole is expected for 2009.
29 See *Financial Stability Report*, June 2009.
30 The unfavourable expectations for unemployment and the financial situation of households are also reflected in relevant industrial and consumer confidence indicators (see IOBE, *Conjunctural Survey*, November 2009, in Greek).

Chart II.11 Bank lending survey: quarter-on-quarter change in credit standards for housing and consumer loans (2009 Q1-2009 Q4)

(net percentage of banks[1])



Source: Bank of Greece.
1 Calculated as the difference between the percentage of banks reporting a tightening and the percentage of banks reporting an easing of credit standards (100 = tightened considerably, 0 = unchanged, -100 = eased considerably).
2 For Q4: banks' expectations.

of banks' credit terms and conditions for consumer loans in the third quarter of the year was in part prompted by their assessment of a decline in borrower solvency, owing to the continuous deterioration in the financial situation of households (see Chart II.11).[31] For the end of 2009 and into 2010, income risk is projected to increase, as the slight rise anticipated in household real disposable income (probably less than in 2009) will be more than outweighed by the impending increase in the tax burden and the likely continued decline (albeit less pronounced) in employment. Whatever the outcome, as underlined in the previous Financial Stability Report (June 2009), these pressures only concern the debt repayment capacity of certain groups of households that are estimated to account for a small share of the total debt of households to banks.[32,33] These pressures and the observed rise in unemployment leave no room for complacency, due to their implications in terms of non-performing loans.[34]

3.3.4 House price risk

The positive rates of growth in house prices in Greece gradually began to weaken in early 2006 and continued to do so until the end of 2008. Since the first quarter of 2009, the annual rate of growth in residential prices has been negative (entire country: third quarter 2009: -5.3%, second quarter 2009: -2.6%, first quarter 2009: -3.4%, fourth quarter 2008: 0.6%).[35]

Given the gradual nature of the decline in residential prices so far,[36] the risk of an abrupt correction seems limited, especially after the ongoing normalisation of conditions in finan-

31 This negative impact on credit supply is also partly a second-round effect, since it followed the increase in household non-performing loans observed in the first half of 2009 (for credit risk, see Chapter IV).

32 This is also associated with supply factors, i.e. banks' more cautious lending policies in recent years.

33 According to the latest Household Borrowing Survey of 2007 (see Financial Stability Report, June 2009, and Box VII.I, *Monetary Policy – Interim Report 2008*, October 2008). The sample distribution (by income quartile) of households shows that the ratios of both loan servicing costs and outstanding loans to household disposable income were higher for the household groups in the lowest income group.

34 The paper by Th. Mitrakos and G. Simigiannis, "Determinants of Greek household indebtedness and financial stress" (Bank of Greece, Economic Bulletin, No. 32, May 2009), is an empirical study of the factors affecting household debt and financial pressure, based on data from the survey on household borrowing. As reported, a household in a low annual income group (€6,000-€12,000) is five times more likely to have difficulty repaying a loan than a household in the "over €30,000" income group. Loan repayment ability was also found to be negatively correlated with characteristics such as the low skills of the household head. In addition, according to the results of the NSSG labour force survey (see discussion in Chapter IV.2, Monetary Policy – Interim Report 2009, October 2009), the groups most vulnerable to unemployment risk include low-skilled workers and those employed in sectors in recession this year (such as construction and industry).

35 Revised data. According to the same data, the annual rates of change in house prices for the Athens area were as follows: third quarter of 2009: -5.7%, second quarter of 2009: -5.0%, first quarter of 2009: -4.6% and fourth quarter of 2008:-0.8%.

36 For a more extensive discussion of housing market conditions, see *Monetary Policy – Interim Report 2009*, Box IV.1. The drop in prices is attributed both to excess supply, i.e. the estimated build-up of a surplus stock of houses over the past few years, and to subdued demand for house purchases (despite interest rate cuts) because of banks' tighter credit standards on housing loans, as well as the deterioration in economic prospects. Regarding demand, the house affordability index, i.e. the ratio of household disposable income to residential prices, has been improving in the last three years, following a slowdown in house price growth. However, households' cautiousness, mainly on account of heightened uncertainty about employment and future income, has also dampened demand.

cial markets. Moreover, unlike the real estate markets of other euro area countries, the Greek market has not shown signs of significant overpricing.[37] Furthermore, the house price-to-rent ratio[38] has been gradually falling since the third quarter of 2007, mirroring for the most part the downward adjustment of residential prices. This ratio is expected to continue to decline at a modest pace in the coming quarters.

37 See Real Estate Market: Recent developments and prospects, Bank of Greece, proceedings of the conference held on 29 April 2009 (in Greek).

38 This ratio is usually assessed in conjunction with other factors (such as interest rate developments, the return on alternative investment, the business cycle, etc.) to detect possible overvaluation in real estate markets.

III MONEY AND CAPITAL MARKETS

1 INTRODUCTION

Between June and November 2009, conditions in money markets improved considerably, particularly for shorter maturities, while an abatement of tensions was observed in capital markets.

With respect to developments in the most important government bonds, the continuing uncertainty about the future outlook of economies led to a small increase in bond prices. Demand for Greek government bonds, in particular, remained strong in the June-September 2009 period, as was also the case with bonds of other countries with relatively lower credit ratings, which contributed to a narrowing in the yield spread between the Greek 10-year benchmark bond and the corresponding German bond. The downward trend in the above yield spread came to a stop in October and, especially in the second half of November, this spread widened considerably amid high volatility.

During the period under review, stock prices worldwide rose significantly, in particular the stocks of financial firms, which had experienced the strongest strains during the intensification of the crisis. Factors contributing to this positive development were improved market sentiment and corporate profitability. Share prices on the Greek stock market also increased sharply through to mid-October 2009. Subsequently, however, and up to the end of November, this trend was reversed.

In the foreign exchange market, the euro continued to appreciate against the US dollar, the pound sterling and the Japanese yen, reflecting economic conditions and prospects of the respective economies. Lastly, commodity markets saw a continuation of the upward trends observed since the beginning of the year, with gold prices, most notably, having reached record highs.

2 MONEY MARKETS

The improvement of conditions in the euro area money market, which became apparent in the first half of 2009, was confirmed in the June-November 2009 period, i.e. after the publication of the previous Financial Stability Report. Factors supporting this development were, apart from the impact of the cut of the main refinancing rate to the historic low of 1% in May 2009, a decline in counterparty risk aversion and a further improvement in money market liquidity as a result of the Eurosystem interventions. In particular, an important role in restoring normal conditions in the money market was played by the two refinancing operations conducted in June and September,[1] through which the ECB injected liquidity with full allotment and a maturity of one year, at a fixed rate equal to the rate on the main refinancing operations.[2] A further sign of stabilisation of money market conditions was that in the 12-month refinancing operation in September the aggregate bid amount was only 17% of the respective bid amount for the main refinancing operation carried out in June 2009. These developments are clearly reflected in the narrowing of the spread between the Euribor and EONIA rates (see Chart III.1). It is indicative that the spread between the three-month Euribor and the three-month EONIA swap rate fell from 48 basis points at end-May 2009 to 29 basis points at end-November 2009. Nevertheless, tensions have not been fully eliminated, as suggested by a slowdown in the rate of decline in this spread (see Chart III.1), which remains higher than before the bankruptcy of Lehman Brothers.

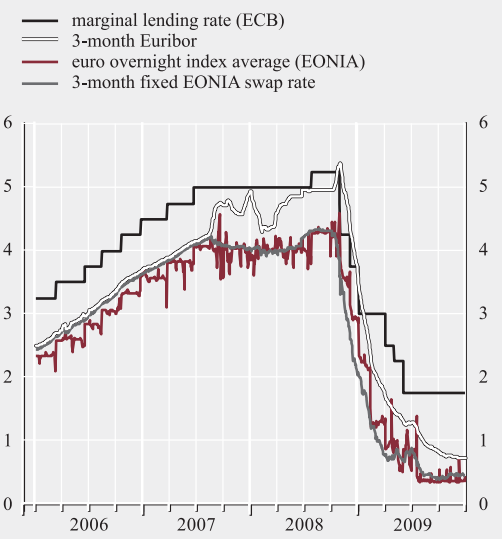
With particular regard to Greece, the improved conditions in money markets were reflected in higher volumes and longer maturities of transactions, although transaction volumes, with the exception of the overnight segment, still fall short of the levels seen before the bankruptcy of Lehman Brothers.

1 At its meeting on 7 May, the Governing Council of the ECB decided to conduct three longer-term refinancing operations with a maturity of 12 months. The third such operation was scheduled for December 2009.

2 The longer-term refinancing operations with a maturity of one year improve banks' liquidity positions on very favourable terms and for a prolonged period of time and contribute to maintaining the 12-month interbank rate at low levels, thus promoting the reduction in money market term spreads.

Chart III.1 Marginal lending rate, 3-month Euribor, EONIA and the fixed EONIA swap rate (1 January 2006-30 November 2009)

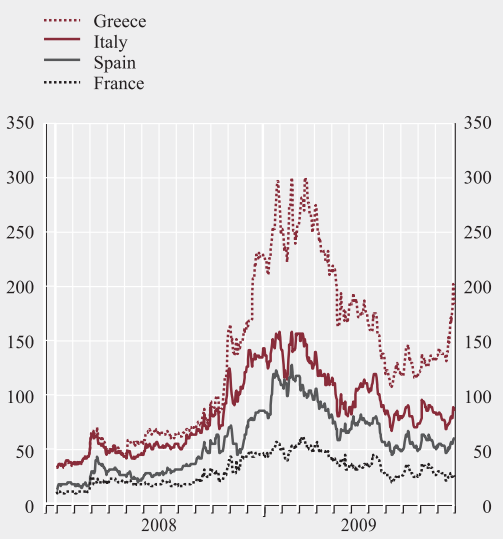
(percentages per annum; daily data)



Sources: ECB and Bloomberg.

Chart III.2 10-year government bond yield spreads vis-à-vis Germany (1 January 2008-30 November 2009)

(basis points; daily data)



Source: Bloomberg.

It should be noted, however, that the easing of tensions in the money market is partly due to the increased liquidity in the markets as a result of the support measures implemented by central banks and governments.

3 GOVERNMENT BOND MARKETS

Uncertainty about future developments in the major economies supported strong demand for government bonds in the June-November 2009 period, causing their prices to increase[3] despite the pressure exerted by strong issuance in the context of higher government borrowing requirements. During the period under review, an increase in investors' risk appetite favoured especially government bonds with relatively lower credit ratings.

Focusing on the Greek government bond market, in the primary market all issues of Greek government bonds were oversubscribed, while in the secondary market the yield spread between the Greek 10-year benchmark bond and the corresponding German bond (see Chart III.2) narrowed significantly, from 212 basis points in early May 2009 to 127 basis points at end-September 2009. However, since early October 2009, investor concerns about the Greek economy's fiscal aggregates contributed to the reversal of the downward trend in the above spread. Moreover, the downgrading of Greece's credit rating by Fitch on 22 October 2009 (from A to A-), as well as the fact that Moody's placed Greece's credit rating on review for possible downgrade both had a negative impact.[4] In November, the above developments pushed the yield spread between the

3 The discussion in this section focuses on long-term bonds, as these are less sensitive to short-term monetary policy decisions and better reflect expectations about future economic conditions.

4 According to a recent EU study (see European Economy, "Determinants of intra-euro area government bond spreads during the financial crisis", Economic Papers, 388, November 2009), sovereign bond yield differentials in the euro area can be explained by international factors such as general risk perception (lower risk is positively correlated to a narrowing of spreads) as well as by domestic factors such as the fiscal position of Member States. In this respect, the higher risk awareness of investors after the crisis could keep government bond yield spreads at higher levels than in the pre-crisis period. For a more detailed discussion of developments in Greek government bonds and of the factors determining their yields, see Bank of Greece, *Monetary Policy – Interim Report*, November 2009, and OECD "What drives sovereign risk premiums? An analysis of recent evidence from the euro area", OECD Economics Department Working Paper no. 718, 2009.

Greek 10-year benchmark government bond and the comparable German bond to levels exceeding 200 basis points, while at end-November this spread stood at 188 basis points. Bond market developments were also reflected in the path of credit default swap (CDS) spreads: at end-November 2009, this spread for Greece was the highest among euro area countries (see Chart III.3).

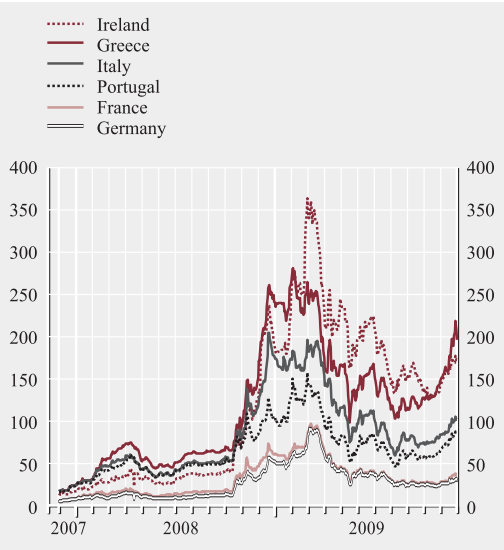
Concerns about the prospects of economic recovery at a global level and particularly in Greece, and the possibility of governments facing increased borrowing requirements do not preclude a new shift of investors towards higher-rated and/or more liquid bonds. Such a development would lead to upward pressures on government bond yields in countries with fiscal imbalances.

4 INTERNATIONAL CREDIT MARKETS

During the period under review, credit market conditions improved, as evidenced both by a surge in corporate bond issuance[5] and by lower credit spreads in the secondary market (see Chart III 4). With regard to bank bonds, a rise has been observed in issues of senior debt without government guarantees, as well as in issues of covered bonds and securitised loans. In particular, liquidity in the covered bonds market was boosted by the ECB's covered bond purchase programme decided at the Governing Council meeting of 7 May 2009 for an amount of €60 billion, (by the end of November 2009, purchases had reached about €26 billion). At the same time, banks continued to use securitisation mainly as a means of obtaining eligible collateral in the Eurosystem refinancing operations. However, some mortgage loan securitisation issues were subscribed by institutional investors.

Chart III.3 10-year sovereign credit default swaps (1 November 2007-30 November 2009)

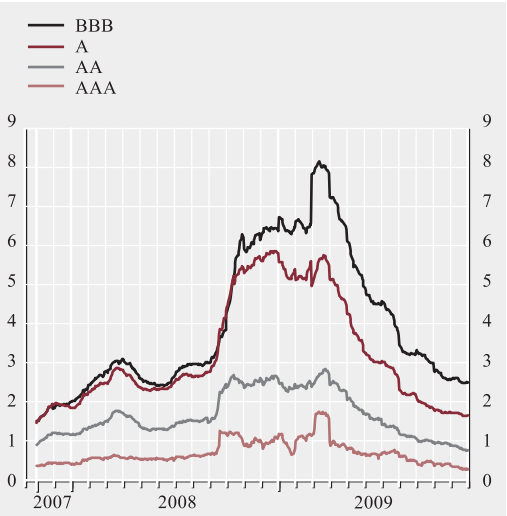
(spreads in basis points)



Source: Thomson Financial Datastream.

Chart III.4 Corporate bond spreads in the euro area[1] (1 November 2007-30 November 2009)

(percentage points)



Source: Thomson Financial Datastream.
1 Merrill Lynch indices for maturities of 7-10 years. The corporate bond indices refer to bonds rated within four rating categories from lowest (BBB) to highest (AAA).

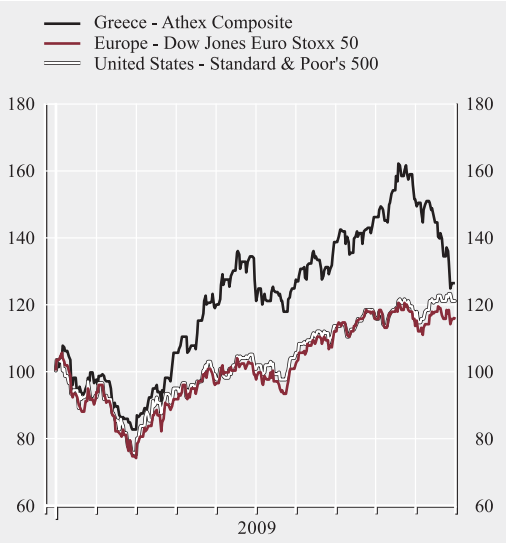
5 STOCK MARKETS

Between June and November 2009, the increased risk appetite of investors and the

5 ECB, *Financial Stability Review*, December 2009.

Chart III.5 Stock market indices in Greece, the euro area and the United States (January 2009-November 2009)

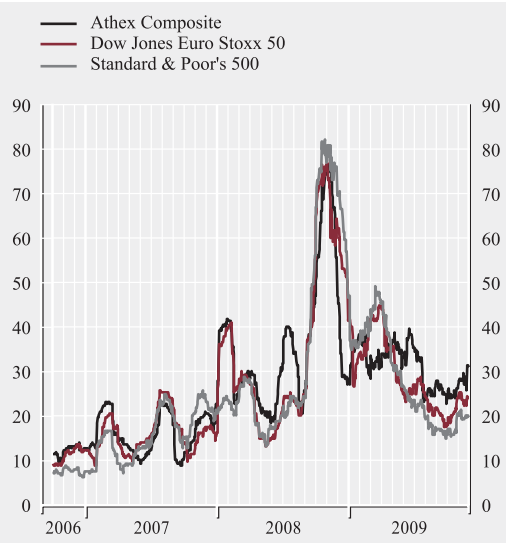
(daily data; index: 1 January 2009 = 100)



Source: Bloomberg.

Chart III.6 Stock market volatility in Greece, the euro area and the United States

(percentages per annum; daily data)



Source: Bloomberg.

satisfactory corporate profitability continued to exert an upward effect on share prices worldwide (see Chart III.5). Particularly strong was the recovery in the stocks of financial companies, which had come under considerable pressure in the period through to early March 2009.

The positive shift in investor sentiment is also reflected in a marked decline in stock price volatility, which, however, remains higher than the pre-crisis levels (see Chart III.6).

In the Greek stock market, the upward trend in share prices was reversed after mid-October, as a result of investor concerns about Greek economic aggregates. However, between end-2008 and end-November 2009, the Athex composite index continued to outperform both the Dow Jones Euro Stoxx 50 index and Standard & Poor's 500 index in the United States.

A key driver of this development was the evolution of the banking subindex reflecting markets' positive assessment regarding the resilience shown by Greek banks during the financial turmoil, as well as the perceptions of lower risks from Greek banks' business in Southeastern Europe, following the launching of economic adjustment programmes in these countries with the support of the international community.

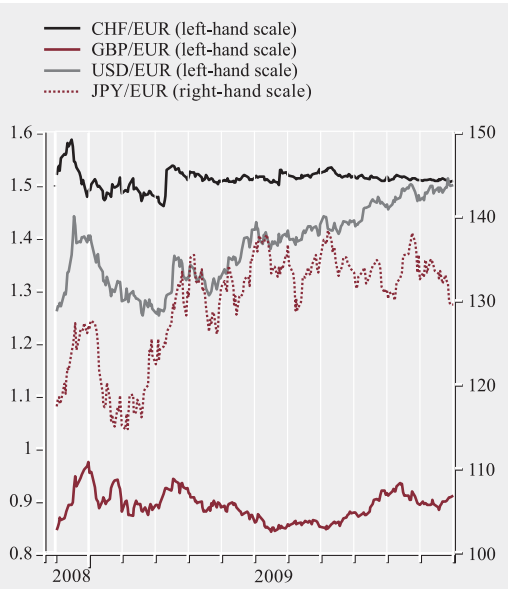
Over the medium-term, the evolution of stock prices will be largely determined by the pace of recovery in the global economy and in corporate profitability; in the Greek context, developments in the stock market or in government bonds for that matter, will depend crucially on the extent of adjustment of the domestic economy.

6 FOREIGN EXCHANGE MARKET

In the June-November 2009 period, the exchange rate of the euro against the major currencies was less volatile than in 2008 and during the first five months of 2009 (see Chart III.7). The euro remained within a narrow band vis-à-vis the Swiss franc and continued to appreciate vis-à-vis the US dollar, the

Chart III.7 Exchange rates of the euro vis-a-vis the US dollar, the Japanese yen, the pound sterling and the Swiss franc (December 2008-November 2009)

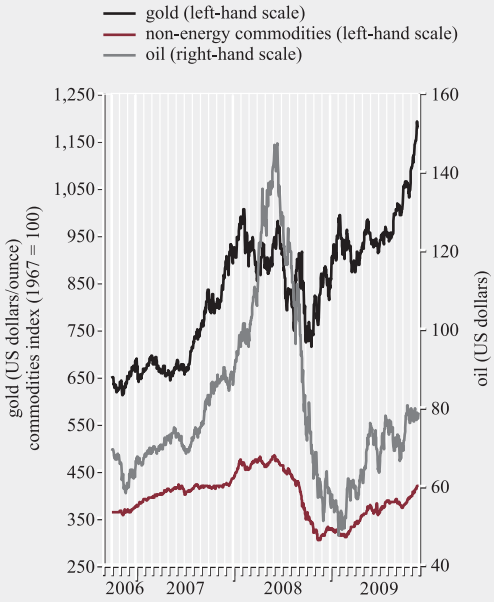
(daily data)



Source: Bloomberg.

Chart III.8 International prices of oil,[1] gold[2] and other commodities[3] (November 2006-November 2009)

(daily data)



Source: Bloomberg.
1 Brent blend, US dollars per barrel.
2 In US dollars/ounce.
3 CRB spot index.

pound sterling and, to a lesser degree, the Japanese yen. This development had an upward effect on the nominal effective exchange rate of the euro.[6] The strength of the euro mainly reflected the economic prospects of the respective countries, while in the case of the US dollar and partly the Japanese yen, its appreciation was also due to carry trade strategies involving primarily the US dollar and to a lesser extent the yen as the funding currency.

7 COMMODITY MARKETS

In the June-November 2009 period, the upward trend in commodity prices was sustained (see Chart III.8). The decrease in world oil reserves following OPEC's cut in daily production, the less pessimistic projections for oil demand amid expectations of global economic recovery , strong demand for oil from China and the weakening of the US dollar all caused oil prices to rise by 28.8% between end-2008 and end-November 2009. Estimates suggesting a relatively rapid exit of the world economy from the recession have also boosted demand for non-oil commodities, leading to increases in their prices. Moreover, during the period under review, the price of gold was on the rise reaching historically high levels —despite the observed lower risk aversion of investors— reflecting positions held as a hedge against future inflation risks.[7]

6 The nominal effective exchange rate of the euro is calculated on the basis of the currencies of 21 major trading partners of the euro area.

7 It should be noted that, as in the case of oil, given that commodity and gold prices are denominated in US dollars, part of the increase in their prices is due to the weakening of the dollar against a number of currencies and most importantly the euro.

IV THE BANKING SECTOR

1 INTRODUCTION

The January-June 2009 period[1] saw diverging trends in the profitability and capital adequacy of Greek commercial banks and banking groups, i.e. the key determinants of banks' ability to absorb smoothly any unexpected shocks in the economic environment. Profitability declined significantly, in contrast with capital adequacy, which improved. At banking group level, capital adequacy still stands above the European average. As far as risks are concerned, exposure to credit and market risks increased, whereas liquidity risk improved.

The key aggregates of commercial banks and their groups benefited from lower funding costs and favourable conditions in capital markets, as well as from measures aimed to support liquidity in the economy (Law 3723/2008). On the other hand, the worsening of the macroeconomic environment, which in turn led to a deterioration in banks' loan portfolio quality, had a negative impact. This was reflected in the upward trend of the NPL ratio, i.e. non-performing loans (NPLs) as a percentage of total loans. Furthermore, the ratio of accumulated provisions to NPLs (coverage ratio) decreased appreciably. In this light, the Bank of Greece has recommended that banks should increase provisioning.

In addition to commercial banks, serious challenges are faced by cooperative banks too, mainly in terms of credit risk and capital adequacy. Nevertheless, these problems are not entirely attributable to the current crisis.

In the current adverse economic conjuncture,[2] it is imperative that banks manage effectively the impact of the economic downturn on the financial situation of corporations and households, by adequate provisioning and loan write-offs. At the same time, given that the ECB Governing Council has repeatedly stressed that its non-standard measures are to be phased out, banks should give priority to their gradual exit from both the Greek government's liquidity plan and the ECB liquidity support measures (some banks already seem to be taking steps in this direction) by using alternative funding sources. Moreover, they should focus on the quantitative and qualitative enhancement of their capital adequacy. Against this background, the Bank of Greece has already recommended to banks that they should show restraint with respect to their participation in the 12-month ECB liquidity-providing operation scheduled for December 2009, in order to facilitate their exit from the Eurosystem's extraordinary and temporary measures once the measures are withdrawn. It should be noted that in no way does this recommendation constitute a ban, and furthermore, it has nothing to do with the Greek government bonds which banks own or would like to purchase. Finally, banks should strengthen the role of their risk management functions and upgrade their risk measurement and monitoring systems.

2 COMMERCIAL BANKS

2.1 STRUCTURE OF ASSETS AND LIABILITIES

The assets of Greek commercial banking groups[3] continued to increase in 2009. This rise was broadly based across all asset categories, although it was weaker compared with past years, reflecting a slowdown in credit growth (see Chart IV.1).

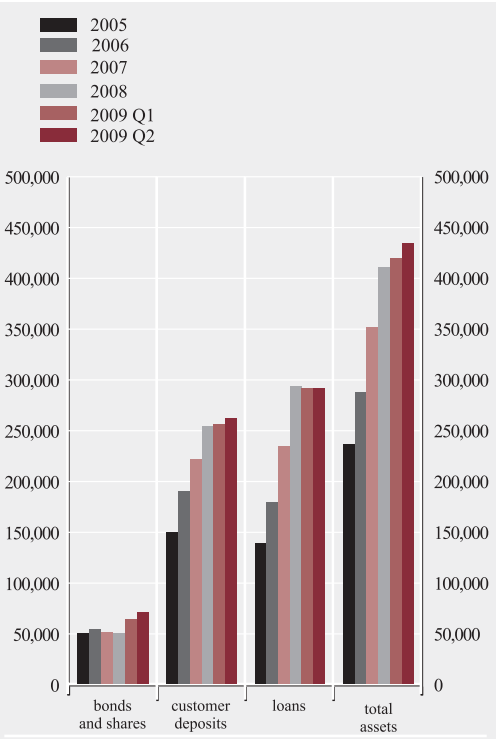
Loans remain the most important category of assets, although their growth has declined. Investment in bonds rose during 2009, while holdings of equity securities represent a very small percentage of total assets. Claims on credit institutions continue to stand at low levels (see Chart IV.2).

On the liability side, borrowing from the Eurosystem remained considerably high, con-

1 At the time of writing the present chapter, the most recent available data concerning the banking sector refer to the first half of 2009.
2 See Chapter II.
3 The aggregates reported refer to 19 banking groups whose assets accounted for 90% of the Greek banking system at the end of the first half of 2009.

Chart IV.1 Main aggregates of Greek banking groups[1]

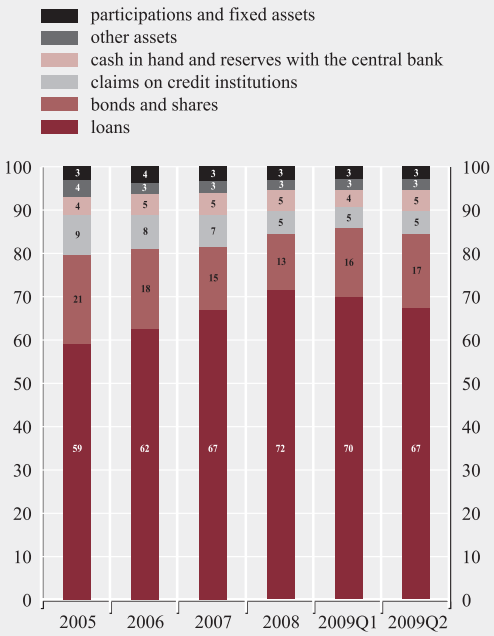
(million euro)



Source: Bank of Greece.
1 Data refer to Athex-listed Greek commercial banks.

Chart IV.2 Asset structure of Greek commercial banks (on a consolidated basis) (December 2005-June 2009)

(percentages)



Source: Bank of Greece.

tinuing a trend observed since 2008. Furthermore, customer deposits as a percentage of liabilities are shrinking (although in absolute terms they are growing slowly) (see Chart IV.3).

2.2 RESILIENCE

2.2.1 Profitability

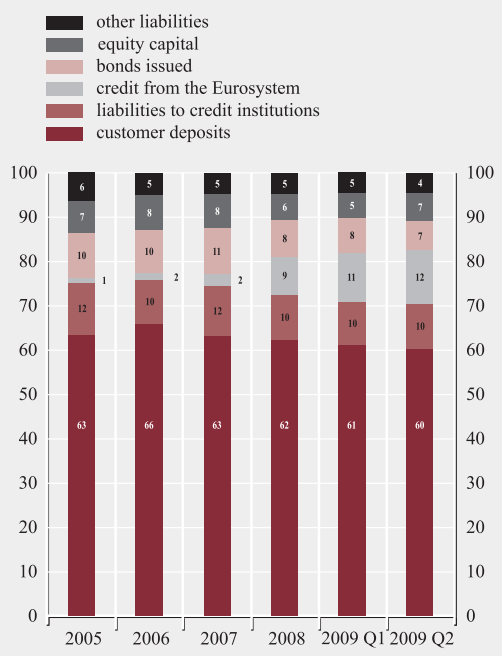
In the first half of 2009, pre-tax profits of Greek commercial banks and their groups[4] fell sharply (by 50.3% and 44.8% respectively), compared with the first half of 2008, and stood at €747 million at bank level and €1,406 million at banking group level (see Table IV.1). Lower profitability is mainly due to the adverse macroeconomic conditions which persisted during that period both in Greece and in the other countries where Greek banks have important activity, with the result that banks' main sources of income were negatively affected and their provisions for credit risk (impairment losses) more than doubled.

In more detail, operating income increased slightly year-on-year in the first half of 2009. This development is solely due to improved net income from financial operations, whereas net interest and commission income declined. Transactions in Greek government bonds, with prices on the rise in the second quarter of 2009, contributed to an improvement in income from financial operations. Conversely, net interest income was negatively affected by a strong slowdown in credit expansion to the private sector (households and businesses), a decline in lending rates and a rise in NPLs. These factors more than offset lower interest payments stemming from a

4 The profitability analysis includes only data from Athex-listed Greek commercial banks. Since the remaining banks account for just a small share (approximately 3%) of Greek commercial banks' total aggregates, their exclusion does not affect the analysis.

Chart IV.3 Liability structure of Greek commercial banks (on a consolidated basis) (December 2005-June 2009)

(percentages)



Source: Bank of Greece.

decrease in the cost of funding. Lower funding costs reflect the liquidity enhancement measures under Law 3723/2008,[5] unlimited liquidity supply by the ECB, a normalisation trend observed in money and capital market conditions during the second quarter of 2009, as well as investors' restored confidence in Greek banks. "Other income" fell, on account of decreased income from dividends, insurance activities and real estate management. As a result of the above developments, the share of net income from core banking activities (interest and commissions) in total income shrank.

Thanks to banks' continued cost-cutting efforts, operating costs declined as a percentage of average assets (see Table IV.2). With the growth of operating income outpacing that of operating costs, the cost-to-income ratio (i.e. the ratio of operating costs to operating income) improved, declining by about one percentage point (see Table IV.2).

5 It should be noted that the Greek government earns a 10% yield on the amount of €3.8 billion of capital injections to banks.

Table IV.1 Financial results of Greek commercial banks and banking groups (1st half 2008 – 1st half 2009)

(amounts in million euro)

	Banks			Banking groups		
	2008 H1	2009 H1	Change (%)	2008 H1	2009 H1	Change (%)
Operating income	**4,877**	**5,170**	**6.0**	**7,347**	**7,686**	**4.6**
Net interest income	3,901	3,628	-7.0	5,454	5,394	-1.1
– Interest income	11,152	10,030	-10.1	13,321	12,509	-6.1
– Interest expenses	7,251	6,402	-11.7	7,867	7,114	-9.6
Net non-interest income	976	1,542	58.0	1,893	2,292	21.1
– Net fee income	631	579	-8.1	1,293	1,032	-20.2
– Income from financial operations	-68	720	-	113	951	743.2
– Other income	414	242	-41.4	488	309	-36.6
Operating costs	**2,627**	**2,728**	**3.8**	**3,893**	**3,989**	**2.5**
Staff costs	1,573	1,625	3.3	2,224	2,263	1.8
Administrative costs	869	902	3.8	1,355	1,372	1.3
Depreciation	172	184	7.1	290	324	11.9
Other costs	13	17	31.2	25	29	18.2
Net income (operating income less costs)	**2,250**	**2,442**	**8.5**	**3,457**	**3,704**	**7.2**
Provisions for credit risk (impairment charges)	749	1,695	126.3	910	2,298	152.4
Pre-tax profits	**1,501**	**747**	**-50.3**	**2,546**	**1,406**	**-44.8**
Taxes	281	243	-13.3	476	413	-13.2
After tax profits	**1,221**	**503**	**-58.8**	**2,071**	**994**	**-52.0**

Source: Financial statements of Greek commercial banks with shares listed on the Athens Exchange.

Table IV.2 Profitability indicators in Greece and in the European Union

	Greece				EU 27[2]
	Banks		Banking groups		Banking groups
Percentage (%)[1]	2008 H1	2009 H1	2008 H1	2009 H1	2008
Net interest margin	2.3	1.7	3.0	2.6	1.5
Operating costs/total assets	1.5	1.3	2.1	1.9	1.5
Cost-to-income ratio	53.9	52.8	53.0	51.9	62.1
Provisions for credit risk/total assets	0.35	0.71	0.38	0.86	0.56
Provisions for credit risk/operating income	15.2	32.8	12.4	29.9	29.0
Return on assets – ROA (after tax)	0.7	0.2	1.1	0.5	0.2
Return on equity – ROE (after tax)	11.7	5.0	15.7	7.7	5.0

Sources: Financial statements of Athex-listed Greek commercial banks and ECB, *EU Banking Sector Stability*, August 2009.
1 Indicators are computed using average assets for each period.
2 Data refer to medium-sized banking groups in EU 27.

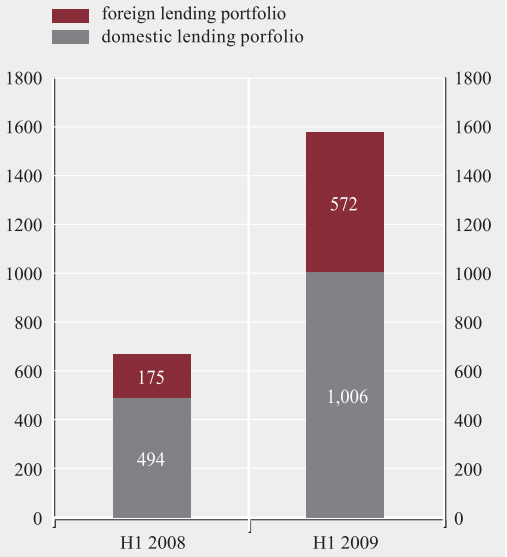
The considerable increase in loan-loss provisions was the main factor underlying the fall in profitability.[6] These provisions accounted for nearly one third of operating income during the reviewed period. In the case of banking groups with notable business activity abroad, the growth rate of provisions for credit risk was higher in connection with their international business (see Chart IV.4).

Regarding the geographical breakdown of profits of banking groups with important international activity, the share of international business in total pre-tax profits stood at 22.8% in the first half of 2009, down from 26.5% in the first half of 2008.

As a result of the trends described above, the key profitability ratios, i.e. the net interest margin and return on assets (ROA) and equity (ROE), deteriorated in the first half of 2009 (see Table IV.2). In fact, a worsening of ROA is observed for the majority of banking groups, as evidenced by the ROA frequency distribution, which shifted towards lower values (see Chart IV.5A). A more pronounced shift was recorded in the ROE frequency distribution (see Chart IV.5B), due to an increase in equity (i.e. the denominator of the ROE fraction).

Chart IV.4 Provisions for credit risk - Banking groups with a significant international presence

(million euro)



Source: Financial statements of banking groups with a significant international presence (Alpha Bank, NBG, Eurobank EFG and Piraeus Bank).

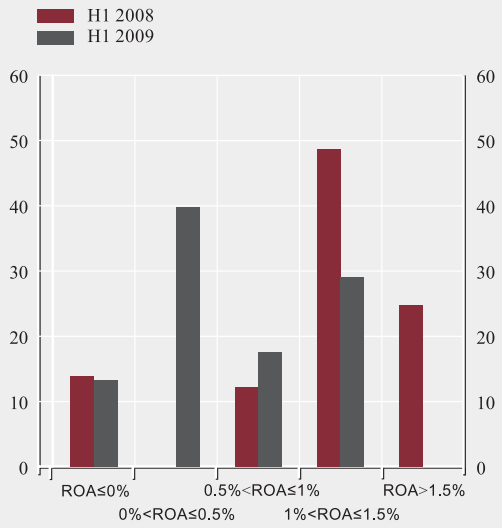
The outlook for the profitability of banks and their groups over the medium term is still sur-

6 For the quality of the loan portfolio and credit risk, see section 2.3.1 of this chapter.

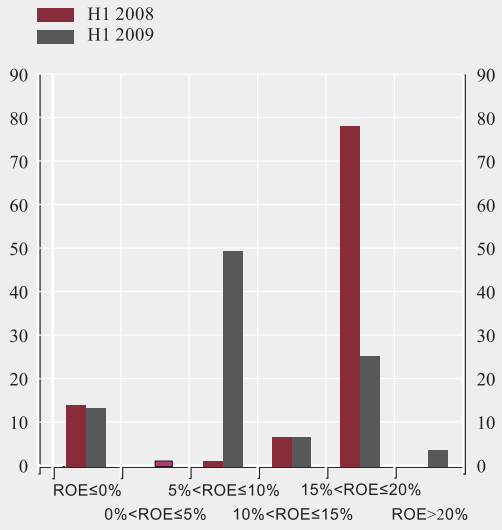
Chart IV.5 Frequency distribution of ROA and ROE for Greek banking groups

(percentages of total assets)

A. Frequency distribution of ROA (after tax)



B. Frequency distribution of ROE (after tax)



Source: Bank of Greece.

rounded by a higher than usual degree of uncertainty. The main factors that are expected to influence profitability are the following:

- Macroeconomic developments in Greece and the other countries where Greek banks are active. The economic downturn, for as long as it lasts, will continue to dampen demand for new loans and increase NPLs, thus having a downward impact on profitability.

- Developments in international money and capital market conditions. Given that a substantial part of banks' profits stem from financial operations and the investment portfolio, high volatility of yields in markets implies high uncertainty regarding the evolution of net income.

- Re-pricing of credit risk. As banks adjust credit margins (i.e. the differential between the interest rate they receive from lending and the cost of funding) and interest rates on new loans in line with the new credit risk conditions, their profit margins should widen accordingly.

- Containment of operating costs. It is worth noting that most banks have announced a suspension of their network expansion plans, as well as the adoption of cost-cutting programmes. These actions are expected to have a beneficial effect on profitability.

2.2.2 Capital adequacy

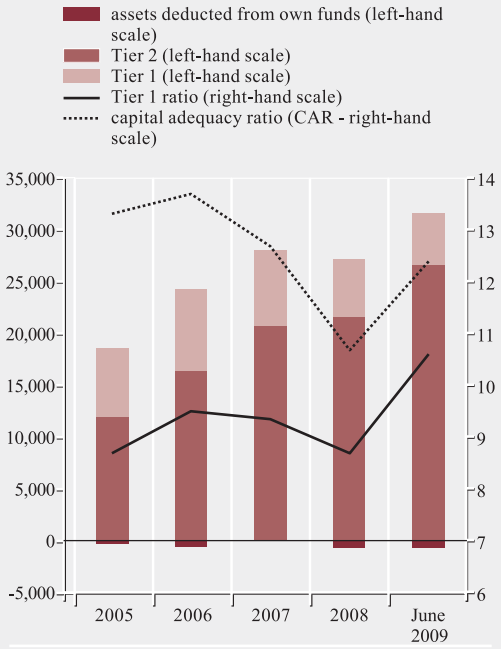
In the first half of 2009, the capital adequacy of Greek commercial banks and their groups was enhanced significantly, mainly due to a considerable increase in regulatory own funds, while risk-weighted assets rose only marginally. In addition to the quantitative improvement in own funds, of particular importance for overall banking system stability was also their qualitative improvement (see Chart IV.6).

Banks' capital quality benefited greatly from the increased share of Tier 1 capital in regulatory own funds. Similarly, redemptions of hybrid securities and subordinated loans at below par value had a beneficial effect, as their net proceeds qualify as Tier 1 capital. The main factors behind the increase in regulatory own funds of banks and their groups during the first half of 2009 were the following:

- issuance of preference shares acquired by the Greek government under Law 3723/2008

Chart IV.6 Composition of regulatory capital and evolution of capital adequacy of Greek commercial banks

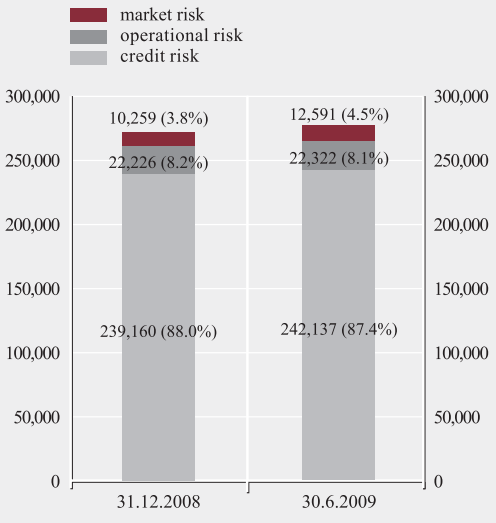
(million euro and percentages respectively)



Source: Bank of Greece.

Chart IV.7 Breakdown of risk-weighted assets by type of risk

(million euro)



Source: Bank of Greece.

(totalling €3.7 billion by the end of the first half of the year);[7]

- completion of capital increase by one bank (€850 million), as well as sale of own shares by two banks;

- internal financing through retained profits of the first half of 2009 and the non-distribution of dividends in cash to common shareholders for the financial year 2008; and

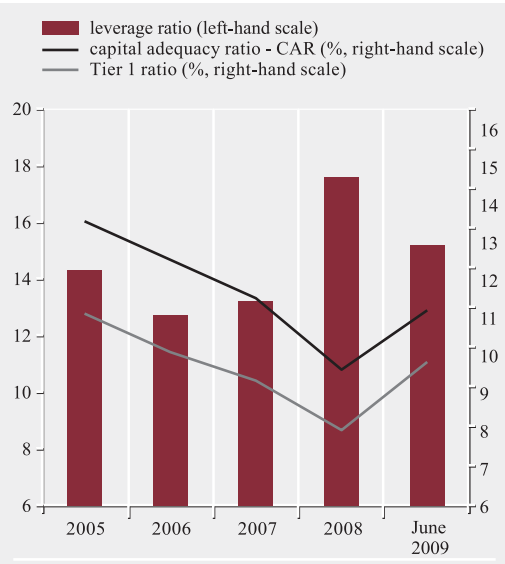
- favourable effects on own funds stemming from valuation gains on shares held by banks.

Risk-weighted assets showed a marginal increase, mainly due to weaker credit growth which led to a virtual stagnation in both risk-weighted assets for credit risk, accounting for almost 90% of total weighted assets (see Chart IV.7), and risk-weighted assets for operational risk. By contrast, risk-weighted assets for market risk grew, as a result of banks' increased exposure to assets involving market risk. However, since the risk-weighted assets for market risk account for a relatively small share of total weighted assets, their increase had only a weak impact on this aggregate.

A significant increase in regulatory own funds, coupled with a slight growth of weighted assets, resulted in an improvement in both the Capital Adequacy Ratio (12.4% at bank level, 10.9% at banking group level) and the Tier 1 capital ratio (10.6% at bank level, 9.6% at banking group level) in June 2009 (see Charts IV.6 and IV.8). Another positive development was the fact that the improvement in the capital adequacy ratio (CAR) was broadly based and did not stem only from specific banks, as evidenced by the frequency distribution of banking groups' CAR (see Chart IV.9). In the case of banking groups, it should be pointed out in particular that, as a result of the CAR improvement in the first half of 2009, their "capital buffers"[8] used for covering unex-

7 This issuance reached €3.8 billion by early November 2009.
8 Capital buffer is defined as the (positive) difference between regulatory own funds and the minimum required to meet the 8% capital adequacy ratio.

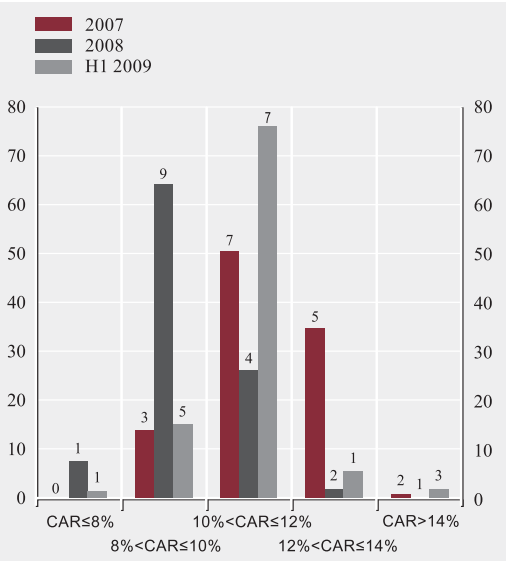
Chart IV.8 Capital adequacy and leverage ratio of Greek banking groups



Source: Bank of Greece.

Chart IV.9 Frequency distribution of capital adequacy ratios (CARs)

(percentages)



Source: Bank of Greece.
Note: The numbers above the bars indicate the number of banking groups per CAR interval.

pected losses more than doubled. Capital buffers amounted to €8 billion at end-June 2009, thus contributing positively to the implied ability of groups to absorb any unexpected shocks or risks. Moreover, Greek banking groups' leverage ratio, i.e. the ratio of assets to own funds, dropped to 15.2 in June 2009, from 17.6 at the end of 2008, due to a significant increase (of 18%) in own funds and a moderate growth of assets (see Chart IV.8).

It is estimated that capital adequacy of the banking sector, as a whole, will have further improved by the end of 2009, as by early November 2009 five Greek commercial banks had already completed capital increases in cash totalling €2.2 billion, while capital increases by other banks were under way.

Although the trend to enhance banks' capital quality through capital increase in cash is clearly considered as a positive development, at the present stage banks should be extremely cautious in formulating their medium-term strategy with respect to the desirable level of their capital base and the utilisation of raised funds, taking also into account financial and macroeconomic conditions. Despite perceived improvements in international money and capital market conditions, serious challenges persist. In view of the need to prudently deal with the consequences of the economic downturn in both Greece and the other countries where Greek banks are active, they should maintain capital buffers comfortably above the supervisory minimums, by increasing, inter alia, internal financing. Furthermore, in the present conjuncture, banks should give priority to strengthening their ability to absorb not only foreseeable, but also unforeseen losses, as well as losses that may arise from unexpected shocks. Therefore, for prudential purposes, they should relatively reduce dividend payments and maintain adequate capital buffers. In formulating their strategies, banks should also take into consideration the proposed changes in the supervisory and regulatory framework, which are aimed at enhancing banking system stability. These forthcoming changes imply, among other things, generally increased quantitative and qualitative capital adequacy requirements, higher provisioning

for credit risk and a more balanced mix of alternative funding sources.[9]

2.3 BANKING RISKS

2.3.1 Credit risk[10]

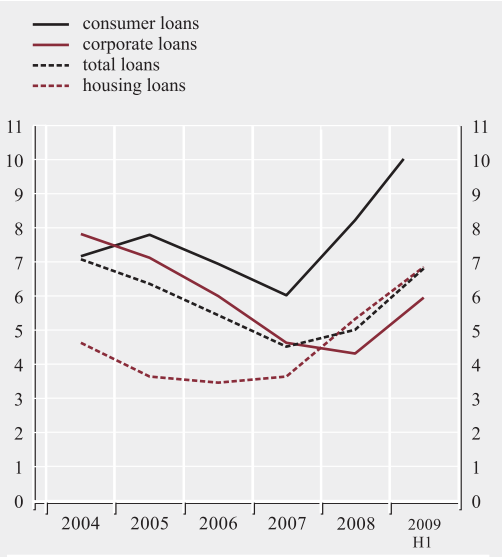
In the first half of 2009, the conventional loan quality indicators of commercial banks worsened relatively, as the slowdown in economic growth contributed to a deterioration in both households' and businesses' financial situation.[11] The NPL ratio rose to 6.8% in June 2009 (December 2008: 5%). The increase in the NPL ratio was broadly based and affected all loan categories (see Chart IV.10), in particular corporate loans,[12] for which the NPL ratio had improved in 2008. As for quarterly percentage changes in the NPL ratio, the second quarter of 2009 was marked by a slight slowdown, as shown in Chart IV.11.

Increases in the NPL ratios were observed this year for the majority of banks, albeit of variable magnitude (see Chart IV.12). The ratios of NPLs net of accumulated provisions to total loans (June 2009: 4.0%, December 2008: 2.6%) and regulatory capital (June 2009: 35.2%, December 2008: 26.1% – see Chart IV.13) also increased.[13]

It should be noted that since 2006 the NPL coverage ratio, i.e. accumulated provisions as a percentage of NPLs,[14] has been declining continuously (see Chart IV.13). This ratio fell to 48.9% at end-December 2008, down from the relatively high level (61.9%) at which it had stood at end-2005. In the first half of 2009, the downward trend continued; as a result, this ratio stood at 41.1% in June 2009. The coverage ratio for NPLs overdue by more than one year has also fallen con-

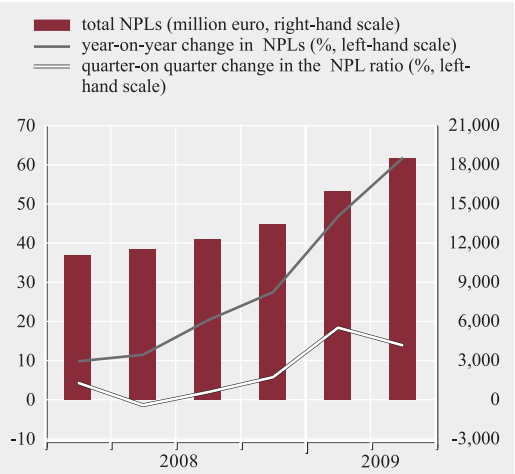
Chart IV.10 Evolution of Greek commercial banks' NPL ratios by type of loans

(percentages of total loans in the respective category)



Source: Bank of Greece.

Chart IV.11 Total NPLs, year-on-year change in NPLs and quarter-on-quarter change in the NPL ratio

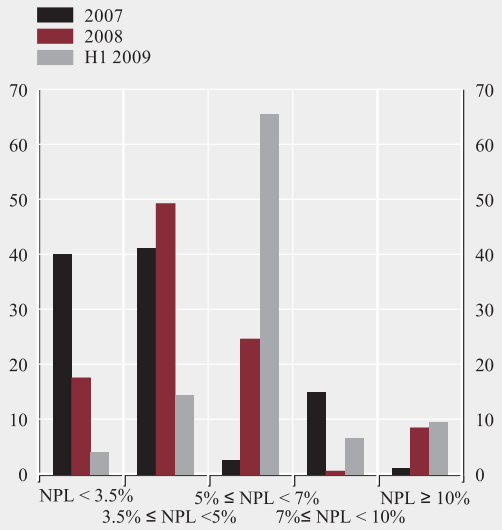


Source: Bank of Greece.

9 For these proposed changes, see Special Feature I: "The new architecture of financial supervision in Europe" in this report.
10 This section focuses on the credit risk that Greek commercial banks face in the context of their domestic business. Risks from their foreign activities are discussed in section 2.3.4.
11 For the financial situation of households and businesses, see Chapter II.
12 As regards corporations, credit behaviour data collected by "Tiresias S.A." also provide indications of heightened credit risk. For further details on Tiresias S.A., see Box IV.1.
13 Comparative EU data for the first half of 2009 are not available; nevertheless, it should be noted indicatively that for medium-sized EU banks, the net NPL ratio stood at a much lower level in December 2008 (1.8% and 17.8% respectively for December 2008).
14 Cumulative provisions are formed by successive provisions for credit risk, per period, less each year's loan write-offs.

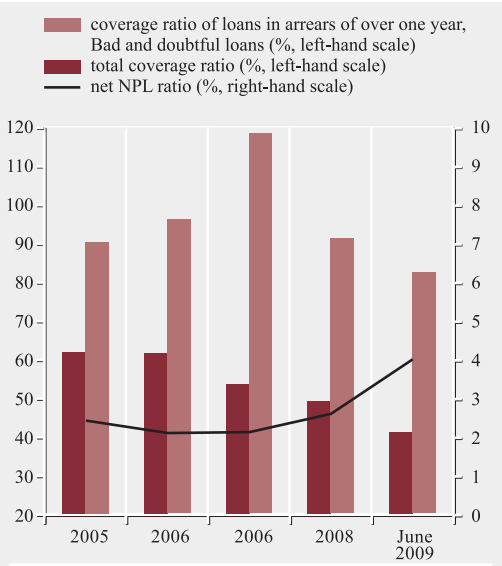
Chart IV.12 Frequency distribution of NPL ratios

(percentages of total assets)



Source: Bank of Greece.
Note: NPL: non-performing loan ratio.

Chart IV.13 Coverage and net NPL ratios



Source: Bank of Greece.
Note: For definitions, see Glossary.

siderably (see Chart IV.13). These trends call for increased vigilance, especially at the current adverse economic conjuncture, which is expected to cause a further increase in NPLs both in absolute terms and as a percentage of total loans. The Bank of Greece considers it essential that banks further augment the stock of provisions for credit risk in order to substantially improve the coverage ratio.[15]

In order to facilitate customers (households and corporations) facing temporary debt-servicing difficulties, several banks proceeded to debt restructuring. Against this backdrop, the Bank of Greece, acknowledging the role that such restructuring plays in the medium-term viability of firms and in the intertemporal distribution of households' purchasing power, has established a set of criteria[16] that govern debt restructuring for debtors in financial difficulty. In the first half of 2009, banks undertook loan restructuring amounting to approximately €1.2 billion.

As for the quality of the household and corporate loan portfolio, the medium-term outlook is not rosy. In line with this estimate, it is imperative for banks to form increased provisions for credit risk and to continuously review their lending policies, as well as to strengthen their credit risk management functions and systems.

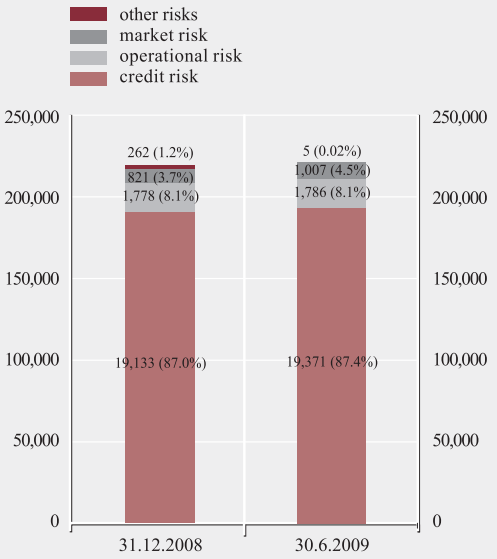
2.3.2 Market risk and operational risk

In the first half of 2009, capital requirements for market risk were higher than in the same period of 2008 (see Chart IV.14), mainly due to increased bond holdings. The fact that capital requirements for market risk account for just a small part (4.5%) of total capital requirements does not eliminate the need to closely monitor market risk and adopt prudent investment strategies. As regards operational risk, capital requirements for its coverage remained at about end-2008 levels representing 8.1% of total capital requirements (see Chart IV.14).

15 It should be noted that banks hold significant guarantees and collaterals which are not taken into consideration in the computation of the above indicators, although they help reduce credit risk to a large extent.
16 Bank of Greece Administration's Circular No. 13/30 July 2009.

Chart IV.14 Capital requirements for banking risks

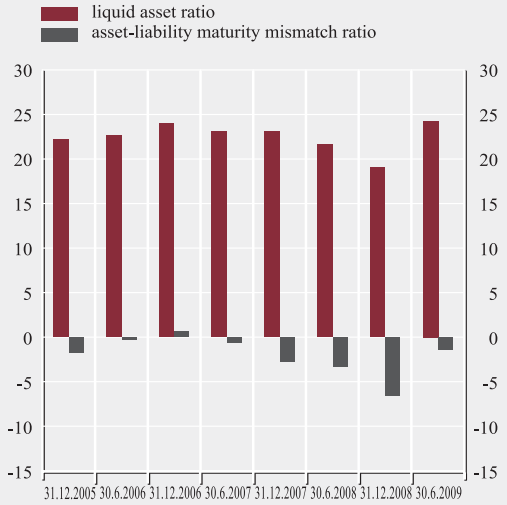
(million euro)



Source: Bank of Greece.

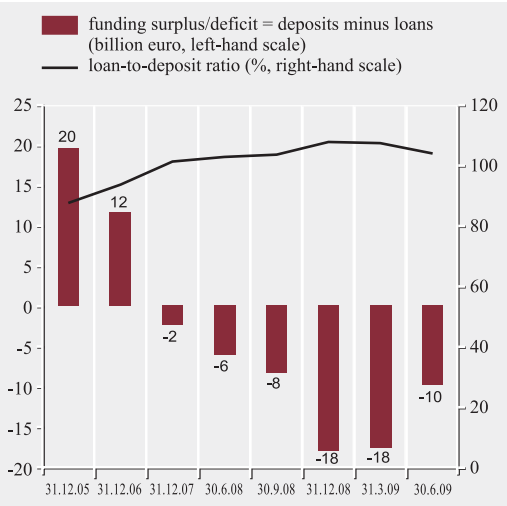
Chart IV.15 Liquidity ratios of Greek banks

(percentages of total assets)



Source: Bank of Greece.

Chart IV.16 Loan-to-deposit ratio and funding gap of Greek commercial banks



Source: Bank of Greece.

2.3.3 Liquidity risk

One of the main features of the crisis that hit the financial system was a sharp increase in liquidity risk, with the virtual shut-down of banks' funding markets (interbank market, securitisation of loans etc.). Starting from the second quarter of 2009 in particular, money and capital markets have gradually shown signs of normalisation.[17]

By the end of the first half of 2009, the liquidity of the Greek banking system had improved, as reflected by a rise in the liquid asset ratio and a decline in the mismatch ratio (see Chart IV.15).[18] The main factors that supported this improvement in liquidity were an increase in deposits and higher borrowing from the Eurosystem. The funds raised from these sources were channelled into readily realisable assets, i.e. bonds and interbank deposits. As a result, the loan-to-deposit ratio declined, leading to a narrowing in the funding gap, defined as the difference between deposits and loans (see Chart IV.16). In addition, as lending increased moderately, the banking system's

17 Specifically, during this period banks raised €6.5 billion through loan securitisation, €3.5 billion through issuance of covered bonds and €3.4 billion through senior unsecured debt.

18 It should be noted that the Greek banking system's liquidity has been strong over time, thanks to the contribution of the Bank of Greece, which strengthened the liquidity regulatory framework. This framework (Bank of Greece Governor's Act 2560/1.4.2005) established compulsory liquidity ratios and regulatory minimums that credit institutions should comply with on an individual basis. Furthermore, Bank of Greece Governor's Act 2614/7.4.2009 established similar liquidity ratios on a consolidated basis.

total stock of liquid assets grew and stood at €82 billion on 30 June 2009 (31 March 2009: €67 billion). This amount was sufficient to cover the total potential outflows that could have resulted (with a maturity of up to 30 days) from interbank deposits and bank bonds, and four fifths of customer time deposits (31 March 2009: two fifths).

Looking ahead, Greek banks should diversify their funding sources and reduce their reliance on the Eurosystem for liquidity and the ensuing refinancing risk they might face when the ECB starts to phase out its non-standard and temporary measures of unlimited liquidity supply. In view of this prospect, the Bank of Greece recommended in a timely manner that banks should show restraint with respect to their participation in the ECB's 12-month liquidity-providing operation in December.

2.3.4 Risks and prospects related to activity in Emerging Europe

The world financial crisis temporarily halted the growth momentum observed in recent years in Emerging Europe. In the present conjuncture, the main challenges facing Greek banking groups with important activity in this region can be summarised as follows:

- heightened credit risk owing to a deterioration of the financial position of corporations and households in those countries and, consequently, a need to increase provisions;

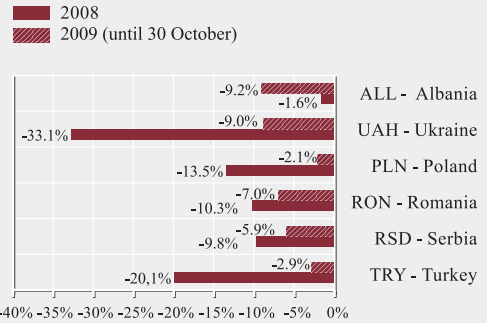
- prospects for reduced operating income,[19] as a result of slower credit growth and an expected increase in NPLs;[20]

- the need to maintain adequate liquidity and capital adequacy in local units (subsidiaries and branches).

Credit risk is the most important risk facing Greek banking groups in the region and is associated with the nature of their local business, focusing mainly on corporate and household loans. In the first half of 2009, the NPL ratio of

Chart IV.17 Exchange rate movements vis-à-vis the euro

(percentage changes)



Sources: ECB (Euro foreign exchange reference rates) and central banks of the countries concerned.

credit institutions owned by Greek banking groups in the region rose (June 2009: 5%, December 2008: 2.9%)[21] and is expected to further increase in the second half of 2009 for the following reasons: (a) negative economic growth rates in most countries; (b) tight liquidity conditions in the economy, as a result of a low or even negative rate of growth in credit to the private sector; and (c) the high percentage of foreign-currency-denominated loans, in conjunction with exchange rate fluctuations of local currencies against the euro. Given that about one third of loans granted by branches of Greek banking groups in Emerging Europe were denominated in euro,[22] the depreciation of local currencies against the euro (in particular during the first quarter of 2009) considerably affects their loan portfolio quality. Nevertheless, the so far low interest rates across the euro area offset, to a certain extent, the impact from the depreciation of local currencies, since bank customers who have contracted euro-denomi-

19 For developments in income from foreign business, see section 2.2 of this chapter.
20 Non-performing loans are defined as loans on which interest is not collected for three months (six months for housing loans). The detailed conditions on which Greek banks may terminate accrual of interest are specified in Bank of Greece Administration's Circular 21/8 December 2008.
21 Bank of Greece estimate, taking into consideration loans extended to businesses in Emerging Europe which were transferred to subsidiaries in other countries.
22 The majority of foreign currency loans in Emerging Europe have been denominated in euro, although other strong currencies are also common (such as the Swiss franc in Poland, the US dollar in Ukraine etc.).

nated floating-rate loans benefit from considerably lower lending rates than in the case of loans denominated in local currencies.

The exchange rates of most of the currencies of Emerging European countries vis-à-vis the euro continued their downward trends between January and September 2009 as well (see Chart IV.17), although to a small extent in some countries (such as Poland and Turkey).[23] Furthermore, a decline in the value of loan collaterals, as a result of a sharp decrease in real estate prices in some countries, further magnifies banks' expected losses from NPLs and, therefore, credit risk cost.[24] After mid-2010, however, a possible recovery of economic activity in certain countries of this region could lead to an improvement in corporations' and households' financial situation. As a result, the ability to repay outstanding loans could improve and the demand for new loans could be stimulated, which would gradually enhance banks' portfolio quality.

Bearing in mind all the above-mentioned factors, as well as the recommendations of the Bank of Greece, Greek banking groups have already adapted both their credit and provisioning policies to new conditions. In the first half of 2009, in comparison with the same period of 2008, banks tripled their provisions for credit risk associated with their international business, thereby maintaining the coverage of NPLs by accumulated provisions. Given the vulnerable economic conjuncture in the region and the ensuing risks, there is a need for banking groups to remain vigilant, intensify loan monitoring procedures, as well as continuously adapt their credit policies and risk management systems to the specific features of each host country and to developments in local banking markets.

Prior to the onset of the global financial crisis, credit expansion in the region was mostly financed through lending by parent banks. Today, greater emphasis is placed on attracting deposits from local markets, although these tend to be more costly and the local savings base is relatively limited. For the time being, slower credit growth lessens financing requirements. Over the medium term, the coverage of the liquidity requirements of affiliated banking units in host countries and their level of financing by parent banks from the home country should be examined in the light of the pace of normalisation in international money and capital markets, as well as of the need for banking groups to wean of the ECB's temporary "non-standard" financing support.

As regards the impact on banking groups' capital adequacy, in some cases parent banks have already injected capital to their subsidiaries. At banking group level, according to the results of the recent stress tests conducted by the Bank of Greece on the basis of scenarios prepared in cooperation with the International Monetary Fund, there is a satisfactory level of capital adequacy, allowing for the absorption of possible shocks, even in case of a substantial worsening in the quality of Emerging Europe loan portfolios. At local subsidiary level, capital adequacy requirements should be assessed both in the context of group capital planning and on the basis of minimum capital requirements specified by the host country's supervisory authority.

Finally, it should be noted that financial aid from the International Monetary Fund, the EU and other international institutions (such as the European Bank for Reconstruction and Development – EBRD, the World Bank, etc.) was instrumental in ensuring the soundness of local banking systems and stabilising the Emerging European economies. Furthermore, within the framework of the European Bank Coordination Initiative (also known as the "Vienna Initiative"), the International Monetary Fund and the European Commission called upon systemically important EU-based

23 For the reasons that caused the decline in exchange rates, see Financial Stability Report, June 2009. Bulgaria and the Former Yugoslav Republic of Macedonia (FYROM) have fixed exchange rate regimes vis-à-vis the euro.

24 Credit risk cost is defined as the ratio of impairment losses (i.e. provisions for credit risk) to total loans or to total operating income.

parent banks of subsidiary banks in Central and Eastern Europe to broadly maintain exposures to these countries and recapitalise subsidiaries as needed. By September 2009, commitment letters had been signed in relation to five countries, i.e. Romania, Serbia, Hungary, Bosnia-Herzegovina and Latvia; in the first two cases, signatories included Greek banks with presence in the respective countries.

3 COOPERATIVE BANKS

The sixteen cooperative banks operating in Greece account for 1% of total assets of the domestic banking system. Their assets amounted to €4.3 billion at the end of June 2009, 15.4% up from the December 2008 figure, mainly due to a significant increase in receivables from credit institutions (+171%). By contrast, their lending growth rate on an annual basis decelerated (June 2009: 2.6%, December 2008: 20.3%). During the same period, total deposits with cooperative banks increased by 24.7%, reaching €3.6 billion by end-June.

In the first half of 2009, cooperative banks' pre-tax profits decreased by 10.7% year-on-year and stood at €25 million. The CAR recorded a marginal decline (June 2009: 14.7%, December 2008: 15.6%), as did the Tier 1 ratio (June 2009: 14.2%, December 2008: 15.1%). This development is attributable to the fact that the growth rate of risk-weighted assets (8.0%) was higher than that of regulatory own funds (1.3%).

The portfolio quality of cooperative banks as a whole deteriorated markedly, as NPL grew rather markedly, while the total outstanding amount of loans remained unchanged at 2008 levels and no write-offs were performed in the review period.[25] The NPL ratio increased to 9.8% in June 2009 (December 2008: 6.7%), mainly because of the higher NPL ratio for corporate loans,[26] which represent the bulk of cooperative banks' loan portfolios. Despite increasing by 11% in the first half of 2009, accumulated provisions covered only 44.7% of NPLs in June 2009 (December 2008: 59.9%). The ratios of NPLs net of provisions to total loans and regulatory capital worsened (June 2009: 5.4%, December 2008: 2.7%; and June 2009: 35.3%, December 17.4% respectively). These developments call for rapid action by cooperative banks in order to substantially improve their portfolio quality. Above all, they should increase their provisions, perform write-offs and improve their current credit standards, as the Bank of Greece never fails to stress out.

Cooperative banks performed better in terms of their liquidity during the first half of 2009: both the liquid asset ratio (June 2009: 26.9%, December 2008: 18.2%) and the mismatch ratio (June 2009: 12.2%, December 2008: 7.1%) stood at levels above the regulatory minimums (20% and -20% respectively), primarily due to higher deposits and, to a lesser extent, a moderate increase in loans.

Taking into consideration the special nature of cooperative banks, in particular their limited scope for risk diversification, the Bank of Greece has established stricter rules regarding specific aspects of their supervision. Thus, for cooperative banks:

- the capital adequacy ratio regulatory minimum is 10% (against 8% for commercial banks);
- large exposures may not exceed 15% of the previous quarter's regulatory own funds (25% for commercial banks); and
- borrowing from the interbank market may not exceed 15% of regulatory own funds.

The problems that cooperative banks are currently facing are not fully attributable to the present crisis, but are rather associated with structural weaknesses. In this respect, the Bank

25 Credit institutions tend to perform the largest part of their write-offs towards the end of the year.
26 First half of 2009: 8.7%, 2008: 5.8%.

of Greece recommends, and where necessary takes action to ensure, that cooperative banks adhere to sound corporate governance principles, have in place effective systems for monitoring risks and loan repayment progress, as well as enhance their capital adequacy.

Box IV.1

CREDIT INFORMATION SYSTEMS

1 THE ROLE OF CREDIT BEHAVIOUR INFORMATION

Credit behaviour information enhances transaction transparency and considerably reduces the costs to the economy and society arising from delinquent borrowers. Such information plays an important role in pricing loan products, as it enables creditors to more accurately evaluate the credit risk posed by individual borrowers.

It is recognised worldwide that such information contributes to protecting the integrity of credit and reducing non-performing loans, to the benefit primarily of customers (retail and corporate alike) and of financial stability in general. Conversely, lack of credit behaviour information increases moral hazard, as it fosters irresponsible borrowing behaviour: on the one hand, it acts as a disincentive for remaining current on debt payments and, on the other, it allows irresponsible borrowers to get their loans refinanced by other creditors, at a lower cost, but at a high risk of default. Meanwhile, performing borrowers shoulder part of the associated cost.

The importance of monitoring credit behaviour has led, especially since 1990, to the establishment of a large number of credit registers, which record and provide credit behaviour information. Europe, for instance, presently has 44 credit registers, the oldest of which was set up in Germany in 1927 (Schufa). In some cases, e.g. in Sweden (Upplysnings Centralen AB), these systems obtain data on a daily basis from fiscal or other authorities. It is worth noting that in several EU countries (e.g. Belgium, France, Germany, Spain, Italy, Portugal) the credit information function is assumed by the national central banks.

2 COLLECTION OF CREDIT BEHAVIOUR INFORMATION IN GREECE

"Bank Information Systems – Tiresias SA" is the entity that collects and processes financial behaviour data in Greece.[1] Initially set up as a non-profit organisation in 1992, Tiresias was converted into a société anonyme (SA) in 1997; all its founding members and owners are credit and financial institutions. The records kept by Tiresias are subject to the provisions of Law 2472/1997 on the protection of personal data and to the decisions of the Hellenic Data Protection Authority. The data collected, processed and stored in these records serve the fulfilment of Tiresias SA's purpose, which is "to minimise risks arising from the conclusion of credit agreements with less creditworthy customers as well as risks arising from the creation of doubtful debts in general, and ultimately to protect commercial credit and safeguard the integrity of business transactions".[2]

In order to achieve this purpose, Tiresias has developed and manages profile data (the Default Financial Obligation System and the Credit Consolidation System), which are only accessible to credit and financial institutions, the Bank of Greece and a limited number of public entities, such as the Hellenic Capital Market Commission.

1 The operation of Tiresias SA is envisaged in article 11, para. 1(m) of Law 3601/2007.
2 Government Gazette B 684/11 May 2004.

Under Directive 2008/48/EC on credit agreements for consumers, prior to the conclusion of a credit agreement, the creditor is required to assess the consumer's creditworthiness on the basis of sufficient information, where appropriate, obtained from the consumer and, where necessary, on the basis of a consultation of a relevant database. Furthermore, according to Bank of Greece Governor's Act 2485/2002, the authorisation of credit companies in Greece is subject, among other requirements, to their access to credit behaviour databases. Besides, according to Bank of Greece Governor's Act 2523/2003, the prospect of the Credit Consolidation System of Tiresias becoming operative was one of the considerations behind the decision to proceed with the deregulation of consumer credit.

The usefulness and importance of the information provided by Tiresias are further confirmed by the fact that all relevant data:

- are evaluated, in terms of accuracy and completeness, by international rating agencies when assessing the credit standing of Greek banks;

- are used by banks when assessing the solvency and credit standing of their customers. This helps rationalise the allocation and pricing of loans, so that responsible borrowers are not burdened with the cost of doubtful debts caused by irresponsible ones;

- allow banks to contain non-performing loans, therefore making more funds available for the financing of productive activities at more favourable terms. In countries where such information is not used effectively, consumers often borrow in excess of their debt servicing capacity, with negative consequences not only for themselves and for banks but, most importantly, for responsible borrowers. As a rule, inadequate utilisation of credit history information is associated with more non-performing loans;

- help prevent household over-indebtedness. According to a recent study by the European Commission,[3] credit scoring information fosters responsible borrowing

- are very important for small enterprises, which, in the absence of reliable data on their creditworthiness (e.g. financial statements) that would have enabled a more accurate evaluation of the credit risk they pose, often have difficulty accessing bank credit or are forced to borrow on less favourable terms;

- enable the recording and monitoring of the number and value of bounced cheques. This section of Tiresias information is very important for the Greek market, given the widespread practice of post-dating cheques. In this respect, it is worth stressing that the withdrawal of chequebook eligibility from any issuer (individual or corporate) of a bounced cheque would significantly reduce the risk of recurrence and shield other payees from similar losses. Indeed, as shown by an analysis of relevant data, more than half of the issuers of bounced cheques tend to relapse, when given the opportunity to issue cheques again. And even when a bounced cheque is eventually honoured, the possibility of the drawer defaulting on another obligation within the next three years remains exceptionally high (about 47%).

The Bank of Greece has repeatedly stressed the crucial importance of the smooth and effective operation of Tiresias. As mentioned in the Bank's *Monetary Policy – Interim Report 2009* (Octo-

3 "Towards a common operational European definition of over-indebtedness", European Commission, Directorate-General for Employment, Social Affairs and Equal Opportunities, Unit E2, February 2008.

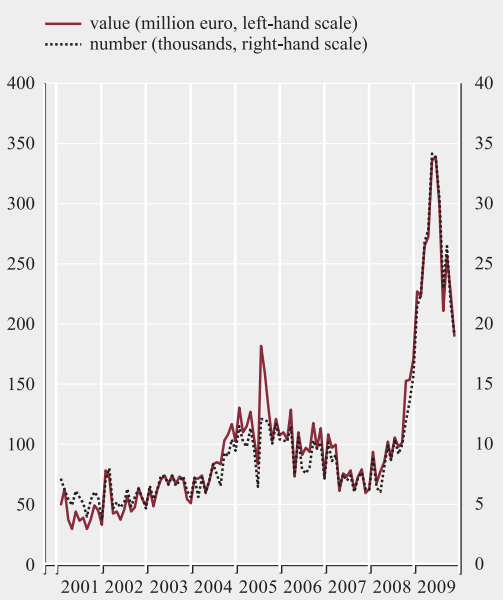
ber 2009), Tiresias is the source of data on the concentration of loan exposures to individuals and small enterprises, on mortgages and prenotations and other data that contribute to the prevention of fraud in bank transactions. However, it should be clarified that the information supplied by Tiresias is only one of the factors in banks' decisions to extend credit.

3 BOUNCED CHEQUES

As mentioned above, an important part of the information provided by Tiresias concerns bounced cheques, which, based on data for end-November 2009 amounted to 19,100 in number and €189.2 million in value. Although there have been signs since June 2009 of a reversal in these worsening figures (they began to rise in April 2008 and intensified during the first half of 2009, see chart), the number and value of bounced cheques are still roughly three times their pre-crisis average. However, the value of bounced cheques represented only 0.10% of total credit to the private sector.

Number and value of bounced cheques (January 2001-November 2009)

(monthly data)



Source: Tiresias S.A.

APPENDIX TO CHAPTER IV

The structure of the Greek financial system

	2008			June 2009		
	Number	Total assets (million euro)	Total market share	Number	Total assets (million euro)	Total market share
Credit institutions	**66**	**461,985**	**87.2%**	**66**	**488,769**	**86.8%**
Greek credit institutions[1]	20	418,658	79.1%	20	446,480	79.3%
Branches of foreign credit institutions	30	39,437	7.4%	30	37,835	6.7%
– from EU countries	*24*	*38,740*	*7.3%*	*24*	*37,116*	*6.6%*
– from non-EU countries	*6*	*697*	*0.1%*	*6*	*719*	*0.1%*
Cooperative banks	16	3,890	0.7%	16	4,454	0.8%
Institutional investors	**359**	**54,489**	**10.3%**	**335**	**61,351**	**10.9%**
Insurance companies	81	15,053	2.8%	81	15,915	2,8%
Social security organisations[2]		29,562	5.6%		36,200[3]	6.4%
Undertakings for collective investment	278	9,875	1.9%	254	9,236	1.6%
– Mutual funds	*269*	*8,700*	*1.6%*	*244*	*8,066*	*1.4%*
– Portfolio investment companies and real estate investment trusts	*9*	*1,175*	*0.2%*	*10*	*1,170*	*0.2%*
Other financial intermediaries	**92**	**13,111**	**2.5%**	**86**	**13,222**	**2.3%**
Securities firms	72	1,629	0.3%	67	1,870	0.3%
Leasing firms	12	8,801	1.7%	12	8,960	1.6%
Factoring firms	4	1,857	0.4%	4	1,584	0.3%
Credit companies and venture capital companies	4	823	0.2%	3	808	0.1%
Total		**529,586**	**100.0%**		**563,342**	**100.0%**

Sources: Bank of Greece, Ministry of Employment and Social Protection, Hellenic Capital Market Commission and ICAP.
1 Including the Hellenic Postbank and the Deposits and Loans Fund.
2 Comprising entities under the Ministry of Employment and Social Protection.
3 Data refer to August 2009.

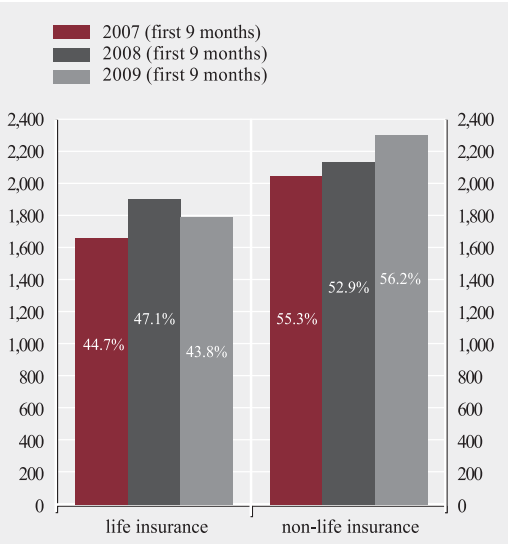
V OTHER SECTORS OF FINANCIAL ACTIVITY

1 INTRODUCTION

Despite the small relative size of other financial sectors in the overall financial system,[1] their connection with the banking sector and/or the economy in general calls for a continuous monitoring of their activities. Since the publication of the previous Financial Stability Report in June 2009, these other sectors have not experienced any marked developments, with the exception of the insurance sector. In the latter, negative developments were observed, with the withdrawal of authorisation of five insurance companies by the Private Insurance Supervisory Committee (PISC). Although the stability of the financial system has not been threatened, these developments necessitate continuous monitoring.

Chart V.1 Total insurance premium turnover

(million euro)



Source: Private Insurance Supervisory Committee (PISC).

2 INSURANCE COMPANIES

2.1 MAIN DEVELOPMENTS

According to data from the Bank of Greece, in the first half of 2009 the assets of insurance companies as a whole increased amounting to €15.9 billion from €15.1 billion at the end of 2008, thus accounting for 2.8% of the financial system's assets (2008: 2.8%). Based on information provided by the PISC, this increase was favourably affected by total premium turnover, which rose to €2.8 billion in the first half of 2009 and €4.1 billion in the first nine months of 2009 (i.e. up by 1.5% and 1.7% respectively compared with the corresponding periods of 2008 – see Chart V.1). However, this development stemmed solely from the non-life insurance business and more specifically from higher premia for motor vehicle liability sector insurance, as a result of an increase in minimum accident coverage.

In the field of the life insurance business, the trend towards policy redemptions that was observed throughout 2008 (when life insurance policy redemptions had totalled €600 million) continued to 2009, with redemptions reaching €329 million in the first half of the year and €501 million in the first nine months of 2009.

Concentration in the insurance sector, based on the insurance premium turnover of the ten largest companies, remained at high levels in the first half of 2009, particularly in the life insurance sector. Thus, the 10 largest companies in the life and the non-life sector account for 86.37% and 55.25% of total premium turnover in the respective sector, compared with 88.7% and 54.9% at the end of 2008. Based on market shares in both sectors combined, the relevant concentration ratio amounts to 54.83%, compared with 57.3% at the end of 2008.

Regarding profitability, pre-tax profits of insurance companies as a whole amounted to €25.7 million in the first half of 2009, compared with losses of €93.8 million in the first half of 2008. This development was mainly due

1 The other sectors of the financial system include non-bank financial corporations, such as insurance companies, mutual funds, securities and investment firms, leasing companies, factoring companies and credit companies, as well as social security organisations.

to an increase in the investment portfolio value of certain large insurance companies.

A noteworthy development in insurance industry was the PISC's decision to withdraw the authorisation of five companies in September 2009, following their failure to raise their assets free of any foreseeable liabilities, less any intangible items (solvency margin requirements), in line with their total activities. Signs that presaged this development have been observed since 2008, as the PISC had prohibited the free disposal of assets from these companies and imposed fines on account either of non-compliance with the PISC's decisions or of infringements vis-à-vis policy holders. It is also noted that three months prior to the withdrawal of authorisation, the PISC had invited the said insurance companies to submit a short-term funding and financial reconstruction plan, which however was not implemented within the set time schedules.

Therefore, the decision about the withdrawal of authorisation was taken with a view to safeguarding the soundness of the insurance market, protecting the interests of policyholders and ensuring the reliability of private insurance as an institution. Under a legislative provision to this effect, a portfolio supervisor was appointed at one of the companies, which also held a life insurance portfolio, so as to ensure the payment of indemnities to beneficiaries and the transfer of life insurance portfolios to other insurance companies. As regards car insurance policies, the Auxiliary Fund provided thirty-day coverage to reimburse indemnities and to assist policyholders until they sign new insurance contracts.

2.2 RISKS – REGULATORY FRAMEWORK

Market and macroeconomic risks remained the most important risk sources faced by insurance companies in the first half of 2009. The economic downturn constrains not only returns on investment but also demand for new insurance policies or retaining of existing contracts.

The amendment which was passed by the Greek Parliament in July 2009 concerning the winding-up proceedings of insurance companies proved to be of paramount importance in practice. More specifically, following the authorisation withdrawal of an insurance company and in case its life insurance portfolio is deemed to be systemically important, a life insurance portfolio supervisor is appointed by the Greek Ministry of Finance. The supervisor's task is to restructure life insurance portfolios that are not subject to liquidation.

A step in the right direction was also a new draft on the observance of an Investment Rulebook, which is currently elaborated by the PISC. At the current stage, this draft aims at limiting the risks and further safeguarding the interests of policyholders and insurance companies' shareholders.

Finally, on 22 April 2009 the European Parliament adopted a directive on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II). The new directive introduces solvency capital requirements, calculated both on the basis of a firm's specific risk profile (insurance risks) and on the basis of risks arising from their assets (market risk, credit risk, operational risk). Moreover, firms should regularly assess their overall solvency needs on a regular basis, taking into account the risks they face (own risk and solvency assessment) with focus on future developments that may affect their financial situation. This assessment has to be reported to the supervisory authority and shall not serve as a tool for calculating additional capital requirements. Member States must adopt all necessary legislative, regulatory and administrative provisions in order to implement the directive by the end of October 2012.

The expected reforms in the supervisory and regulatory framework, as well as macroeconomic developments contribute to a challenging and ever-changing environment, which calls for the capital strengthening of insurance companies and the enhancement of risk management functions.

3 OTHER CORPORATIONS

3.1 MUTUAL FUNDS

Between January and September 2009, activity in the Greek mutual fund market recovered slightly after four years of declines. The investment behaviour of mutual funds over this period was marked by an increase in their holdings of Athex-listed shares and, to a lesser extent, of Greek government bonds. Conversely, holdings of foreign government bonds as well as of money market instruments decreased.

The total asset value of mutual funds stood at €8.6 billion at the end of September 2009, having increased by 2.9% compared with the end of 2008. This increase was due to net inflows that were mostly observed after the first quarter of this year, as well as to a rise in the prices of units/shares, especially in the case of mutual funds investing mainly in equities.

The downward path of money market interest rates and the renewed risk appetite of investors led to shifts from money market funds (down by approx. €600 million) and bond funds (down by approx. €80 million) towards equity funds (i.e. increased by approx. €800 million), funds of funds (i.e. increased by approx. €85 million) and mixed funds (i.e. increased by approx. €60 million).

As a result of the above mentioned developments, the market share of equity funds was one third (based on assets) of mutual funds' total assets at the end of September 2009 (compared with one fourth in December 2008), whereas an opposite trend was observed as regards money market funds. Relatively minor changes were recorded in the market shares of the remaining mutual fund types, with bond funds assets accounting for 30% of the total, against 10% for mixed funds and 6.5% for funds of funds.

3.2 INVESTMENT COMPANIES

Investment companies' turnover stood at approximately €41 billion, 58.4% down compared with the respective period of 2008. The high degree of concentration still remains the key characteristic of this industry. In the first half of 2009, 50% and 70% of total transactions were managed by only 4 and 10 companies of the industry respectively. As a result of the banking system's relatively small exposure to investment companies, the high concentration ratio in the investment services sector does not entail any potential risks to the stability of the financial system as a whole.

3.3 LEASING COMPANIES

According to data from the Bank of Greece, in the first half of 2009, leasing companies' assets rose marginally (by 1.8%) compared with the end of 2008, thus coming close to €9 billion at mid-2009. Although profitability data for this period are not yet available, it is estimated that the economic crisis will have a negative impact on pre-tax profits of the sector's companies in 2009 as well. As early as in 2008, many corporations of the industry seemed hesitant to grant new leasing contracts for fixed investment, while several others are facing a decline in profitability. In 2008, pre-tax profits of leasing companies, overall, amounted to €69.8 million, decreased by 42.4% by comparison with 2007. As expected, key profitability ratios (return on equity – ROE and return on assets – ROA) were also adversely affected (ROE 2008: 7.1%, ROE 2007: 12.1%, ROA 2008: 0.8%, ROA 2007: 1.5%). An important development for the sector is the fact that banks of the same parent group as leasing companies chose to securitise performing leasing claims, amounting to approximately €2 billion, with the aim to enhance their liquidity.

3.4 FACTORING COMPANIES

In June 2009, the number of factoring companies stood at four. The sector's total assets declined by 14.7%, compared with the end of 2008, to €1.6 billion. As regards the sector's profitability, there are available data for 2008. More specifically, in 2008 pre-tax profits amounted to €25.4 million, improved by 37.6%

by comparison with 2007. This development had a positive effect on key profitability ratios as well (ROE 2008: 14.5%, ROE 2007: 13.2%, ROA 2008: 1.4%, ROA 2007: 1.3%). Improved profitability of factoring companies is attributed to the fact that in times of economic recession and liquidity shortage, liquidity supply by advance payments, as well as credit risk coverage are vital for corporations.

3.5 CREDIT COMPANIES

According to Bank of Greece data, credit companies' assets amounted to €0.8 billion in the first half of 2009, having fallen by 1.8% compared with the end of 2008. Three credit companies are currently active in Greece, specialising in granting consumer loans to natural persons.

SPECIAL FEATURE I
THE NEW FINANCIAL SUPERVISION ARCHITECTURE IN EUROPE

1 INTRODUCTION

The severe crisis that hit the international financial system, leading to a considerable drop in global GDP in 2009, has revealed the importance of financial stability for the soundness of an economy.

The financial crisis has, *inter alia*, highlighted major weaknesses in financial supervision and regulation. It is worth noting that the first signs of the crisis emerged in the United States, a country considered to have an advanced supervisory and regulatory framework. Furthermore, following the onset of the financial crisis, a number of deficiencies emerged in terms of crisis management coordination among supervisory authorities, either on a domestic or on a cross-border basis.

Recognising these weaknesses, supervisory authorities, central banks and international financial institutions across the world have already embarked on a process of adopting corrective measures to further improve the architecture of global financial supervision. At an international level, governments (G-20) have already taken a number of initiatives, including the enhanced role of the Financial Stability Board (FSB),[1] which in cooperation with the International Monetary Fund (IMF) is called upon to monitor and assess financial stability at a global level and promote an agenda for strengthening the supervisory and regulatory framework. The IMF and the FSB will jointly submit a report to the International Monetary and Financial Committee (IMFC) of the IMF and will cooperate closely with other international institutions and bodies, in particular the Basel Committee on Banking Supervision, the OECD, etc. In this new environment, central banks assume a key role.

2 DEVELOPMENTS IN THE EUROPEAN UNION – THE DE LAROSIERE REPORT

In the context of initiatives for monitoring financial stability, in November 2008 the European Commission entrusted an ad hoc group, chaired by the former Governor of the Banque de France and Managing Director of the IMF Mr. Jacques de Larosière, with the task of investigating the causes of the financial crisis and submitting proposals for strengthening financial supervision and regulation in the Member States of the European Union with a view to preventing similar crises in the future.

The de Larosière report was submitted in late February 2009 and identified as main causes of the crisis the following:

- ineffective management of liquidity risk;
- inadequate capture and mispricing of the risks entailed by complex financial products;
- low capital requirements for risks related to the trading book;
- failure of risk management systems in connection with remuneration schemes and corporate governance;
- the pro-cyclical nature of some aspects of the "Basel II" framework[2];
- rapid credit expansion not adequately supported by high-quality capital.

The report includes 31 recommendations for action to remedy the existing supervisory and regulatory framework. Among other things, the report calls for the creation of a new European system of supervision in order to safeguard financial stability. Such a system would comprise two bodies:

- the European Systemic Risk Board (ESRB), which will be responsible for the macro-pru-

1 The FSB was established in 1999 as the Financial Stability Forum (FSF) and originally consisted of the G-countries. In November 2008, it was decided to place the FSF on a stronger institutional ground with an expanded membership, including the G20 countries, as well as other countries and international organisations and standard-setting bodies such as the IMF and the Basel Committee on Banking Supervision. The mandate of the FSB is to identify vulnerabilities threatening financial stability and propose supervisory and regulatory measures to address them.

2 See Special feature II: "Pro-cyclicality".

dential supervision of the European financial system with an aim to identify risks, assess risks and provide early warnings, thus safeguarding financial stability in the Member States of the European Union;

- the European System of Financial Supervisors (ESFS), which will be responsible for the micro-prudential supervision of the European financial system. It will consist of the three European Supervisory Authorities which will have competencies in the fields of (i) banking; (ii) securities and markets; and (iii) insurance and occupational pensions.

Building on the recommendations of the de Larosière report, the European Commission prepared a supervisory reform agenda and submitted proposals for the adoption of Community regulations establishing a European Systemic Risk Board and a European System of Financial Supervisors. These regulations are currently under consultation.

3 THE EUROPEAN SYSTEMIC RISK BOARD

The European Systemic Risk Board (ESRB) will be responsible for macro-prudential oversight of the financial system within the European Community in order to identify risks that may be systemically important, thus contributing to the smooth functioning of the Internal Market.

In order to fulfill its mandate in the most efficient manner, the new body will have the following tasks:

- to collect and analyse all information relevant to its mandate;

- to identify and prioritise systemic risks;

- to issue early systemic risk warnings;

- to issue recommendations on appropriate action where required;

- to follow up on the recommendations and warnings issued;

- to cooperate with the ESFS and provide systemic risk-related information to the three European Supervisory Authorities;

- to liaise with international financial institutions, in particular the International Monetary Fund and the Financial Stability Board, and third country bodies on issues related to macro-prudential oversight.

Whenever risks with a systemic dimension are detected, the ESRB may issue risk warnings or recommendations either of a general or of a specific nature which will be addressed to the Community as a whole, or to one or more Member States, or to one or more supervisory authorities. Recommendations will include a specified timeline for the policy response. The warnings or recommendations will not be legally binding, but the ESRB may decide to make them public as a means of moral pressure for action, while the ECOFIN Council will be informed in all cases. The addressees of warnings or recommendations will have to act accordingly or explain the reasons for inaction or deviation from recommendations ("act or explain" mechanism).

As regards its internal organisation, the ESRB will be composed of:

I. A General Board, as the decision-making body of the ESRB. Its voting members[3] will be: the President of the ECB, the Governors of the EU national central banks, the chairs of the three European Supervisory Authorities and a member of the European Commission. The Chair of the ESRB will be elected for a five-year term from the Members of the General Board of the ESRB who are also members of the General Council of the ECB. Thus, the Chair

3 Non-voting members will be: one high-level representative per Member State of the competent national supervisory authorities and the President of the Economic and Financial Committee (EFC).

of the ESRB will always come from a central bank. Both this fact and the composition of the General Board of the ESRB reflect the enhanced role of central banks, as confirmed during the recent financial crisis, in issues regarding the monitoring of financial stability and crisis management.

II. A Steering Committee which shall prepare the meetings of the General Board.[4]

III. A Secretariat which shall provide analytical, statistical, administrative and logistical support to the General Board. The Secretariat will be ensured by the ECB, in accordance with a specific Council decision.

IV. An Advisory Technical Committee, which shall provide advice and assistance on technical issues, at the request of the General Board.

The General Board will meet at least four times a year and its members will be fully accountable to the European Council and the European Parliament, by submitting regular reports (at least once a year). The decision to issue a recommendation or to make a warning or recommendation public will require a qualified majority of two-thirds of the votes, while the decision to issue a warning will be adopted by simple majority.

4 EUROPEAN SYSTEM OF FINANCIAL SUPERVISORS – ESFS

The European System of Financial Supervisors (ESFS) will bring together the national financial supervisors and the new European Supervisory Authorities (ESAs). The ESAs will take on the tasks of the three existing Level 3 committees, but with an enhanced role and increased responsibilities, and will be the following:

- the European Banking Authority (EBA), which will be created by transforming the existing Committee of European Banking Supervisors (CEBS);

- the European Securities and Markets Authority (ESMA), which will be created by transforming the existing Committee of European Securities Regulators (CESR); and

- the European Insurance and Occupational Pensions Authority (EIOPA), which will be created by transforming the existing Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS).

The European Commission proposes that the ESFS be assigned the following tasks:

I. to develop technical standards (both binding and directly applicable, and non-binding). In particular, each ESA will assist in establishing high-quality common regulatory and supervisory standards and practices by issuing opinions to Community institutions, as well as by drawing up guidelines, recommendations and draft technical standards. The ESA will submit the technical standards to the European Commission, which in turn will decide to endorse them either as they are or with certain amendments, with the agreement of the ESA. The standards will be adopted by means of regulations or decisions and will be published in the Official Journal of the European Union;

II. to ensure consistent application of Community rules. In particular, the ESA will contribute to the establishment of a common supervisory culture by ensuring the consistent, efficient and effective application of sectoral legislation, by preventing regulatory arbitrage, by mediating and settling disagreements between national supervisory authorities, by promoting the

4 The Steering Committee will comprise the Chair and Vice-Chair of the General Board, five members of the General Board which are also members of the General Council of the ECB, a member of the Commission, the Chairpersons of the three ESAs and the President of the Economic and Financial Committee (EFC).

coherent functioning of colleges of supervisors, and by taking action in emergency situations;

III. to facilitate the delegation of supervisory tasks and responsibilities between competent authorities in case of cross-border groups;

IV. to cooperate with the ESRB, in particular by providing it with the necessary information for the fulfilment of its tasks and by ensuring the proper follow-up on ESRB warnings and recommendations;

V. to conduct peer review analysis of competent authorities, in order to foster consistency in supervisory outcomes;

VI. to monitor and assess market developments in the area of competence of each ESA;

VII. to ensure that each ESA serves as a contact point for supervisory authorities from third countries and to enter into administrative arrangements with international organisations and the administrations of third countries.

In addition, the European Commission proposes that, for the purpose of fulfilling the above tasks, each newly-established ESA has the following powers:

I. to issue guidelines and recommendations for the consistent application of Community rules;

II. to adopt individual decisions addressed to competent authorities in emergency situations;

III. to settle disagreements between competent supervisory authorities on matters of cross-border supervision;

IV. to adopt individual decisions addressed to financial institutions on matters of breach of Community law;

V. to issue opinions to the European Parliament, the Council or the Commission upon a request from these institutions or on its own initiative.

The European Commission also proposes the following internal organisation for each ESA:

- a Board of Supervisors: this is the main decision-making body of the ESA, responsible, among other things, for the adoption of draft technical standards, opinions, recommendations, etc;

- a Management Board, responsible for preparing the ESA's work programme, adopting its rules of procedure, and preparing its budget;

- a Chairperson and an Executive Director, who shall act as representatives of the Authority;

- a Joint Committee of European Supervisory Authorities, responsible for ensuring the cross-sectoral cooperation between the three European Supervisory Authorities;

- a Board of Appeal, which shall ensure that any natural or legal person, including national supervisory authorities, may appeal against a decision taken by the ESA to ensure the consistent application of Community rules, action in emergency situations, and the settlement of disagreements.

The proposed framework for EU supervision can only produce the expected results if the ESRB and the ESFS cooperate efficiently. Indeed, the reform of the European financial supervision framework aims at ensuring a smoother interaction of supervision at the macro-prudential and micro-prudential levels. To fulfil its role as macro-prudential supervisor, the ESRB will need a timely flow of harmonised micro-level data. Conversely, micro-prudential supervision, as conducted by the competent national authorities, will benefit from the ESRB's insights into the macro-prudential environment.

Finally, in order to perform its duties, the ESRB will be able to request from the ESFS detailed micro-prudential data – notably on large and international banking groups – and ad hoc surveys on specific issues that require the direct involvement of national supervisors or market operators, always respecting the limitations concerning confidentiality and release of data.

SPECIAL FEATURE II
PRO-CYCLICALITY

I THE NOTION OF PRO-CYCLICALITY

The recent financial crisis has brought to the fore, among other things, the notion of pro-cyclicality, i.e. the dynamic interaction between the financial sector and the real economy, which amplifies the normal fluctuations of the economic cycle.

Pro-cyclicality contributes to the emergence of shocks, as it affects the smooth functioning of the financial system and its capacity to efficiently reallocate the available financial resources, turning it from a shock absorber into a shock amplifier. A simplified approach to the notion of pro-cyclicality in the financial system would be to describe it as an excessive growth of credit (and, more generally, of investment by financial institutions) during economic upturns and a significant contraction of credit during economic downturns.

According to the most common explanation, pro-cyclicality originates from information asymmetries between borrowers and lenders, with the former being better informed than the latter about how credit is to be used. Thus, funding becomes difficult during downturns, even for healthy enterprises seeking to finance investment of positive net present value, and this hampers a fast recovery of economic activity. Conversely, demand for funds can be met more easily in upturns, causing economic activity to expand often to the point of generating imbalances that could end up in an abrupt correction.[1]

Another explanation is that financial market participants mismeasure both the absolute level of risk and its time dimension, i.e. its allocation over time. Individuals and businesses typically form their expectations under a number of well-known biases, such as: (i) myopia, i.e. excessively short horizons; (ii) cognitive dissonance, i.e. they tend to interpret information in a biased way and to exhibit herding behaviour; and (iii) relative risk allocation, whereby risk is evaluated on the basis of common practice, i.e. what other market participants do, leading to an underestimation of risk.

How did the above aspects manifest themselves in the period leading up to and during the crisis? The 2002 to June 2007 period was characterised by excess liquidity in the economy, low interest rate levels, increased investors' risk appetite, easing in banks' credit standards and widespread use of complex and potentially risky financial instruments by credit institutions, which, due to risk mismeasurement, did not hold adequate capital buffers to hedge against these risks. A general climate of euphoria prevailed, obscuring an accurate assessment of the actual degree of risk. Financial supervisors around the world have their share of the blame for this, as they focused on micro-prudential supervision and underrated the impact of bank behaviour on the financial system as a whole. As a result, after the crisis broke out, banks found themselves in a dire position, with no capital buffers to cover their losses; in fact, several banks only avoided bankruptcy thanks to the unprecedented coordinated action taken by governments and central banks. During the crisis and as global activity declined markedly, credit institutions, in order to make up for their losses and meet capital requirements, cut their lending drastically, thereby exacerbating the decline in economic activity.

The supervisory authorities, recognising even *ex post* the weaknesses of the supervisory and regulatory framework, have already embarked on designing measures to address pro-cyclicality and, thus, to support financial stability. These measures move along the following main lines:

- monitoring and assessing the systemic risk to the financial system, through a combination of micro-prudential and macro-prudential supervision;

1 This approach of pro-cyclicality through information asymmetries is often referred to in the literature as the "financial accelerator" mechanism, a concept introduced by Fisher (1933), "The Debt-Deflation Theory of Great Depression", *Econometrica*, 1, pp. 337-357. For a review of recent literature, see Bernanke, Gertler and Gilchrist (1999), "The Financial Accelerator in a Quantitative Business Cycle Framework", in J. Taylor and M. Woodford (eds.), *Handbook of Macroeconomics*, Amsterdam.

• building counter-cyclical capital buffers in the form of additional funds or provisions, which will increase in good times and decrease in bad times;

• revision of accounting rules, mainly those concerning fair value measurement that could lead to the pro-cyclicality of profits, by underestimating risks during economic upturns and overestimating risks during downturns;

• establishing a sound framework for manager remuneration schemes in the financial sector, by aligning managerial incentives with the needs of the economy in general, as it is widely recognised that the extremely high pay of executives during the boom years before the crisis fostered short-termism and excessive risk-taking among financial system participants;

• transparency of rules and supervisory actions, with a view to enhancing the effectiveness and credibility of supervisory authorities.

2 ADDRESSING PRO-CYCLICALITY

2.1 MACRO-PRUDENTIAL SUPERVISION

Macro-prudential supervision is the systematic monitoring of structural characteristics and conjunctural trends: i) in the financial system as a whole and its key components; ii) in the rest of the economy and its key components; and iii) in the channels linking the financial system with the rest of the economy.[2]

One characteristic of pro-cyclicality in the financial sector is the miscalculation of systemic risk by certain supervisory authorities, which, as mentioned before, focused on micro-prudential supervision until the crisis broke out. The problem was more obvious in cases where micro-prudential supervision was the responsibility of an authority separate from the national central bank, which typically has a more comprehensive picture of the macro-economic situation, or where this responsibility was shared among several agencies. The crisis revealed the need for a macro-prudential supervision framework, which would contribute to the early detection of weaknesses, including pro-cyclicality. In the European context, work on the design of macro-prudential supervision is well under way.[3]

2.2 CREATING COUNTER-CYCLICAL BUFFERS

One way of mitigating the effects of pro-cyclicality is by building capital buffers, possibly combined with dynamic provisioning for credit risk. The aim is to ensure that capital acts counter-cyclically, i.e. that it declines during downturns and increases during upturns.

2.2.1 Capital buffers

Building capital buffers is one of the two main methods of creating counter-cyclical buffers. Among the different proposals currently being discussed, the following approaches to the calculation of capital buffers can be highlighted:

I. introducing multipliers linked to cyclical or financial conditions; this entails identifying the phase of the economic cycle, as well as assessing the underlying financial situation of credit institutions;

II. bank-specific capital buffers, calculated as the difference between the estimated probabilities of default (PDs) on the banks' loan portfolios during recessionary phases and the corresponding PDs during upswings;

III. setting soft targets for capital buffers in good times, over and above the regulatory minimum; this method has the advantage of being based on the existing regulatory framework on capital requirements for credit institutions rather than requiring the creation of a new framework from scratch.

2 See Bank of Greece, *Financial Stability Report*, June 2009.
3 See Special Feature I in this report.

2.2.2 Dynamic provisioning

Assuming that the prevailing method for calculating loan impairment on the basis of the International Accounting Standard (IAS) 39 exacerbates pro-cyclicality, several international organisations and bodies[4] have pointed to the need to review the IAS in question and adopt a dynamic method for calculating provisions that would take into account all the phases of the economic cycle.

Under the principles of the current IAS 39 (paragraphs 58-70), a loan is impaired when its outstanding balance is higher than the expected recoverable amount. Review for impairment in respect of a lending portfolio is carried out at balance sheet date. Impairment losses are recognised, only if there is objective evidence of impairment as a result of one or more events that occurred between the initial recognition of the loan and the balance sheet date. A significant disadvantage of this method is that provisions are calculated on the basis of incurred losses rather than expected losses. This leads to the creation of a specific provision against losses already incurred. As the latter are by definition smaller during economic upturns and larger during downturns, the model intensifies cyclicality (pro-cyclical method). Moreover, the meaning of "objective evidence of impairment" is left to the discretion of banks, which often, driven by profitability considerations, misinterpret the term and create less provisions than required.

From a supervisory perspective, the procedure for assessing loan impairment is already under scrutiny from the European Commission, which, in the context of changes in Community legislation, is in favour of dynamic provisioning. In particular, the European Commission is leaning towards a model similar to the one applied by the Banco de España since 2000.

On the basis of the Spanish model, general/dynamic provisions are created beyond the existing specific provisions. Dynamic provisions are general provisions for unrealised loan losses, while specific provisions refer to loan losses already incurred. Thus, total provisions for a given year N are computed using the following formula:

Total provisions = specific provisions for year N + dynamic provisions for year N= specific provisions for year N + [(α ∗ changes in the stock of loans for year N) + (β ∗ total portfolio for year N) – specific provisions for year N]

where α is the estimated average credit loss in a cyclically neutral year and β is the historic average of specific provisions over a full economic cycle. The α and β coefficients take specific values depending on the degree and type of credit risk of each portfolio.

The first term of dynamic provisions, "α ∗ changes in the stock of loans", increases during economic upturns, when credit tends to rise, and decreases during economic downturns, when credit standards are tightened due to liquidity constraints. Given that more "bad" loans are granted during upturns (as a percentage of total loans), this term has a corrective effect on the cyclicality of potential non-performing loans. The second term, [(β ∗ total portfolio) – specific provisions], has a positive sign during periods of economic expansion, when specific provisions decline, as it recognises unrealised losses at individual loan level. Conversely, during a downturn this term will become negative, given that these losses translate into specific provisions. Thus, on the basis of this formula, dynamic provisions are the sum of the two terms and thus tend to increase during upturns and decrease during downturns in order to cover realised losses.

Dynamic provisions are complementary to specific provisions and allow the coverage of possible losses not yet recognised at individual loan level. As a result, the distribution of provisions over the economic cycle is more even, thus smoothing out profits and, indirectly, own funds.

4 G-20, de Larosière High Level Group, Financial Stability Board, European Commission, Basel Committee on Banking Supervision.

2.3 IMPROVEMENT OF FAIR VALUE MEASUREMENT UNDER THE ACCOUNTING STANDARDS

The valuation of financial assets is a key aspect of financial reporting, insofar as it affects the profits and capital of enterprises, as well as the assessment of risks, thus playing a significant role in investment decisions. The application of the fair value principle of accounting standards is likely to contribute to pro-cyclicality of reported profits, as the valuation of certain financial assets may understate risks during upturns and overstate them during downturns.

Valuation problems associated with the application of the fair value principle may emerge:

a. when inappropriate models are used;

b. when non-representative market prices are used in the valuation.

The above conditions favour an overstatement of the value of financial instruments during upturns and an understatement during downturns, causing higher leveraging due to mass purchases of assets and de-leveraging due to mass sales, respectively.

In October 2008, the International Accounting Standards Board (IASB) issued guidance on the application of fair value measurement of financial instruments in the case of illiquid markets. In particular, the IASB's document notes that transaction prices in inactive markets do not represent the actual value of assets, therefore individual financial institutions have to measure fair value by using their own models and by considering all relevant market information available.

2.4 REMUNERATION SCHEMES

In the context of efforts to address pro-cyclicality, credit institutions' remuneration policies are being reviewed. In particular, it was deemed necessary to create a sound remuneration scheme for executives in the financial sector, given that financial decision makers received excessively high remunerations during the market boom, as profits at the time seemed to increase rapidly. Inappropriate remuneration policies contributed to stronger pro-cyclicality, as they encouraged excessive risk-taking and excessive focus on short-term profitability without adequate consideration of the long-term impact. This behaviour triggered excessive leveraging, which led to a further intensification and prolongation of excesses, making them harder to correct.

Against this background, steps have been taken towards designing a remuneration framework that will link manager compensations to the long-term performance of business decisions and will be risk-focused. Further to the proposals of the action plan adopted by the G-20 in November 2008, in April 2009 the Financial Stability Board issued nine (9) principles for sound compensation practices. In the European Union, several supervisory authorities issued guidance on sound remuneration schemes. In April 2009 the Committee of European Banking Supervisors (CEBS) issued a set of high-level principles for remuneration policies. The European Commission has already issued relevant recommendations and in view of a proposed revision of EU supervisory rules strongly encourages credit institutions to put a sound remuneration scheme in place, accompanied by a sound risk management system. At the same time, the Commission proposes that supervisory authorities should have the power to impose sanctions on institutions that do not comply with the new requirements. The Basel Committee of Banking Supervision intends to incorporate relevant recommendations in the context of the refinement of Pillar 2 guidance.

SPECIAL FEATURE III
LINKAGES BETWEEN FUNDING LIQUIDITY RISK AND MARKET LIQUIDITY RISK

1 INTRODUCTION

One of the salient features of the global financial system during the period that preceded the recent financial crisis was a high level of liquidity. This enabled credit institutions on the one hand to meet their liabilities as they became due (funding liquidity)[1] and on the other hand to raise additional funds by winding up positions, without any significant impact on their market value (market liquidity).[2] Thus, neither of the two aspects of liquidity risk (i.e. funding and market liquidity risk) seemed to be a cause of concern in the pre-crisis period.

The intensification of the crisis showed very clearly that liquidity can shrink rapidly and that different aspects of liquidity risk can be present at the same time. Actually, the linkages among these types of liquidity risks have had a multiplying rather than linear effect on overall liquidity risk. Banks' unwillingness to lend to each other in money markets and the virtual shut-down of markets through which banks raised funds, mainly by selling financial products —some of which were characterised by very complex structures— disrupted the balance of the global financial system and forced central banks to intervene by taking unprecedented measures to boost liquidity.

This special feature summarises the linkages between liquidity risk components and the significant role of central banks in dealing with any disruptions to financial stability that may stem from liquidity shortages.

2 LINKAGES BETWEEN LIQUIDITY RISK COMPONENTS

Liquidity risks are inherent in banks' core activity, which is the transformation of short-term liabilities (deposits) into long-term assets (loans). This leaves credit institutions vulnerable to funding liquidity risk, i.e. partial or total inability to service their liabilities as they fall due. A deterioration in a credit institution's financial situation (e.g. a significant increase in non-performing loans) will lead to an erosion of capital adequacy or even a loss of creditworthiness and solvency, with multiple consequences for the credit institution, such as: (i) inability to renew existing debt to institutional investors; (ii) lack of access to money and capital markets (interbank market, market-based debt financing, securitisation etc.); and (iii) withdrawal of customer deposits.

The liquidity risk described above can be endogenous and idiosyncratic, i.e. specific to a given credit institution; however, under certain circumstances, such as those observed during the intensification of the crisis, this risk could spill over to other institutions and even affect the smooth functioning of the interbank and/or bond markets. In other words, through this channel the risk could develop into a systemic risk, particularly if credit institutions rely primarily on markets (interbank, bond, securitisation markets) rather than on customer deposits for funding themselves.

In particular, credit institutions are linked to each other through a shared funding market, i.e. the interbank market. Therefore, individual bank failures are likely to have an upward effect on counterparty risk. This will increase mistrust among credit institutions regarding each other's solvency, which will inevitably lead to a dramatic decline in interbank lending, or even a collapse of the interbank market.

In a situation like this, credit institutions would have to resort to alternative funding sources in order to remain in business. However, given the increasing interdependence of markets, during turbulent times for the interbank market, the functioning and liquidity of the other markets will quite probably have been impaired. In this case, credit institutions may seek to obtain liquidity by selling assets, including stop-loss liquidations. On the other hand, it is also possible that markets have limited

1 Committee of European Banking Supervisors (CEBS), "Second part of CEBS' technical advice to the European Commission on liquidity risk management", September 2008.
2 CEBS, op. cit.

capacity to absorb mass sales of bonds, stocks and other instruments. This would lead to higher volatility of financial asset prices, a reduction in market participation and, eventually, a dramatic decline in liquidity in these markets, meaning that credit institutions will only find buyers for their assets at fire-sale prices.

The above analysis outlined the interaction between funding and market liquidity risk. However, there are also second-round effects, which contribute to the creation of downward liquidity spirals, with market liquidity risk feeding back to funding liquidity and so on, thus amplifying the original shock. For instance, if the proceeds from the sale of assets at distress prices are not sufficient to cover the financing needs of credit institutions, this will prompt a new round of asset sales, leading to even stronger pressures on the prices of these assets. Moreover, if distress pricing generates losses, banks' net worth would be affected, possibly resulting in further fire sales with a view to reducing assets to levels in line with regulatory capital adequacy requirements.[3]

The downward liquidity spiral can work also in the opposite direction, whereby illiquidity in one market is transmitted as funding risk, which in turn feeds back into market liquidity risk and so on. A typical example of this case is the current financial crisis, which started as a credit event, where losses on sub-prime mortgage loans had an impact on the liquidity of the markets for bonds backed by these loans. Due to increased counterparty risk, investors reduced their positions or refrained from investing in such securities, leading to pressures on their prices and a drop in liquidity in the markets where these securities are traded. Credit and other financial institutions for which these securities served as a key funding tool faced serious liquidity problems. These events heightened uncertainty among credit institutions regarding the creditworthiness of their interbank counterparties, which caused a dramatic fall in interbank lending, and the transmission of this risk to all markets for debt securities, eventually leading to the collapse of the interbank market.

3 THE ROLE OF THE CENTRAL BANK

The central bank plays a pivotal role in helping the banking system to address its liquidity deficit,[4] and represents the third channel of liquidity provision, after funding liquidity and market liquidity. It is essential that all three channels operate properly, in order to ensure that the liquidity provided by the central bank in its open market operations is redistributed, through the various markets (interbank and asset markets), to financial system agents depending on their respective liquidity needs.

In times when the normal functioning of, or linkages among, the liquidity channels are disrupted, the central bank intervenes in support of financial stability, with the aim to prevent a bank run and a meltdown of the financial system, as well as to minimise the costs of bankruptcies and distress liquidations of credit institutions. The main form of central bank intervention is the provision of liquidity to the financial system with a view to normalising and stabilising markets so as to avoid systemic and potentially destabilising repercussions. The provision of liquidity is sought to break the negative feedback loops between funding liquidity risk and market liquidity risk, thereby eliminating the downward liquidity spiral. The goal is to ensure that liquidity needs are met, in order to restore trust among credit institutions and eliminate the need for raising liquidity through asset sales with the results described above.

The extent of central bank intervention depends on the intensity of the destabilising effects. The stronger the destabilising effects, the larger the quantity of liquidity that needs

3 See ECB, "Liquidity (risk) concepts: definitions and interactions", Working Paper series No 1008, February 2009.
4 The liquidity deficit of the banking system stems from the need of banks for banknotes, as well as their reserve requirements with the central bank.

to be injected into the system, thus the higher credit institutions' dependence on central bank liquidity.

4 LIQUIDITY RISK AND THE ROLE OF THE ECB DURING THE RECENT FINANCIAL CRISIS

Funding and market liquidity risks have been in the epicentre of the recent financial crisis and have created an unprecedented situation, characterised by a virtual shut-down of the interbank market operation and a significant decrease in liquidity in some segments of credit markets, developments which threatened the stability of the financial system. The ECB played a crucial role in the support of the financial system. In more detail, the ECB adopted a number of measures, including the unlimited provision of liquidity to euro area credit institutions and a covered bond purchase programme. The ample liquidity provided to banks was essential for stabilising the system; however, it would imply an increase in funding liquidity risk for credit institutions when the central bank decides to implement an exit strategy. In this context, the ECB will be called upon to determine a concrete and credible plan for phasing out liquidity, which has to be announced in a timely manner and be implemented when market conditions will permit it, e.g. when the prospects for the economy follow a steady upward path and inflationary expectations start to emerge.[5]

Irrespective of the decisions of the ECB, credit institutions should also plan, at least with the same levels of caution and foresight as those demonstrated by the central bank, their own exit strategies taking into account the structure and the expected development of their activities, as well as their ability to access markets in order to raise the liquidity they need. These strategies should be realistic in terms of the ability to raise liquidity in replacement of that currently provided by the central bank and should be implemented well in advance of the time when the central bank's exit strategy begins to be implemented.

5 IMF, *Global Financial Stability Report*, October 2009.

SPECIAL FEATURE IV
GUARANTEE SCHEMES

1 INTRODUCTION

Guarantee schemes help strengthen public confidence in the financial system. In Greece, three guarantee schemes have been established:

- a deposit and investment guarantee scheme for credit institutions, provided by the Hellenic Deposit and Investment Guarantee Fund (TEKE);

- a stock exchange transactions guarantee scheme for investment firms, credit institutions that are members of the Athens Exchange and mutual fund management companies, provided by the Athens Exchange Members Guarantee Fund; and

- an insurance guarantee scheme, provided by the Auxiliary Fund and focusing on motor vehicle liability.

2 HELLENIC DEPOSIT AND INVESTMENT GUARANTEE FUND – TEKE

The first step towards a deposit guarantee scheme in Greece was the establishment of the Hellenic Deposit Guarantee Fund (TEK) in 1995.[1] Thereafter, the TEK founding law was amended four times: in 2000,[2] 2008[3] and 2009,[4] with the 2008 amendment resulting in the establishment of the Hellenic Deposit and Investment Guarantee Fund (TEKE) as TEK's universal successor. TEKE encompasses two distinct branches, each with separate assets, namely the Deposit Guarantee Scheme (which took over all of TEK assets) and the Investor Compensation Scheme.

TEKE is a legal person in private law, set up by the Bank of Greece and the Hellenic Bank Association, which hold 60% and 40%, respectively, of its initial capital. TEKE, under the supervision of the Minister of Economy, is managed by a nine-member Board, comprising one of the Deputy Governors of the Bank of Greece as Chairperson, one member from the Ministry of Economy, three members from the Bank of Greece, another three from the Hellenic Bank Association and one member from the Association of Cooperative Banks of Greece.

2.1 PARTICIPANTS AND CONTRIBUTIONS

Participation in the Deposit Guarantee Scheme is mandatory for all credit institutions authorised in Greece, with the exception of the Deposits and Loans Fund. Participation is also mandatory for domestic branches of non-EU credit institutions, if their home state does not have a deposit guarantee scheme equivalent to that of TEKE. Domestic branches of EU credit institutions may participate on a voluntary basis, for complementary coverage beyond the level and/or scope of their home deposit guarantee scheme. TEKE is also available to foreign branches of Greek banks located in EU or non-EU countries, if the deposit guarantee scheme of the host state does not provide equivalent protection to that ensured by TEKE.

Participation in the Investor Compensation Scheme is mandatory for all credit institutions authorised in Greece, with the exception of the Deposits and Loans Fund and the credit institutions which have already joined the Athex Guarantee Fund.[5]

Compensation under TEKE, where appropriate, is paid out of a pool of funds formed from the contributions of the participating credit institutions. The amount of the regular annual contribution is based on the amount of deposits according to a degressive scale which is adjusted annually by decision of TEKE's Board. The structure of contributions (last updated in 2008) is shown below.

1 TEK was established by Law 2324/1995 implementing Directive 94/19/EC on deposit guarantee schemes.
2 Law 2838/2000.
3 Law 3714/2008.
4 Laws 3746/2009 and 3775/2009.
5 See section 3 below.

Amount of deposits (€ millions)	Percentage contribution rate
up to 600	0.6250%
600.01 – 2,990	0.6000%
2,990.01 – 8.843	0.5875%
8,843.01 – 20.940	0.1025%
over 20,940	0.0125%

Upon joining the Deposit Guarantee Scheme, credit institutions are required to pay an entry fee, calculated by multiplying the Scheme's total assets by the ratio of the new entrant's own funds to the sum total of the own funds of existing members.

Regarding the Investor Compensation Scheme, the participating credit institutions are required to pay the following contributions:

- An entry fee of €500,000 for credit institutions and €250,000 for cooperative banks. For credit institutions joining TEKE after its first published balance sheet referring to both Schemes, the entry fee is calculated by multiplying the total assets of the Investor Compensation Scheme by the ratio of the new entrant's own funds to the sum total of the own funds of existing members. In this case, the entry fee cannot be less than €500,000 for credit institutions and €250,000 for cooperative banks.

- A regular annual contribution; the method for its calculation is determined by decision of the Minister of Economy following the recommendations of the Bank of Greece and the Hellenic Capital Market Commission.

Under both schemes, an additional contribution is required of participating credit institutions in the event that the respective scheme's assets are not sufficient to cover the payment of compensation to depositors/investors of a defaulting credit institution. The amount of this extraordinary contribution is specified by decision of TEKE's Board and may not amount to more than three times the regular annual contribution. If the funds available still do not suffice for the payment of compensation to depositors/investors, TEKE's Board may have recourse to borrowing, in which case the participating credit institutions will issue the relevant letters of guarantee.

2.2 COVER LEVELS AND COMPENSATION PROCEDURE

The maximum cover for deposits was set by Law 2324/1995 at €20,000 per depositor. The corresponding amount for investments was set by Law 3746/2009 at €30,000 per investor. In the light of the ongoing financial crisis and with a view to bolstering the stability of the banking system, as well as depositor protection, Law 3714/2008 temporarily raised the maximum deposit guarantee cover to up to €100,000 per depositor, until 31 December 2011. This amount will apply irrespective of the number of accounts, the currency or location of the deposit. For 2011 and onwards, the maximum level of deposit guarantee will be subject to a decision by the Greek government as well as to EU guidelines.[6]

Payout procedures under TEKE are activated once the Bank of Greece or a judicial authority determines that a credit institution is unable to meet its obligations to its depositors and/or investors. In this case, TEKE would take the following steps:

- draw up a list of beneficiaries, based on information provided by the credit institution concerned;

- nets out beneficiaries' claims against any counterclaims of the credit institution;

- inform beneficiaries, through the daily press or by mail, of their right to compensation; and

- pay out the compensations.

6 On 11 March 2009, Directive 2009/14/EC increased the minimum cover level to 50,000 per depositor. In the light of the crisis and temporarily until 31 December 2011, Greece set that level at €100,000/depositor. By the end of 2009, the European Commission will consider whether the minimum coverage level should be permanently increased to 100,000 and recommend to the European Parliament and the Council accordingly.

The time limit for the payout of compensations in respect of guaranteed deposits is set at three months of the date on which these deposits became unavailable (Law 3775/2009 reduced it to 20 business days with effect from 31 December 2010). Regarding guaranteed investments, the time limit is three months of the date on which TEKE sent the list of beneficiaries to the Bank of Greece. After the compensation has been paid out to the beneficiaries, TEKE is subrogated to their claims vis-à-vis the credit institution up to the amount that it has paid.

Since its inception, the deposit guarantee scheme has been activated only once, in 1995, when, the newly established TEK undertook to pay €1.5 million in compensations to the depositors of the Arab-Hellenic Bank, in the context of winding-up procedures. After the assets of the Arab-Hellenic Bank were liquidated, TEKE received full reimbursement from the proceeds.

3 GUARANTEE SCHEME FOR STOCK EXCHANGE TRANSACTIONS – ATHEX GUARANTEE FUND

The guarantee of stock exchange transactions was introduced in Greece by Legislative Decree 3078/1954, which established a Common Guarantee Fund for Stock Exchange Transactions. Following the transposition of Directive 97/9/EC on investor- compensation schemes into Greek law,[7] was renamed to "Guarantee Fund for Investment Services", commonly known as the Athex Guarantee Fund. In 2009, the relevant legal framework was enhanced by Law 3756/2009.

The Athex Guarantee Fund is a legal entity in private law; it is subject to supervision by the Hellenic Capital Market Commission, and its mandate is to indemnify principals and counterparties in stock exchange transactions in the event of verified permanent or irreversible default of one of its members. The Athex Guarantee Fund is managed by a seven-member Board, whose chairperson is appointed by the Hellenic Capital Market Commission. Its other members are the chairman of the Athens Exchange Members Association, three representatives of Athex-listed investment firms and credit institutions and two representatives of non-listed mutual fund management companies and investment firms.

3.1 PARTICIPANTS AND CONTRIBUTIONS

Participation in the Athex Guarantee Fund is mandatory for all investment firms (Athex members or not), credit institutions that are members of the Athens Exchange and mutual fund management companies authorised by the Hellenic Capital Market Commission. It is also mandatory for investment firms authorised in another EU Member State or a third country, if they do not already participate in a guarantee scheme which provides, in the judgment of the Hellenic Capital Market Commission, cover at least equivalent to that offered by the Athex Guarantee Fund. Companies for which participation in the Athex Guarantee Fund is not mandatory may apply for supplementary cover. The Athex Guarantee Fund may at its discretion accept or reject an application for supplementary cover and decide on the terms and conditions for the participation of non-resident investment firms.

According to Law 3756/2009, participants of the Athex Guarantee Fund are required to pay the following contributions:

- An entry fee payable in cash, depending on the type of investment services provided by the participant, i.e. €150,000 for investment firms, mutual fund management companies and credit institutions; €500,000 for investment firms and credit institutions engaged in trading for their own account, underwriting of financial instruments or placing financial instruments on a firm commitment basis or operating a multilateral trading facility (MTF), as well as for investment firms based in a third (non-EU) country, which provide covered services in Greece through their local branches; and €50,000 for invest-

7 Law 2533/1997.

ment firms whose scope is limited to receiving and transmitting orders, consulting services or portfolio management and which do not hold funds or financial instruments on behalf of their customers.

• Regular annual contributions, payable by all participants with the exception of investment firms whose scope is limited to receiving and transmitting orders, consulting services or portfolio management and which do not hold funds or financial instruments on behalf of their customers. At least 50% of the annual contribution is payable in cash; the remainder may be covered by a letter of guarantee issued by a credit institution conducting business in Greece. Annual contributions are calculated as specified in a decision issued by the Ministry of Finance, following the recommendations of the Bank of Greece and the Hellenic Capital Market Commission.

• A supplementary contribution, payable by all participants in exceptional or emergency circumstances, following a reasoned decision by the Fund's Board. This supplementary contribution is calculated on the basis of the compensation amounts already decided upon or estimated for the coming year. The decision is communicated to the Hellenic Capital Market Commission, which may reject such supplementary contribution or specify requirements or request changes in the decision.

• An *ad hoc* contribution, payable by a particpant where there are serious doubts as to the participant's organisational adequacy or solvency, following a reasoned decision by the Fund's Board.

The Athex Guarantee Fund's total assets amount to about €170 million.

3.2 COVER LEVELS AND INDEMNIFICATION PROCEDURE

Maximum compensation was set by Law 3746/2009 at €30,000. Claims relating to non-delivery of securities are valued on the basis of the closing price of the respective securities, as specified in Law 2533/1997.

The indemnification procedure is activated in the event of a participant's permanent inability to settle its obligations arising from stock exchange transactions. The participant's permanent and irrevocable inability can be self declared or ascertained by the Hellenic Capital Market Commission based on information reported by the participant concerned, following consultation of the Athex Guarantee Fund. The decision of the Hellenic Capital Market Commission is communicated in writing to the Athex Guarantee Fund.

The Athex Guarantee Fund subsequently communicates, through the daily press or other equivalent media, the decision to activate the indemnification procedure and the deadline for the submission of claims (not less than 15 days). Compensations are paid out within one month of the decision of the Athex Guarantee Fund. In exceptional circumstances, on the request of the Athex Guarantee Fund, the Hellenic Capital Market Commission may extend the payout period up to a maximum of two months of the decision.

4 INSURANCE GUARANTEE SCHEME – AUXILIARY FUND

The purpose of insurance guarantee schemes is to provide last-resort protection to policyholders when insurers are unable to fulfill their contract commitments, by paying compensation to policyholders or beneficiaries, or by securing the continuation of insurance contracts. In Greece, insurance guarantee is only provided for civil liability arising from motor accidents through the relevant Auxiliary Fund. Set up by Law 489/1976 as a legal entity in private law supervised and controlled by the Minister of Economy, this Fund provides compensation for personal injury or damage to property in cases where:

• the insurer of the party at fault cannot pay the compensation (e.g. for reasons of insol-

vency or because its operating license has been revoked);

- the party at fault is unidentified;[8]

- there is proof that the accident was deliberate;

- the accident was caused either within the Greek territory by an uninsured vehicle or outside the Greek territory by a vehicle lacking an international motor insurance certificate.[9]

4.1 AUXILIARY FUND PARTICIPANTS AND CONTRIBUTIONS, AND COMPENSATION PROCEDURE

Participation in the Auxiliary Fund is mandatory and automatic for all insurers providing motor liability coverage, including insurers operating under the freedom to provide services in Greece, mutual insurance cooperatives providing such coverage, as well as legal entities in public law or public utilities whose vehicles have been exempted from compulsory insurance under Article 3, paragraph 3, of Law 489/1976.

To enable the Auxiliary Fund to fulfil its purpose, a mandatory contribution, set by decision of the Minister of Economy and amounting to a maximum of 5% of the net premiums for motor vehicle civil liability, is levied in the proportion of 70% from the insurance undertakings and 30% from policyholders. Contributions are payable to the Auxiliary Fund within 15 days of the end of each two-month calendar period and refer to the insurance policies entered into or renewed during that period, irrespective of whether the respective premiums have been collected or not.

Policyholders or beneficiaries with an insurer whose business is discontinued are covered by the Auxiliary Fund for 30 days. Thereafter, a policy must be taken out with another insurer, otherwise the vehicle is deemed uninsured.

4.2 INSURANCE GUARANTEE SCHEMES IN THE EUROPEAN UNION

In the European Union, thirteen Member States currently operate insurance guarantee schemes. Specifically, three Member States have guarantee schemes for life insurance, nine Member States have guarantee schemes for non-life insurance, while five Member States have general schemes for both life and non-life insurance.[10] As far as non-life insurance is concerned, the guarantee schemes currently in place can either cover all classes or only a few specific classes of non-life insurance, such as workers' accident insurance, supplementary health insurance or hunters' liability. It should be stressed that, unlike other sectors of the financial services industry which have been harmonised across the EU (e.g. the deposit guarantee provided for in Directive 94/19/EC and investor compensation provided for in Directive 97/9/EC), there is no such common European framework in the insurance sector. One exception, however, are the directives on motor vehicle insurance and on the approximation of the laws of the Member States relating to insurance against civil liability in respect of the use of motor vehicles.[11] According to these directives, known as Motor Directives, Member States must ensure that the civil liability in respect of the use of motor vehicles is insured. Furthermore, they must set up a body with the task of providing compensation in the event that the vehicle having caused the accident is unidentified or uninsured. The directives do not provide for ensured compensation in the event of the insolvency of an insurance undertaking.

8 In this case, however, there is no obligation to compensate for damage to property, unless the accident has also resulted in personal injury requiring hospitalisation for at least five days and the police have been called.

9 Persons who willingly boarded the vehicle at fault are not eligible for compensation, if the Auxiliary Fund can prove that they knew the vehicle was uninsured.

10 Three Member States have separate schemes for life insurance and non-life insurance, while another Member State has a general scheme for both life and non-life insurance in addition to a scheme for a very specific class of non-life insurance.

11 See Directives 2005/14/EC, 2000/26/EC, 90/232/EEC, 84/5/EEC, 72/430/EEC and 72/166/EEC.

GLOSSARY

Accumulated provisions: amounts set aside in order to cover expected losses on assets (mainly on the loan book). Accumulated provisions for credit risk at the end of a period are equal to accumulated provisions at the beginning of the period plus impairment losses (according to International Financial Reporting Standards – IFRS – terminology), less the amount of write-offs/write-downs for this period.

Available-for-sale financial assets: mainly equity securities and bonds/debentures and, secondarily, loans, designated as at fair value; unrealised gains and losses are recognised in equity, while realised gains and losses are recognised in operating results.

Basel I: the first framework for the supervision of the international banking system. It was adopted in 1988 and focused on the management of credit risk (although it also covered market risk), by introducing minimum capital requirements. It also covered market risk. It has already been replaced by the Basel II framework.

Basel II: Basel II is the existing framework for the supervision of the international financial and banking system. It succeeded the Basel I framework and is aimed at ensuring a more comprehensive and more precise measurement of the risks assumed by credit institutions and at better aligning capital requirements with these risks. It consists of three pillars. Pillar 1 refers to the calculation of capital requirements, improving the method of their calculation for credit risk and first introducing capital requirements for operational risk. Pillar 2 concerns the supervisory assessment procedure, where all the credit risks assumed by a credit institution, including those not quantified under Pillar 1, are assessed by qualitative criteria. Finally, Pillar 3 aims at ensuring market discipline by requiring the disclosure of data for the information of credit institutions' shareholders and counterparties.

Capital adequacy ratio (CAR): it measures banks' capacity to absorb expected and unexpected losses on their assets. It is calculated as regulatory own funds divided by risk-weighted assets.

Capital buffer: it is defined as regulatory own funds less the amount required to meet the minimum capital adequacy ratio (namely 8%). Consequently, the higher the capital buffer, the more able a bank is to absorb unexpected losses.

Carry trade: a strategy in which an investor sells a currency with a relatively low interest rate and uses the funds to purchase another currency yielding a higher interest rate.

Central counterparty: an entity that interposes itself as the buyer to every seller and as the seller to every buyer for transactions in securities. Clearing through a central counterparty reduces counterparty risk.

Compulsory liquidity ratios: the compulsory liquidity ratios are the liquid asset ratio and the mismatch ratio. These ratios were introduced by Bank of Greece Governor's Act 2560/1 April 2005.

Concentration ratio: the concentration ratio of a sector is usually measured either on the basis of the aggregate market share of a specified number (N) of enterprises in the total assets of the sector's enterprises (CR-N) or on the basis of the Herfindahl-Hirschmann index (HHI).

Contagion risk: the risk that a disturbance occurring in an enterprise/sector/market/country will spread to other enterprises/sectors/markets/countries through their interlinkages.

Core capital or Tier I capital: it comprises shareholders' equity, paid-in surplus, reserves, profit and loss carried forward, asset valuation differences and hybrid securities. Capital gains from acquisitions and certain other items, as defined in Bank of Greece Governor's Act 2587/20 August 2007, are deducted from the sum of the above.

Cost-to-income ratio: it is defined as the ratio of operating costs to operating income. Operating costs do not include provisions for credit risk (i.e. impairment losses).

Counter-cyclical policy: a policy aimed at mitigating the intensity and implications of the business cycle.

Coverage ratio: it is defined as accumulated provisions for credit risk to total non-performing loans (NPLs). This ratio is an indication of a credit institution's ability to cover potential losses from the non-servicing of NPLs.

Covered bonds: covered bonds are dually secured bonds, as investors on the one hand have a preferential claim to the assets of the "cover" pool, which mainly consists of mortgage loans and government securities, and on the other hand rank pari passu with senior debt holders against the remaining property of the issuer, for any claims that are not satisfied by the assets included in the "cover" pool.

Credit default swaps (CDSs): derivative products that are associated with the credit risk of underlying assets (usually bonds and loans) and serve as a kind of security for the buyer of such products, since the seller of the product undertakes, in exchange for a premium, to compensate the buyer in the event that the underlying asset's issuer defaults. These agreements allow the transfer of credit risk of a reference asset from one party to the other without transferring title to the asset.

Credit derivatives: investment products through which credit risk is transferred to third parties. Most credit derivatives are credit default swaps.

Credit rating: an assessment of the borrower's creditworthiness, namely its ability to repay debt. It is assessed by credit rating agencies and is based on the basis of the borrower's credit history and financial condition.

Credit risk: the risk of loss due to default by a debtor (bond issuer or borrower).

Debt-to-equity ratio: it is defined as the ratio of a firm's total debt to shareholders' equity.

Default risk: the risk of the counterparty defaulting on its obligations.

Defaulted loans: loans which banks consider it almost certain that the borrowers will not be able to service.

Doubtful loans: loans for which collection in full is improbable.

Emerging Europe: for the purposes of this report, Emerging Europe is defined as comprising Albania, Bulgaria, FYROM, Poland, Romania, Serbia, Turkey and Ukraine.

EONIA (euro overnight index average): it is calculated as a weighted average of the interest rates on unsecured overnight lending transactions denominated in euro, as reported by a panel of contributing banks.

EONIA swap rate: interest rate agreed on an overnight indexed swap, which remains fixed throughout the duration of the agreement (e.g. three months). On the basis of this interest rate, a party pays interest on a specified amount and, in return, the counterparty makes interest payments on the same amount at the interbank overnight market rate (EONIA), compounded on a daily basis over the duration of the agreement.

Euribor (euro interbank offered rate): a reference interest rate for interbank market operations at which a prime bank is willing to lend funds in euro to another prime bank. It is computed on a daily basis (for interbank deposits with different maturities of up to 12 months), as the average of the daily offer rates of a representative panel of prime banks for operations conducted in the euro area interbank market for unsecured loans.

Expected loss (EL): the average loss a bank expects to sustain on a given asset within a given period (typically one year).

Foreign exchange risk: the risk of valuation losses on a foreign currency investment or placement due to unfavourable changes in exchange rates.

Funding liquidity risk: the potential failure of a credit institution to find the funds required to meet its obligations as they fall due without incurring excessive losses.

Held-to-maturity portfolio: it includes non-derivative financial assets with fixed or determinable payments and fixed maturity that banks have the positive intention and ability to hold to maturity.

Herfindahl-Hirschmann Index (HHI): it measures the concentration ratio of a sector and is calculated as the sum of the squares of the market shares of all firms in the sector. Index values range from 0 to 10,000. A level lower than 1,000 suggests low concentration, from 1,000 to 1,800 moderate concentration and over 1,800 high concentration.

Household debt servicing ratio: it is defined as households' debt servicing costs to disposable income.

Household debt-to-income ratio: it is defined as households' debt to disposable income.

Hybrid capital: hybrid capital is usually preference shares issued by banks and included in core capital, provided that they meet the conditions of Administration's Circular 21/2004. Hybrid instruments are recognised by the supervisory authorities up to a percentage of core capital, in the case of Greece by Bank of Greece Governor's Act 2587/2007. Hybrid capital combines features of bonds and shares, and issuers usually pay to investors a fixed yield instead of a dividend. Moreover, in the event of a bank's winding-up and liquidation, hybrid capital holders holders rank ahead of shareholders and after bondholders.

Impairment loss: the amount by which the carrying value exceeds an asset's fair value (provision for risk).

Interest coverage ratio: it is used to determine how easily a company can pay interest expenses on outstanding debt. The ratio is calculated by dividing a company's earnings before interest and taxes (EBIT) by the company's interest expenses for the same period.

Interest rate risk: the risk that an asset's value will change due to a change in the absolute level of interest rates.

Interest rate spread: it is defined as the difference between lending and deposit rates.

Large exposure: a net exposure exceeding 10% of a credit institution's regulatory own funds. (Gross) exposure includes a bank's total exposure to a customer, namely loans, bonds, letters of guarantee, shares, etc. Net exposure is calculated by subtracting a fixed amount from gross exposure, according to Bank of Greece Governor's Act 2246/16 Setember 1993.

Leading economic indicators: economic indicators that signal future developments in economic activity.

Leverage ratio: it is defined as the ratio of assets to equity.

Liquid asset ratio: it is calculated as the quotient of liquid assets (cash assets and claims on credit institutions) with a maturity of up to 30 days and readily realisable assets to total borrowed funds with a maturity of up to one year. According to Bank of Greece Governor's Act 2614/7 April 2009, the regulatory minimum is 20%.

Liquidity buffer: liquid or readily realisable assets (as defined in Bank of Greece Governor's Act 2614/7 April 2009) held by a credit institution and enabling it to meet unexpected liquidity requirements in situations of stress.

Liquidity risk: the potential failure of a credit institution to meet its obligations as they fall due without incurring excessive losses. Liquidity risk is distinguished into funding liquidity risk and market liquidity risk.

Loans and receivables: they include financial assets with fixed payments that are not quoted in an active market. Derivative financial products are not included.

Loan-to-deposit ratio: it is defined as the ratio of the total outstanding balance of loans to the total balance of customers' deposits.

Loan-to-value (LTV) ratio: the amount of the outstanding mortgage divided by the appraised value of the property. It indicates the extent to which the bank's claim on the borrower is secured by collateral. It is calculated either upon approval of a mortgage loan or during its servicing.

Loss given default (LGD): the loss incurred by a bank due to a debtor's default, expressed as a percentage of total exposure. It is calculated by subtracting the amount recovered by the bank from the use and/or sale of collateral.

Macro-prudential supervision: systematic monitoring of structural features and conjunctural trends (a) in the financial system as a whole and its main subsets; (b) in the rest of the economy and its main subsets; and (c) in the channels connecting the financial system with the rest of the economy.

Main refinancing operations: regular, liquidity-providing reverse transactions with a weekly frequency and maturity of one week. They are conducted by the National Central Banks on the basis of weekly standard tenders and according to a pre-specified calendar. Main refinancing operations are the most important among open market operations, as they signal the monetary policy stance and contribute to steering short-term interest rates in the euro area.

Marginal lending facility: a standing facility of the Eurosystem which counterparties may use to receive overnight credit from an NCB at a pre-specified interest rate against eligible assets.

Market liquidity risk: the risk that a credit institution will be unable to unwind a position without significantly lowering market prices.

Market risk: the potential loss from variations in the market valuations of financial assets, e.g. bonds, shares, including off-balance-sheet instruments. In the case of banks, for supervisory purposes, the monitoring of market risk is focused on assets included in trading books.

Micro-prudential supervision: it focuses on individual supervised institutions, such as banks, insurance companies firms, etc., as opposed to macro-prudential supervision, which covers the financial system as a whole.

Mismatch ratio: it measures the ability of a credit institution to cover short-term obligations as they fall due and are not renewed. It is defined as the ratio of assets net of liabilities with a maturity of up to 30 days to total borrowed funds with a maturity of up to one year. According to Bank of Greece Governor's Act 2614/7 April 2009, the regulatory minimum is -20%.

Net interest income: interest income less interest expenses.

Net interest margin (NIM): it is calculated as the ratio of net interest income (i.e. interest income less interest expenses) to average assets; it indicates banks' ability to earn income from their core intermediating business.

Net non-performing loans: non-performing loans (NPLs) less accumulated provisions for credit risk.

Non-performing loans (NPLs): for supervisory purposes, "non-performing loans" are considered those that are more than 90 days past due (i.e. where the repayment of interest and/or principal has been partly or wholly delayed for more than 90 days). In order to calculate the level of these loans, total outstanding debt (not just the overdue amount) is taken into account.

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

Probability of default: the probability of a borrower defaulting on its contractual obligations.

Pro-cyclicality of the financial system: the dynamic interaction between the financial and the real sector of the economy which tends to amplify the normal fluctuations of the business cycle.

Ratio of non-performing loans (NPLs) net of provisions to regulatory capital: it shows the degree to which a bank's own funds will be affected if additional provisions are required to cover

the loss from NPLs. It is defined as the ratio of NPLs net of accumulated provisions for credit risk to regulatory capital. High values suggest inadequate provisions.

Real time gross settlement system (RTGS): a settlement system in which processing and settlement take place on an order-by-order basis (without netting) in real time, subject to sufficient liquidity in the counterparty's settlement account, where liquidity is equal to the balance of the settlement account plus any credit available under the intraday credit facility.

Regulatory own funds: regulatory own funds are credit institutions' liabilities that are recognised by the Bank of Greece as core capital in the calculation of capital adequacy. Most of equity items are included, as well as some of the debt obligations of credit institutions that fulfil specific criteria (see Bank of Greece Governor's Act 2587/20 August 2007). Regulatory own funds are divided into core capital and supplementary capital.

Return on assets (ROA): a measure of how profitable a bank is in relation to its total assets; it is defined as the ratio of (pre- or after-tax) profits to average annual assets.

Return on equity (ROE): a measure of how profitably a bank employs its equity; it is defined as the ratio of (pre- or after-tax) profits to average annual shareholder's equity.

Return on risk-weighted assets: it is a measure of how profitably a bank employs its assets in relation to the risks stemming therefrom. It is calculated as a supplement to ROA and is defined as the ratio of (pre- or after-tax) profits to average annual risk-weighted assets.

Risk-weighted assets (RWA): a credit institution's assets adjusted for risk, on which capital requirements are calculated at specific percentages. Weighted assets and capital requirements are calculated in accordance with Bank of Greece Governor's Acts 2588, 2589, 2590 and 2591/20 August 2007.

Securitisation: a financing instrument, particularly for credit institutions and insurance firms, through the transfer (sale) of claims that generate financial flows. Securitisation is implemented by pooling financial assets and their financial flows and then selling them to investors in the form of securities through a special purpose vehicle independent from the originator.

Single euro payment area (SEPA): SEPA will allow customers to make non-cash euro payments to any beneficiary located anywhere in the euro area using a single bank account and a single set of payment instruments. All retail payments in euro will thereby become "domestic".

Solvency II: the regulatory framework "Solvency II" introduces risk-based capital requirements to be taken into account by life and casualty insurers and reinsurers. It has three pillars: Pillar 1 considers key quantitative requirements with a view to ensuring the solvency of insurance firms in relation to the real risks faced. Pillar 2 includes an effective risk management system and a supervisory review process, while Pillar 3 lays down disclosure and transparency requirements, allowing for more effective supervision of the insurance market and stronger consumer protection. The "Solvency II" framework will be transposed into Greek law by the end of October 2012.

Solvency ratio: it measures the capacity of insurance firms' funds to absorb substantial unforeseeable losses, with a view to ensuring the payment of their debt obligations to the insured, according to the "Solvency II" Directive, which will mandatorily come into effect at end-October 2012.

The ratio covers all risks assumed by an insurance company (insurance, market, credit and operational risk), taking into account all risk hedging techniques in place. It is calculated with the VaR approach and has a confidence level of 99.5% for over one year.

Subordinated debt: debt which ranks after senior debt should a company go into receivership.

Supplementary capital/Tier II capital: it includes regulatory capital items which may compensate for losses in the event of a bank's winding-up and liquidation, since supplementary capital holders rank after all other creditors of the bank. It includes, inter alia, revaluation reserves, subordinated debt and cumulative preference shares.

Systemic risk: the risk of a shock that affects a financial institution or a market spreading across the financial system through their interactions, thus threatening the stability of the financial system as a whole.

TARGET (Trans-European Automated Real-time Gross settlement Express Transfer system): a payment system comprising a number of national real-time gross settlement systems (RTGS) and the ECB payment mechanism (EPM). The interconnection of the the national RTGS systems and the EPM provided a mechanism for the processing of euro payments in euro area and non-euro area EU Member States. The TARGET system operated from 1999 to November 2007, when it was replaced by TARGET2.

TARGET2: a payment system, successor to TARGET, designed to offer a harmonised level of services on the basis of a single shared platform, through which all transactions are settled in the same way. TARGET2 was launched in November 2007. The Greek component of this system is TARGET2-GR.

Tier I ratio: it is defined as core capital to risk-weighted assets.

Trading book: it comprises total positions in financial instruments (e.g. bonds, shares, etc.) and commodities held for trading or for hedging risks inherent in other assets of the trading book.

Value at risk (VaR): the maximum loss on a portfolio of assets within a given period at a given level of probability.

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