Eurobank Research

Greek Banking Review

Annual report on the Greek banking sector

Eurobank EFG

November 2006

Division of Research & Forecasting

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The Greek Banking System in 2006: Comparative Performance

The aim of our new annual publication "**Greek Banking Review**" is to present our views on the prospects of the Greek banking system and bring to the fore issues that can determine the future performance of Greek banks. In the present inaugural issue, we analyse the structure of the Greek banking system and place recent developments in perspective by comparing it with the banking systems of other European countries. Our goal is to identify those aggregate factors necessary for maintaining the current banking asset and profit growth momentum into the future. A critical question today is whether or not the Greek banking system is close to the stage of maturity, beyond which it would begin behaving more like the developed European banking systems.

As elaborated below, the main factors behind the success and profitability of Greek banks are the continuing improvement of the Greek macroeconomic fundamentals, the robust demand for credit from the private sector, especially households, the strong capital adequacy, as well as the contribution of the newly acquired subsidiaries in Central and Eastern Europe. Those same factors are expected to continue pushing Greek banks' growth potential in the foreseeable future. Over the next year, we expect Greek banking, especially retail banking, to continue growing at rates substantially above the Eurozone's norm.

To achieve consistency and comparability of the Greek data with the data reported by rest of the Eurozone's banking systems, this review is taking special care in clarifying and presenting the data. Issues like the treatment of securitized mortgage loans or the question of whether or not corporate bonds in Greece are direct substitutes of business loans are important in assessing the true growth rates of the individual credit components. In all cases, we refer the reader to the original data sources listed in the Appendix.

Prof. Gikas A. Hardouvelis
Chief Economist and Director of Research

Introduction

Over the past decade, the Greek banking system has benefited enormously from the impressive growth and the accompanied credit expansion of the Greek economy. This credit expansion was kick-started by the liberalization of the capital account in the 90s, which allowed Greek enterprises and households to borrow in lower-yielding foreign currencies. A further and more sustainable boost to the demand for credit was given by the anticipation of the adoption of the Euro and the precipitous decline of interest rates (both nominal and real). These developments, coupled with the abolition of various regulatory credit ceilings and increased competition amongst financial institutions, resulted in Greece having one of the highest rates of lending growth, significantly above the Eurozone average.

Given this breakneck speed of balance sheet expansion, the key question, in both analysts and policy-makers minds, is ***what are the future prospects of the Greek banking system***? Put differently, ***can the Greek banking system continue to grow at similar rates or has it reached a mature-market stage, where its growth rates will converge to Eurozone levels?***

The main conclusion that we reach is that while there are several signs of a maturing market, the Greek banking system has several years remaining of robust growth, above the average EU-12 levels. In what follows, we qualify our argument by analyzing the most important factors that affect the development of the Greek banking sector and contrast these developments with those in other EU economies, as well as the Eurozone average. More specifically, we:

- Review the developments of the Greek economy and discuss its prospects for 2006 and 2007.
- Examine the levels of banks' penetration and monetization of the Greek economy.
- Analyse the factors that will determine the demand for credit in the foreseeable future and estimate potential growth rates for the various categories of bank loans.
- Discuss the ability of the banking system to finance further expansion of its balance sheet.
- Contrast the capital adequacy and profitability of the Greek banks with those of other EU-12 banking systems.
- And finally, discuss the ability of the Greek banking sector to take advantage of the substantial growth potential of Central and Eastern European economies.

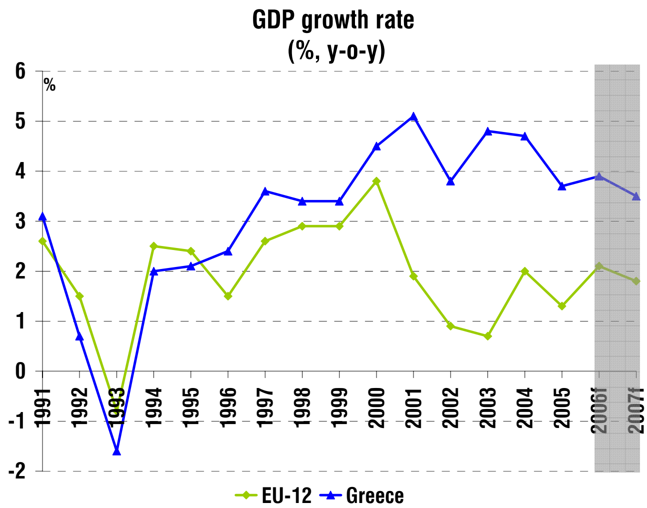
Macroeconomic Environment

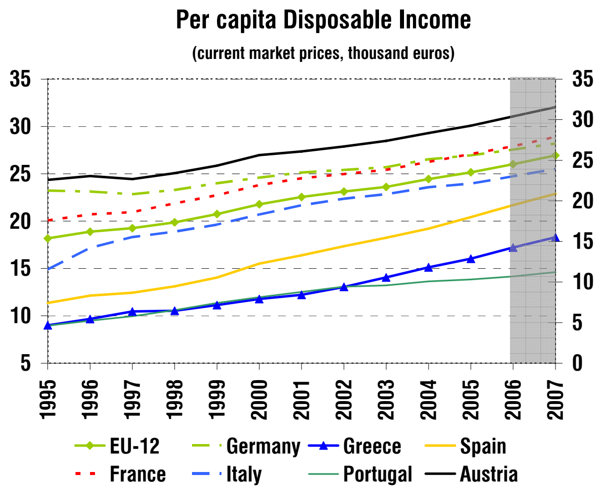
- Greek real GDP is expected to grow by 3.9% in 2006 and 3.5% in 2007.
- Gross disposable income per capita (at current market prices) to grow to 68% of Eurozone's average by 2007.
- We expect a positive contribution to GDP from all its components with the exception of the external sector.

It is important to keep in mind that the recent credit expansion of the Greek banking system did not occur in a void; It took place in a time of significant economic growth, with real GDP growth rates persistently and significantly above EU growth levels, increasing disposable income and improving macroeconomic fundamentals. Indicative of that process is the fact that the Greek economy has outpaced (in real terms) the EU-12 average in every year since 1995 while the per capita disposable income, although below the EU-12 levels, has increased from 50% of the EU-12 average in 1995 to 64% in 2005 and is projected to increase even further to 68% by 2007.

Furthermore, all indicators point towards a continuation of this trend. In 2005, real GDP (in constant prices) grew by 3.7% (2.4 percentage points above EU-12) and we expect it to growth by 3.9% for the whole of 2006 (vs. 2.1% in EU-12) and 3.5% in 2007 (vs 1.8% in EU-12).

Figure 1





Our optimistic forecasts are based on our assessment for a robust growth in most of the components of economic activity.[1] Private consumption is expected to reach the 2005 growth rate of 3.7%. This view is supported by developments in both concurrent and leading indicators, such as retail sales and consumer

[1] More details about Eurobank's views on the Greek economy are provided in our publication "Greek Economics Biweekly" by P. Monokroussos, available at www.eurobank.gr/research.

credit. Retail sales growth jumped to 7.2% in the first 7 months of 2006, up from 3.5% during the same period in 2005, while according to the latest figures (July 2006) consumer credit grew by 24.3%.

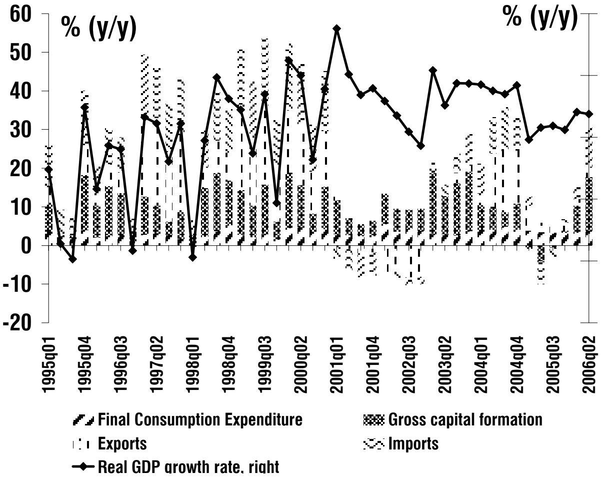
Gross fixed capital formation is also expected to make a substantial contribution to real GDP growth. Contrary to developments in 2005, when investment contracted by 1.4%, the annualised growth of gross fixed capital formation in the first half of 2006 was 10.2% (declined by 2.4% in H1-2005). Business confidence indicators in the main sectors of economic activity, such as industry, services and construction, also show a marked improvement in business sentiment. As a result, business investment is expected to grow by 5% in 2006, compared with a 1.5% growth in 2005. Public investment is also expected to grow by almost 5%, after contracting by 13.6% in the post Olympics year of 2005, given that funding from the Public Investments Budget has already increased by 11.5%. Finally, the significant increase in the number of residential construction permits, that took place especially during the last quarter of 2005, is expected to have a positive lagged effect on investments in residential construction.

The only drag in GDP growth is going to come from the external sector where the significant acceleration of exports will be outweighed by the even more robust growth of imports, due to strong demand and high fuel prices.

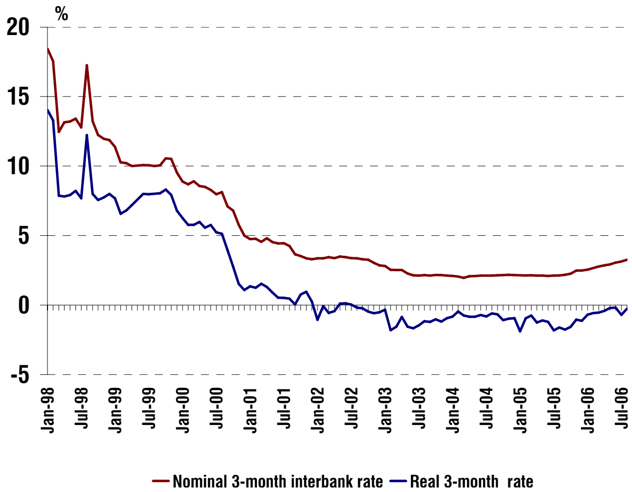
The strong demand, from both the investment and consumption side, forces the economy to operate above its potential (estimates of the output gap for the Greek economy vary according to the methodology used but have all been firmly in the positive territory in the last few years pointing towards an overheating of the Greek economy). These developments, in conjunction with the structural problems of the Greek economy, will result in inflation remaining above 3% for the current period as well as for 2007.

Figure 2

Growth Rate of Real GDP and its components



Nominal and Real Interest Rates

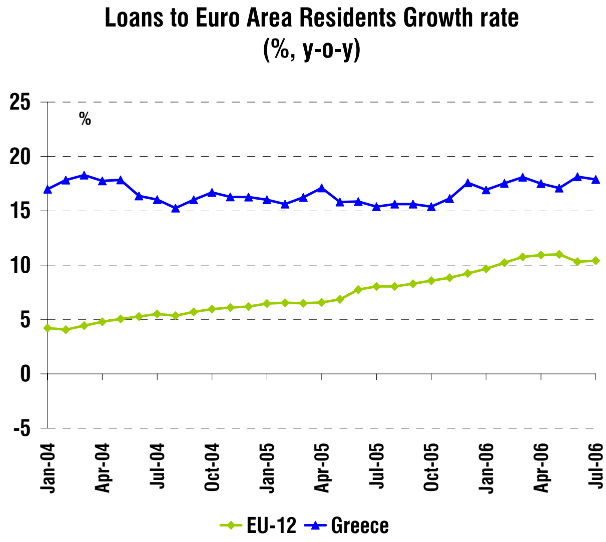


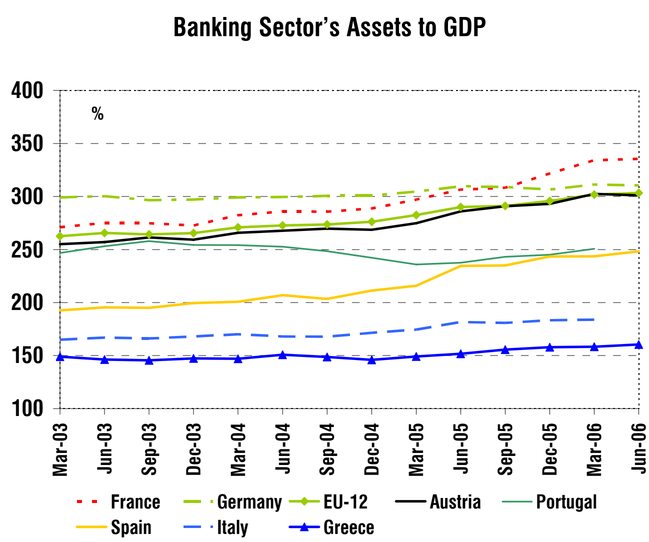
Banking Sector Structure

- Greek banking sector's assets to GDP (158%) and number of branches (3 per 10,000 citizens) still significantly below EU-12 levels (296% and 5 per 10,000 citizens, respectively), leaving room for further expansion.
- Greek commercial banks control 81.2% of total banking sector's assets, foreign banks 10.1% and two special credit institutions a further 8.3%.
- The presence of cooperative and regional banks is limited.
- The Greek banking system is one of the most concentrated in the Eurozone.

Despite the phenomenal growth of their lending activities and the expansion of their balance sheets Greek banks' size relative to the whole economy has remained constant, at around 158% of GDP. At the same time the Eurozone average has increased from 265% in 2003 to 296% in 2005, while the size of the Spanish banking sector (which has also achieved high growth rates) has increased from 200% to 244% of GDP over the same period.

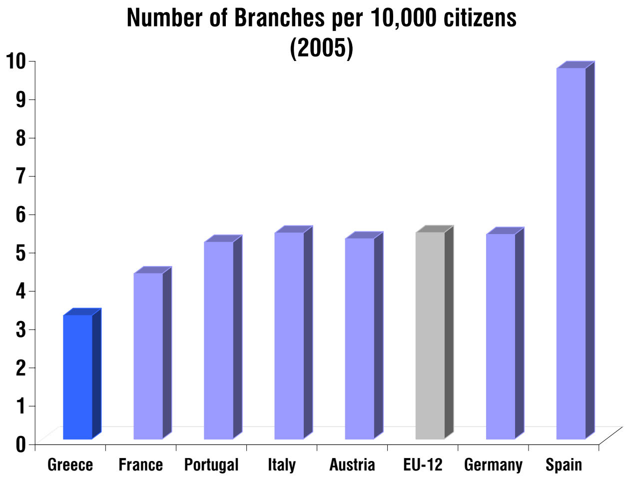
Figure 3

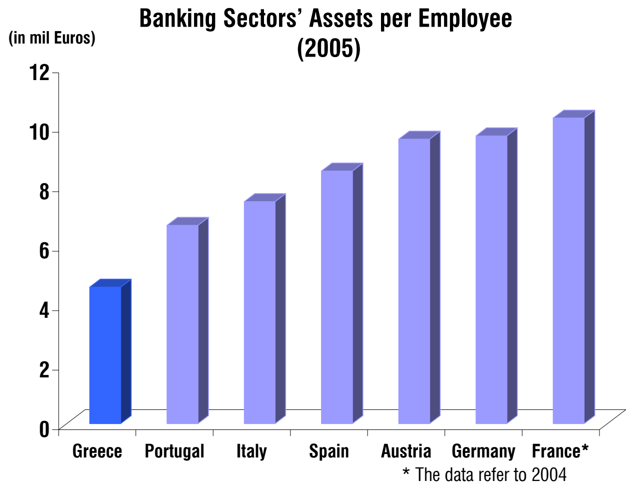




The ability of the Greek banking system to improve its productivity and to increase its size relative to the economy can be gauged by examining the ability of Greek banks' to cross-sell assets to their clients (measured by the size of banking sector's assets per employee), as well as the number of branches (per 10,000 citizens). According to both metrics, the Greek banking sector has significant growth potential given that Greek banks have both a smaller number of branches per population compared with the Eurozone (3.2 branches per 10,000 versus 5.4 branches on average in the Eurozone) and they also appear to conduct a smaller amount of business from their network. The size of banking assets per employee (retail and business loans, credit cards as well as other investment and insurance products sold via bank branches) stands at €4.6mn compared with €12.9mn in the Eurozone. Hence, the profitability and size of Greek banks can be improved by a concerted effort to expand their network and increase the monetization and banking penetration in the economy.

Figure 4

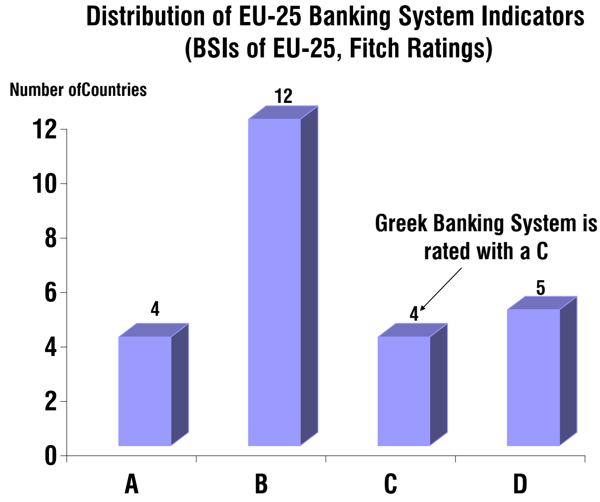


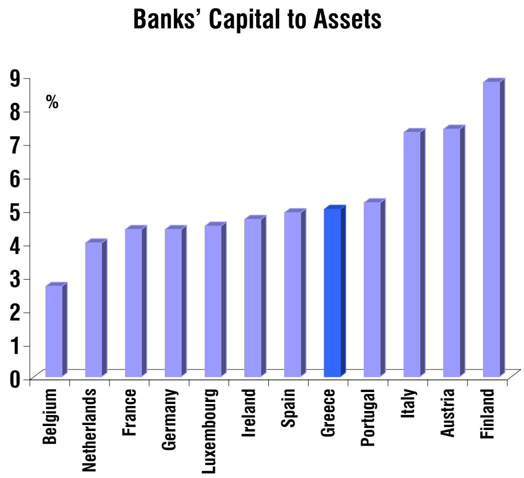


The credit quality of banking systems across countries is examined based on the Bank System Indicator (BSI), calculated by FITCH Ratings and is an aggregation of the credit ratings of major banking groups in each country. Based on the BSI indicator, we observe that the Greek banking system is the only EU-12 Banking system that has been assigned a "C" rating - which corresponds to "adequate" credit quality - and stands below the EU-25 average.[2] Yet, this rating does not imply that Greek banks lack in terms of capital. Their ratio of banks' capital to assets stands at 5%, above the EU-12 average. Instead, the rating of Greek banks is affected by a number of other factors such as their smaller size and the lower sovereign rating of Greece (compared to the ratings assigned to other EU-12 countries), which poses a ceiling for the credit ratings of the Greek banking sector.

[2] According to FITCH Ratings, the interpretation of the BSI rating scale is as follows: "A" stands for very high quality, "B" for high quality, "C" for adequate quality, "D" for low quality and "E" for very low quality. In its report, FITCH clarifies that the "C" rating of the Greek banking system is due to the adverse impact of one particular bank, without which the Greek banking sector would have been assigned a "B" rating.

Figure 5





The Greek financial system is dominated by banking institutions. Commercial banks operating in Greece (both domestic and foreign owned) control approximately 76.5% of total financial assets, while insurance firms control 3.9% and brokerage companies 1.3%. On a consolidated basis, the importance of banking groups is even higher given that they own a large part number of insurance firms, stock broking firms and mutual funds. In turn, the banking sector is dominated by Greek credit institutions which control 81.2% of the total bank assets, while two special credit institutions, the Postal Savings Bank and the Deposits & Loans Fund, control a further 8.3%. Contrary to what is observed in other European countries, cooperative credit institutions have a very limited contribution to the Greek banking system (they control only about 0.8% of total banks' assets) and their activities are concentrated in particular geographic areas of the country. Finally, foreign credit institutions control approximately 10.1 % of total banking sector assets.

Table 1

Overview of Greek Financial System (2005)

	Number	Total Assets (in mil euros)	Assets (% Total)	Assets (% GDP)
Greek Banking System	62	257,439	83.77	142.2
-Greek Commercial Banks	*21*	*209,040*	*68.03*	*115.4*
-Foreign Credit Institutions	*23*	*26,001*	*8.46*	*14.4*
-Cooperative Credit Institutions	*16*	*2,060*	*0.67*	*1.1*
-Special Credit Institutions	*2*	*20,338*	*6.62*	*11.2*
Mutual Funds	26	27,943	9.09	15.4
Insurance	95	11,927	3.88	6.6
Leasing Companies*	18	5,138	1.67	3.1
Brokerage Companies	70	3,949	1.29	2.2
Portfolio Investment Companies**	16	903	0.29	0.5

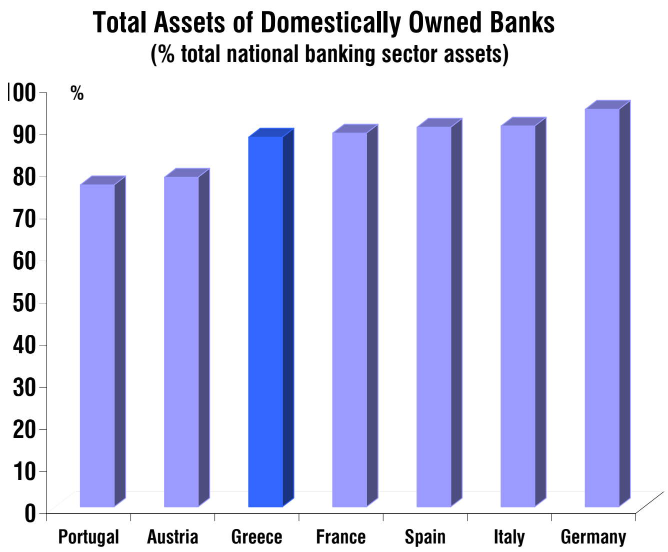
*The data refer to 2004

** The data refer to the Net Asset Value of the Portfolio Investment Companies

Sources: HBA, ASE, HCMC, AGII, AIC, ICAP, Bank of Greece

The final feature of the Greek banking system is its high degree of concentration, as measured by the proportion of banking assets controlled by the 5 biggest financial institutions, relative to the Eurozone standards. The smallest degree of concentration is observed in countries such as Germany, Italy and Spain, whose banking systems are characterized by the existence of a large number of local and cooperative financial institutions. On the other end of the spectrum, medium-sized economies, such as Portugal, Belgium and Greece, are characterized by a small number of banks that tend to dominate the local market. This high degree of concentration in small banking systems is unavoidable if banks in these economies are to achieve a size that will allow them to compete with foreign banks.

Figure 6



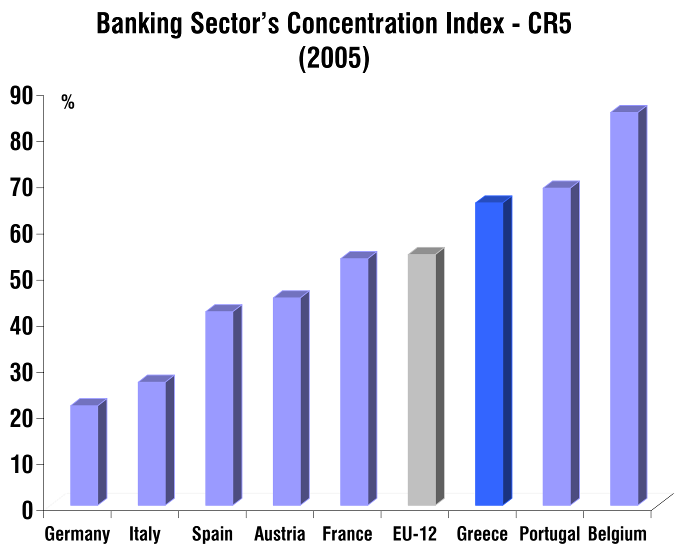


Table 2

Market Shares of Greek Commercial Banks in 2005 (%)

	Assets	Loans	Deposits	Equity	S&P Ratings
NBG	24.13	20.30	28.01	21.86	BBB+
Alpha	18.95	18.08	13.16	14.35	BBB+
Eurobank	18.90	18.09	16.82	22.92	A-
Piraeus	9.58	10.90	7.81	10.73	BBB+
Agricultural Bank of Greece	9.15	9.55	12.14	8.78	-
Emporiki	8.64	11.03	10.10	7.64	A*
Geniki	1.59	1.93	1.69	1.54	-
Other	9.05	10.14	10.27	12.18	-

*Rating as of 2006, following its takeover by Credit Agricole. Previous rating was BBB-.

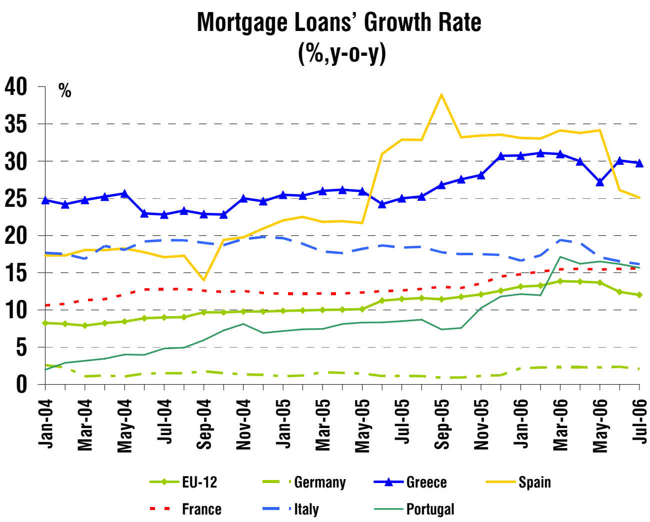
Source: HBA, S&P

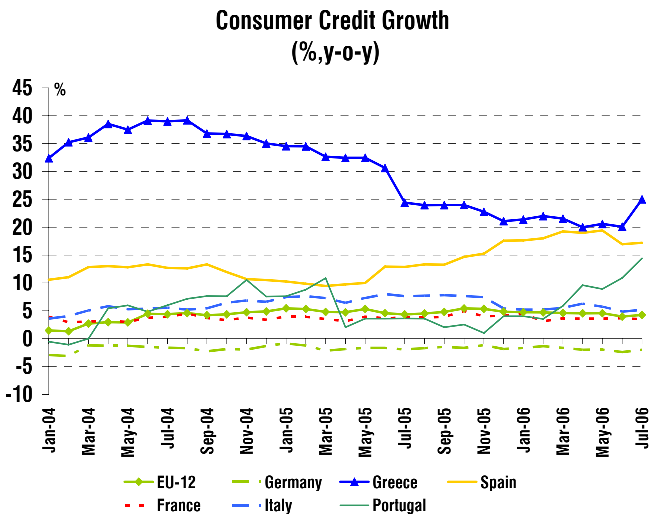
Demand for Credit

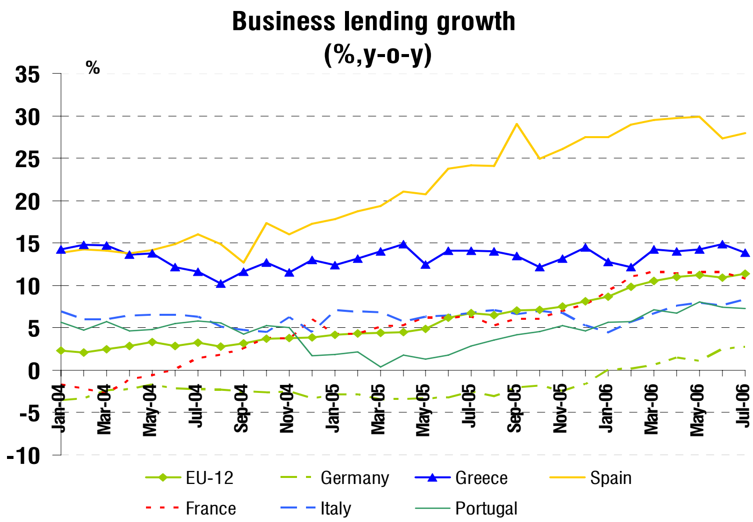
- After an exceptionally strong 2005, we expect mortgage lending to grow by 25% in 2006 (9.5% in EU-12) and by 22% in 2007 (10.5% in EU-12).
- Consumer credit is estimated to grow by 20.5% in 2006 (4% in EU-12) and 19.5% in 2007 (5% in EU-12).
- Business lending is estimated to grow by 11% (14% including corporate bond issuance) in 2006 (10% in EU-12) and 10% (13% including corporate bonds) in 2007 (9% in EU-12).

The extent of the demand for credit is, for sure, the single most important issue that can affect not only the development of the Greek banking system, but also the growth of the entire economy.

Figure 7







As we have already discussed, economic growth and low interest rates have led to a robust credit expansion that peaked at 39%, yoy, for consumer credit and at 31%, yoy, for mortgage loans.[3] These high growth rates have given ground for analysts to speculate on the existence of a credit boom that inevitably would lead to a credit bust, the overborrowing of the Greek households and the collapse of the demand for credit in the near future.

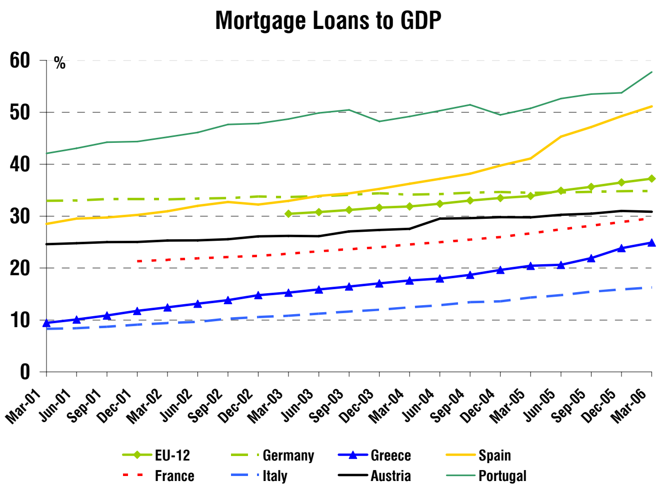
In what follows, we take issue with the above arguments, although we acknowledge the fact that it would be extremely difficult to observe rates of growth of 30% and 40% in the future. Our conjecture is that credit growth rates, despite their widespread use, have little information to convey. Instead, we focus on the relationship between the amounts outstanding for the three main categories of bank lending (Mortgage lending, Consumer lending and Business lending) and GDP. We form our opinion about the evolution of those measures and then translate back these forecasts to growth rates, so that our readers can easily compare our views to those of other analysts.

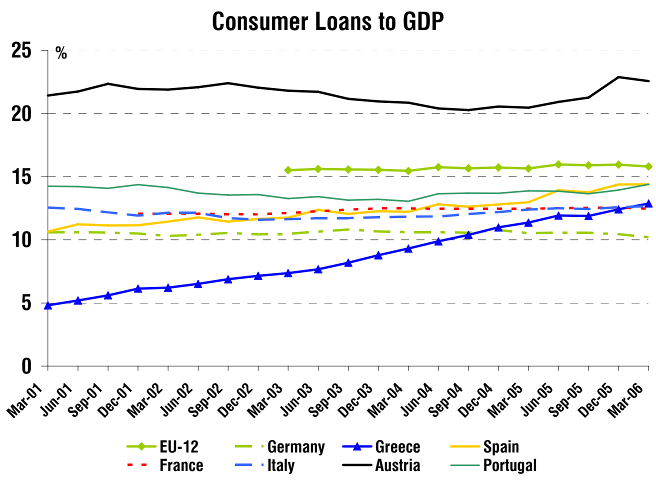
The advantage of our approach is that it associates lending to the state of the Greek economy; thus providing a link between our forecasts and economic fundamentals. The disadvantage is that we need to form projections not only about lending but also about future GDP. For that reason, we report only short-term forecasts for the remainder of 2006 and 2007.

Household Credit

Based on the development of Mortgage Loans to GDP and Consumer Credit to GDP, it becomes obvious that the satiation point has not been reached yet. In recent years mortgages and consumer loans grew by an average of 26.3% and 30%, respectively, much faster than nominal GDP. As a result, the share of mortgage loans, as percentage of GDP, grew from 9.5% in 2001 to 24.9% in 2005, while the share of consumer loans increased from 4.8% in 2001 to 12.9% in 2005.

Figure 8



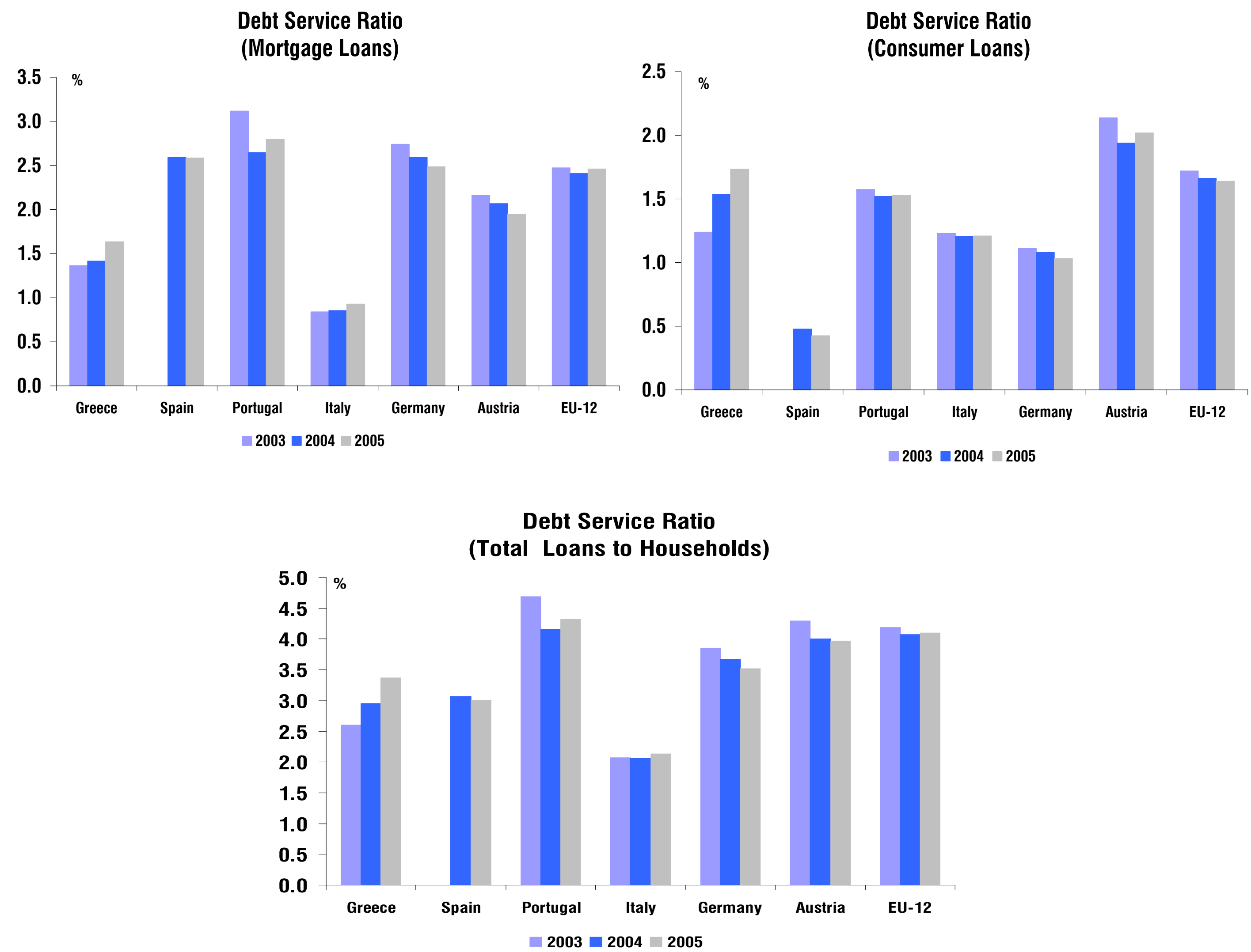


[3] For reasons of comparability with the data for the rest of the Eurozone, securitised amounts are excluded from our calculations of credit growth. If securitised amounts are included, then mortgage loans grew by 31.4%, yoy, in July 2006, while consumer loans grew by 24% over the same period.

The main factors supporting this argument are:

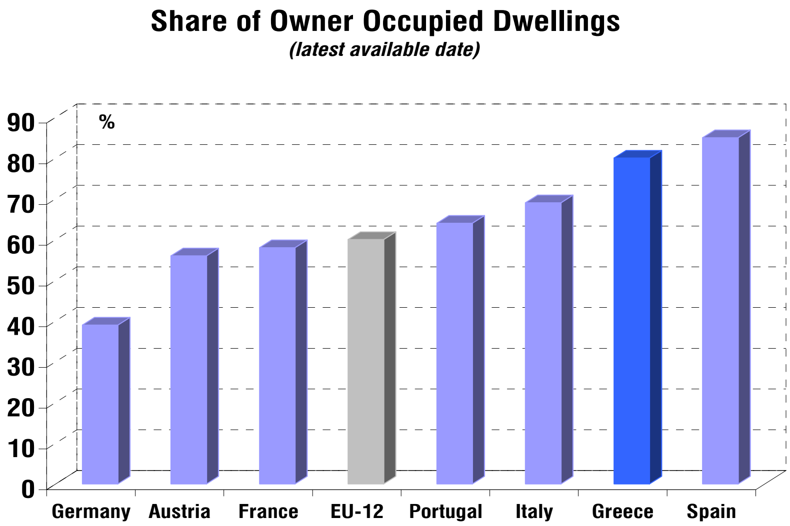
1. The positive outlook for the Greek economy. As discussed in our macroeconomic section, we expect the Greek economy to expand, in real terms, by 3.9% this year and by 3.5% in 2007. This sustained economic development that has taken place in recent years has created a positive feedback mechanism, where economic growth raises households purchasing power which in turn leads to further consumption and in that way to higher rates of economic growth.
2. Low aggregate debt servicing burden. Data for the estimation of the exact amount of the debt servicing burden (interest payments plus principal repayments) to disposable income are not available from the Greek authorities. What we report in the relative figures are our calculations of the interest only payments (amounts outstanding times a weighted average interest rate) for Greece, the EU-12 average and for several EU-12 economies (in order to get some idea of the dispersion around the EU average). From this comparison, it becomes obvious that Greek households, on aggregate, still use a smaller percentage of their disposable income for repaying their debts. Hence, despite the rapid credit expansion, Greek households are now just beginning to reach the level of indebtness that households in more advanced European economies can comfortably service.

Figure 9



3. Product innovation will help banks maintain momentum. New retail products, such as mortgage loans denominated in low interest rate currencies such as the Swiss Franc and pre-paid credit cards, will facilitate new mortgage lending and boost purchases over the internet.
4. Changes in taxation. The anticipated increases in the real estate values assessed for taxation purposes (also referred to as "real estate objective valuation system"), used to estimate taxes on new house purchases and house transfers, will help bring demand forward, as they did at the end of 2005.
5. Abundance of collateral. Greece has one of the highest rates of owner occupied dwellings within the EU. This fact alone sends a very negative signal for future mortgage lending, since it implies that most households already own a house. Nevertheless, Eurobank's proprietary customer surveys indicate that an overwhelming proportion of the households that already own a house are not satisfied with their current home and are willing to trade up to a better/bigger house, if they were given the chance. This willingness to move, coupled with the fact that these households are already on the property ladder, gives them the ability to partially finance their new house using their existing houses as collateral.

Figure 10



6. Declining borrowing costs. Despite the recent increases in the ECB's lending rates, increased competition for new loans and the desire of banks to promote new forms of lending - other than floating-rate mortgages - have resulted in significant decreases in borrowing the costs for specific lending products, such as fixed-rate mortgages and some forms of consumer lending (Table 1).

Table 3

Changes in MFI interest rates

(basis points; averages between March and May 2006 minus averages between January and March 2003)

	Mortgage Loans			
	Floating rate and up to one year	Over one and up to 5 years	Over 5 and up to 10 years	Over 10 years
EU-12	-45	-47	-89	-93
Greece	-61	-150	-165	-33
	Consumer Loans			
	Bank overdrafts	Floating rate and up to one year	Over 1 and up to 5 years	Over 5 years
EU-12	-55	24	-100	-52
Greece	-146	-289	-118	36

Source: *Differences in MFI Interest Rates across Euro Area Countries, ECB, September 2006*

On the other hand, factors that could contribute to a slowdown of the demand for credit from households include:

1. Further tightening of monetary policy will, at some point, start increasing debt servicing costs and alter the attitude of households towards getting on more debt.

2. Further tinkering with the tax code might backfire for the government and force the real estate market to a stand still.

3. A survey conducted on behalf of the Bank of Greece[4], revealed that the amount of debt of those households that have taken out some form of loan has increased from 22.8% of their disposable income in 2002 to 33.5% in 2005.

Household Credit Forecasts

Taking into consideration all the positive and negative factors, we estimate that for the whole of 2006, mortgage lending in Greece will record a 25% yoy growth (including the securitized amounts), versus a 9.5% yoy growth in the Eurozone. For 2007, our forecast is for a 22% growth in Greece, compared with a 10.5% growth in the Eurozone.

The fact that our forecasts for 2006/07 are below the 30.4% growth realised in 2005 requires some justification. Our forecasts for 2006/07, reflect our belief that in many aspects 2005 was an exceptional year for the Greek mortgage market. The radical overhaul of the tax code with respect to the way real

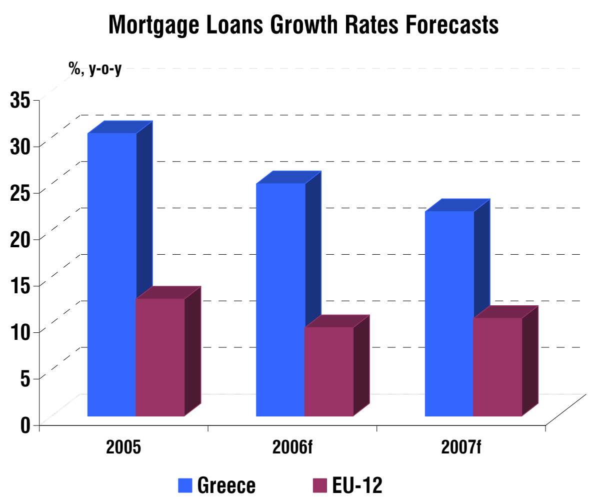
[4] See Bank of Greece, Households Survey, March 2006.

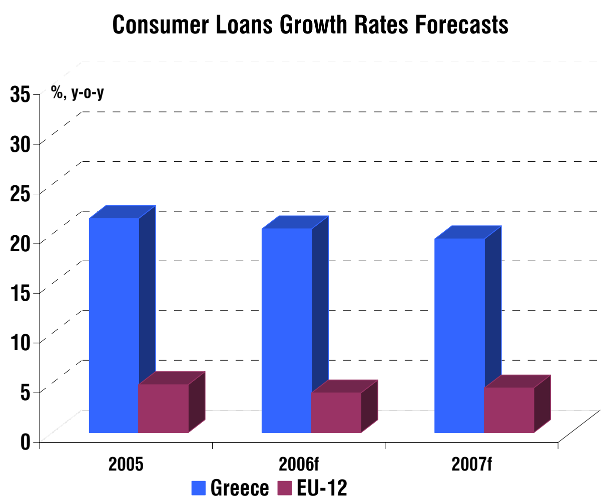
estate is treated, which included the introduction of VAT as well as substantial increases in real estate values assessed for taxation purposes, created a huge interest for residential real estate and as a result brought forward a large number of transactions.[5] Indicative of the amount of interest that these tax changes created is the fact that in the fourth quarter of 2005 alone, new mortgage lending amounted to € 4.2bn, equal to the amount of mortgage loans granted during the first 9 months of 2004.

Hence, while we believe that mortgage loans will continue to grow as a percentage of GDP, it would be difficult to have a repeat of 2005, especially when the ECB has already raised interest rates by 125bps, with at least further 25bps anticipated. This fact, coupled with the adverse base effect of the Q4 2005 spike in lending, were the main factors that determined our forecasts.

Our forecasts for consumer lending (inclusive of securitized amounts) are much more in line with recent history. For 2006 and 2007, we forecast a 20.5%, yoy, and 19.5%, yoy, growth rate in Greek consumer lending. This is in sharp contrast with a 4% and 4.5% growth rates for 2006 and 2007 in the Eurozone.

Figure 11





Business Lending

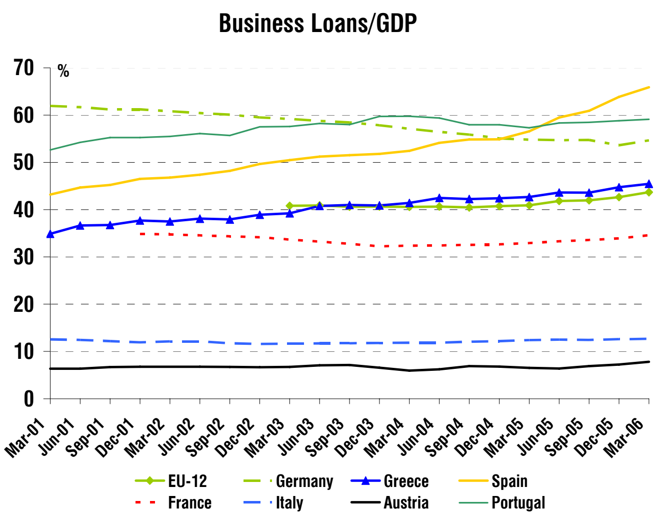
Contrary to the developments in household lending, the growth rate of lending to non-financial enterprises has been more modest. The level of business lending, estimated on the basis of bank loans to corporates, has remained roughly constant at around 40% of GDP for the past 6 years. Moreover, this level is very close to the EU-12 average of 42%, which also shows few signs of volatility. This picture changes slightly

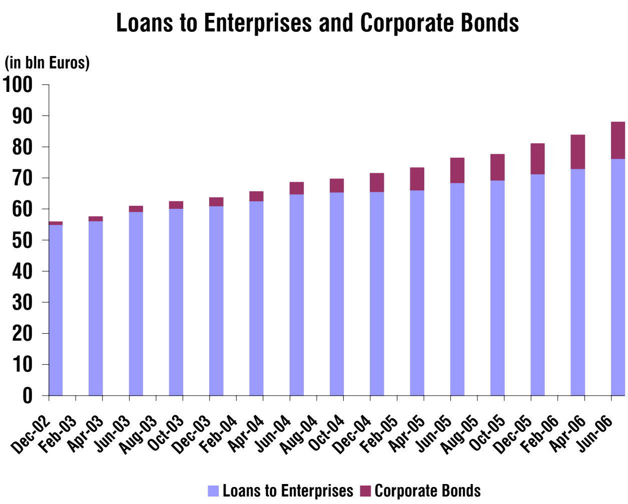
[5] The new tax regime came into effect on 1/1/2006.

when we incorporate in our estimates of business lending the amounts of corporate bonds issued by Greek enterprises, which are withheld by the Greek financial institutions. This category of business lending is a peculiarity of the Greek banking system, caused by the tax advantages that issuance of corporate bonds has over "plain vanilla" bank loans. Hence, these bonds are not issued with the intention of being placed with third party investors; instead they are issued in lieu of bank loans. The significance of these corporate bonds has been increasing steadily as a source of business financing from 0.5% of GDP at end-2002, to 5.9% of GDP in March 2006. The inclusion of corporate bonds to business lending raises both the ratio of business loans to GDP to 45.5% and the growth rate of business lending from 10%, yoy, to 14%, yoy.

Beyond these tax advantages, further impetus to business lending will be given by the positive macroeconomic conditions that we expect for the Greek economy in the foreseeable future. As we outlined in the macroeconomic section of this report, positive developments in business investment are expected for 2006 and 2007, supported by the acceleration of public sector investments, the improvement of business confidence and the implementation of PPP and PFI projects.

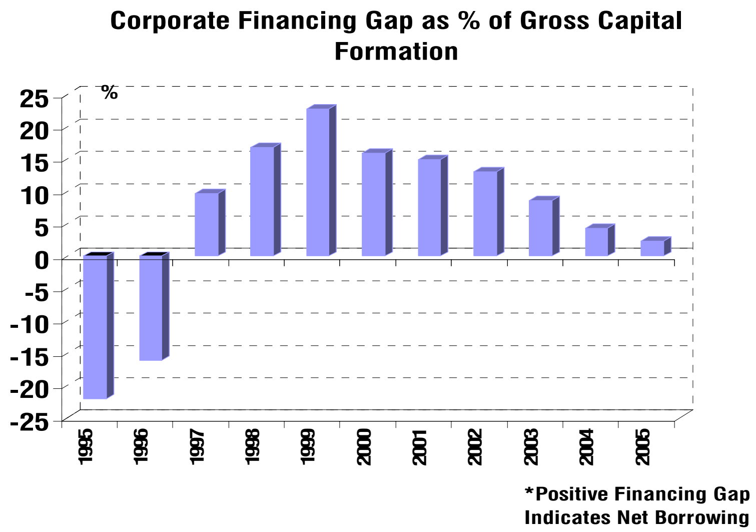
Figure 12





Yet, one important factor that makes us cautious in our assessment about the prospects of business lending is the development of the financing gap (estimated as aggregate corporate borrowing minus savings) that we have estimated for Greek corporates as a percentage of gross capital formation. The intuition behind this graph is that corporates will have to finance their investments either by internally generated funds (i.e. retained earnings) or from funds raised via share issues, banks loans, corporate bonds, etc. The evolution of corporate financing gap indicates that Greek enterprises finance most of their investments using internal funds and, especially since 2000, are in a process of restructuring their balance sheets and reducing their dependence on external funding sources.

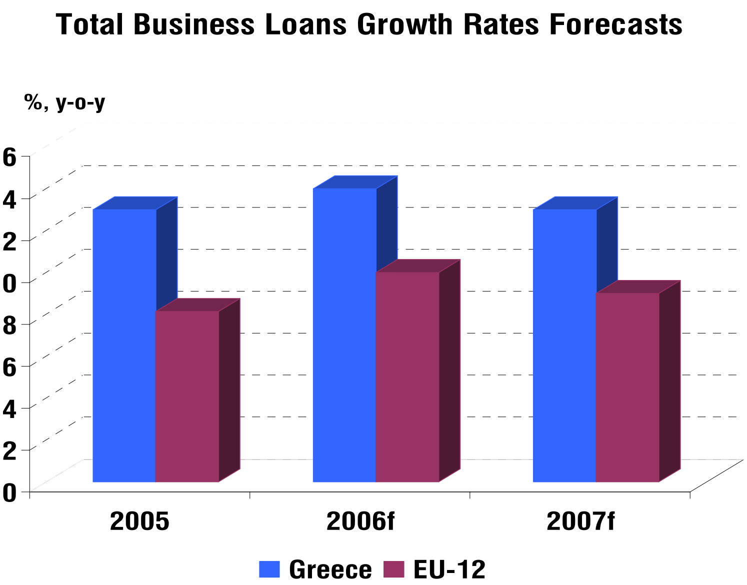
Figure 13



Business Lending Forecasts

Hence, our forecasts on business lending strike a balance between our upbeat assessment of the impact of business investment and business sentiment in general on business lending and the long-run trend of business to restructure their balance sheets. As a result, we forecast a rate of growth of 11% for 2006 versus 10% for the EU-12 and 10% for 2007 versus 9% for the EU. These forecasts are revised upwards to 14% for 2006 and 13% for 2007 once corporate bonds are included.

Figure 14

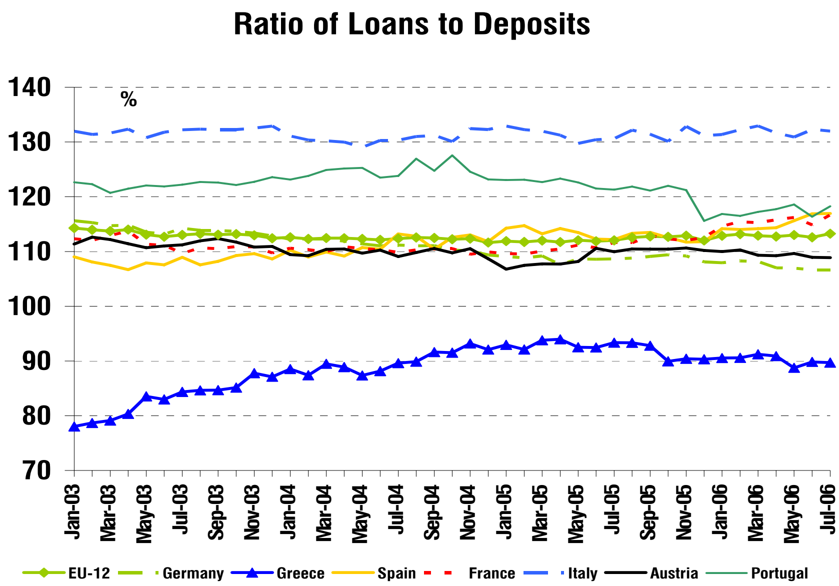


Funding Sources

- Greek banks can still mobilize deposits to fund further expansion, given that their loans to deposits ratio stands at 90% while the EU-12 average is close to 113%.
- Greek households savings ratio (currently at 6% of disposable income) is significantly below the EU-12 average (approximately 15%), limiting Greek banks' ability to expand their pool of deposits in the future.
- Deposits are still the main funding source (approximately 87% of total funds in both 2000 and 2005), but money market funds (13.2% in 2000 vs. 0.7% in 2005) have been replaced by medium-term notes (0.2% in 2000 vs. 12.5% in 2005) and securitization (1.83% in 2005).

In the short-run, the ability of Greek banks to meet new demand for loans, by either households or enterprises will depend upon the degree of liquidity in the banking system. Looking at the historical evolution of the Loans to Deposits[6] ratio we see that, while Greek banks have been very efficient in transforming savings to loans, the current amount of outstanding loans is approximately 90% of the available deposits when the equivalent ratio for the whole of the EU-12 stands at 113%.

Figure 15

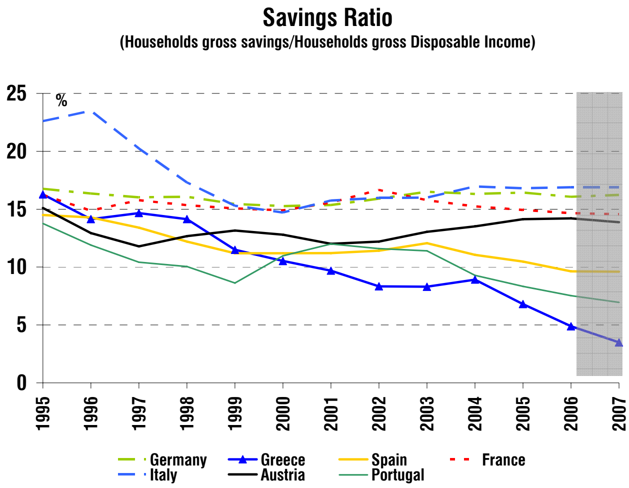


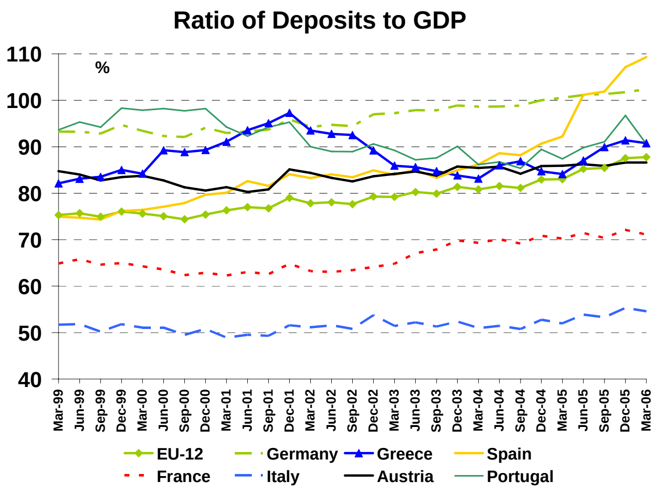
Over longer horizons though, the ability of the banking system to expand will depend upon its ability to attract further deposits. On that ground, we have a few worrying signals coming out of the households savings ratio, i.e. the percentage of households disposable income directed towards savings. Greek

[6] For Greece, the ratio of loans to deposits is slightly underestimated, due to the fact that some Greek banks include in their deposits the proceeds of their EMTN issuance programs.

households' savings ratio has exhibited a clear downward trend since 1995 and currently stands at 6%, way below the EU-12 average of 15%. Yet, despite this decline the ratio of deposits to GDP has kept its ground and currently stands at 91%, marginally above the Eurozone average of 88%.

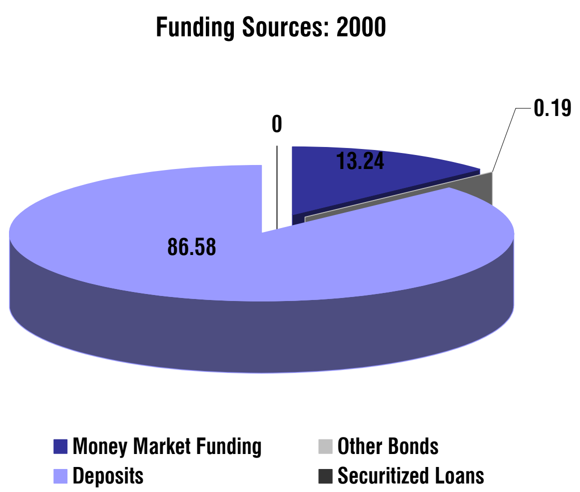
Figure 16

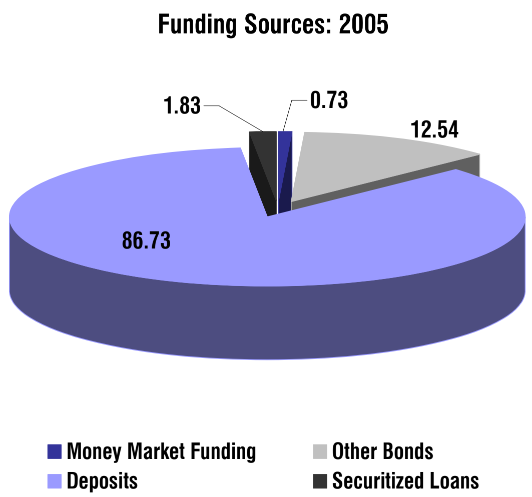




Turning our attention to the composition of the funding sources, we observe that Greek banks have been unable to substitute deposits with other sources of funding. The share of deposits to total funding has remained virtually unchanged between 2000 and 2005 around 86%. Instead, Greek banks have managed to substitute short-term (maturity less than 12 months) money market funds (13.2% in 2000 vs. 0.7% in 2005) with medium-term (3 to 5 years maturity) notes and bonds (0.2% in 2000 and 12.5% in 2005). Recently, Greek banks have also started using more complex securitization techniques as a funding source, with total securitized funds accounting for 1.83% of total funds, in 2005.

Figure 17





Banking Sector's Performance

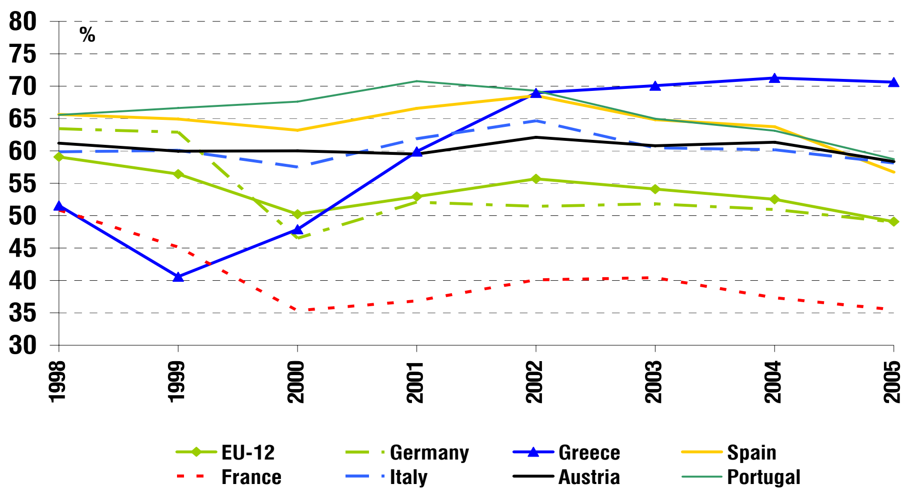
- Interest income accounts for 70% of the Greek banks' total operating income vs. a 50% average in the Eurozone.
- Greek lending rates are above EU-12 average but converging to Eurozone levels.
- Greek deposit rates already at EU levels.
- Net interest margin is currently 3.5%, while the Eurozone average stands at 1.3%.
- Greek banks record the highest level of NPLs at 6.3%, compared with the EU average of 2.7%.
- Liquidity declines but capital adequacy at record highs.
- Greek banks boost their profitability by increasing their efficiency (overheads to total assets declined by 12.5%).

Revenues

The business model that Greek banks have adopted has been, by and large, shaped by developments in the Greek economy and the Greek capital markets. Prior to 2000, Greek banks took advantage of the rising stock market to maximize their revenues from IPOs and investment banking related commissions. Following the burst of the stock market bubble in 1999, Greek banks refocused their strategy on retail lending and currently net interest revenues account for almost 70% of the Greek banks' total operating income. Net commission income accounts for a further 18.8%, while income from various other sources accounts for the remaining 8.2%. In contrast, other EU banks have adopted a more diversified business model, where interest rate revenues account for only 50% of their total operating income, while commission income accounts for 26.4% and other income for 24.6%.

Figure 18

Net Interest Revenues to Total Operating Income

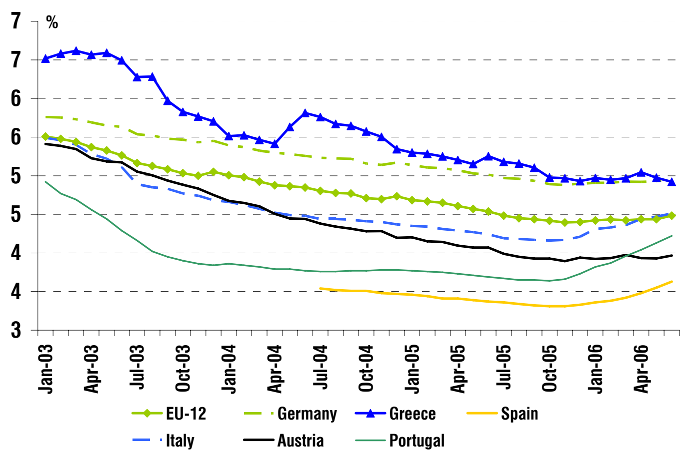


Lending & Deposit Rates

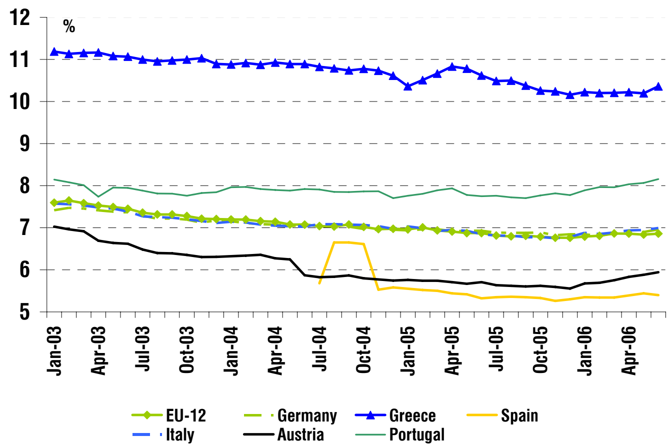
The main reason for the dominance of interest rate revenue in Greek banks' income is the fact that Greek lending rates, despite their declining trend, have not fully converged to the EU-12 average. Volume weighted mortgage interest rates currently stand at 4.96% (data as of July/2006), roughly 40bps higher compared to the EU-12 average. A similar gap is recorded in the business loans rates, where the Greek average is 5.7·% (July/2006), and the EU-12 level stands at 4.44% (July/2006). The most significant difference though between Greece and the EU is on consumer loan rates, where Greek rates stand at 10.36% (July/2006), while the average consumer lending interest rate is 6.86% (July/2006). Not surprisingly Greek banks have altered their business mix towards consumer and housing loans, in order to take advantage of the strong demand and high lending rates for these categories of loans. As a result, in 2005, housing loans accounted for 32.2% of their loan portfolio, up from 19% in 2000, and consumer credit for 16.5%, up from 9.6%. Conversely, the share of business loans has declined from 71.4%, in 2000, to 51.1%, in 2005.

Figure 19

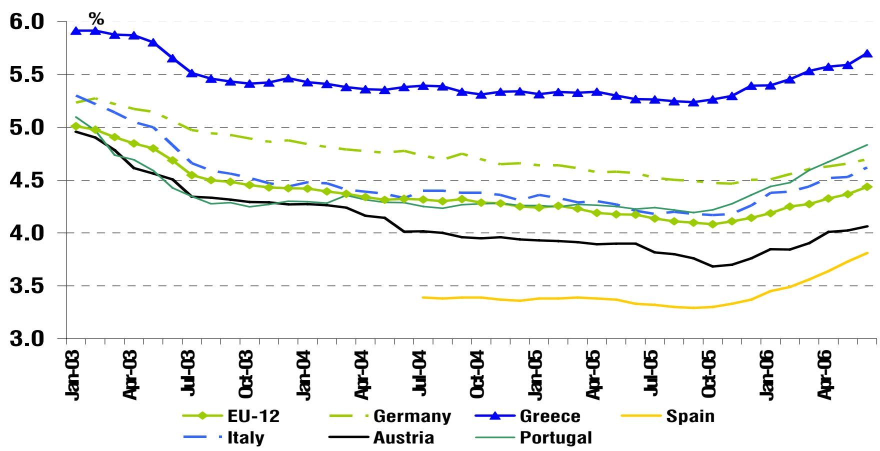
Mortgage Loans Interest Rates



Consumer Loans Interest Rates

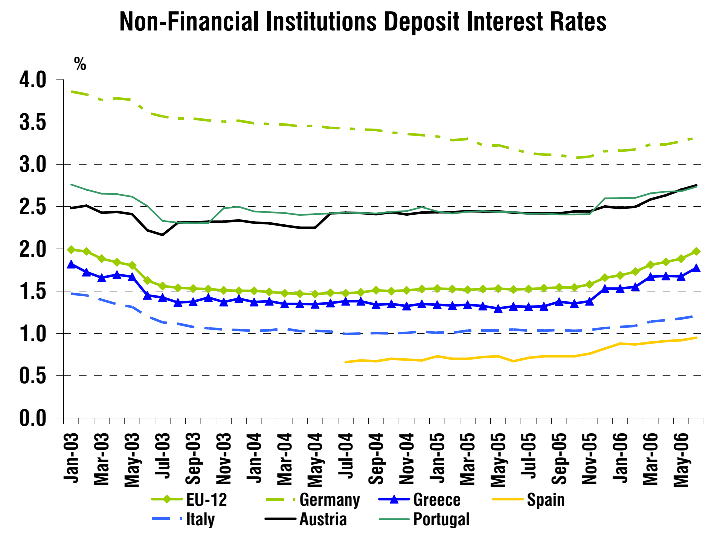


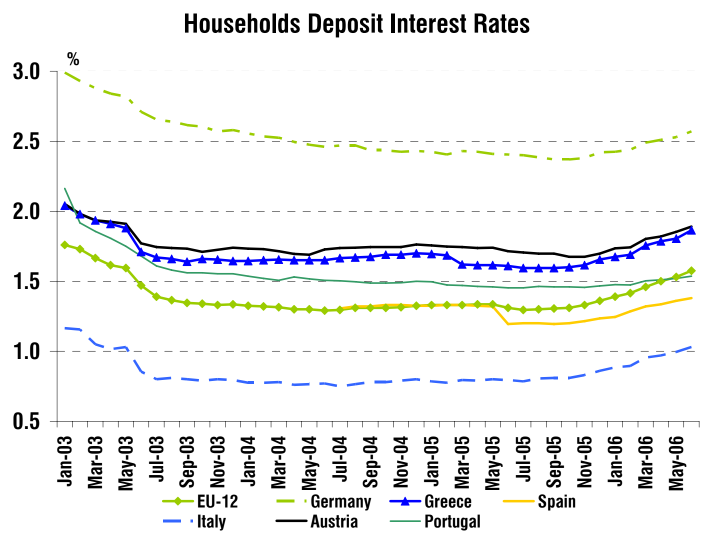
Business Loans Interest Rates



On the contrary, Greek deposit rates have, by and large, converged to EU levels. Greek household deposit rates stand at 1.87%, 29 bps above the EU-12 average (July/2006), while the deposit rates for business deposits stand at 1.8% (July/2006), marginally below the EU-12 level.

Figure 20

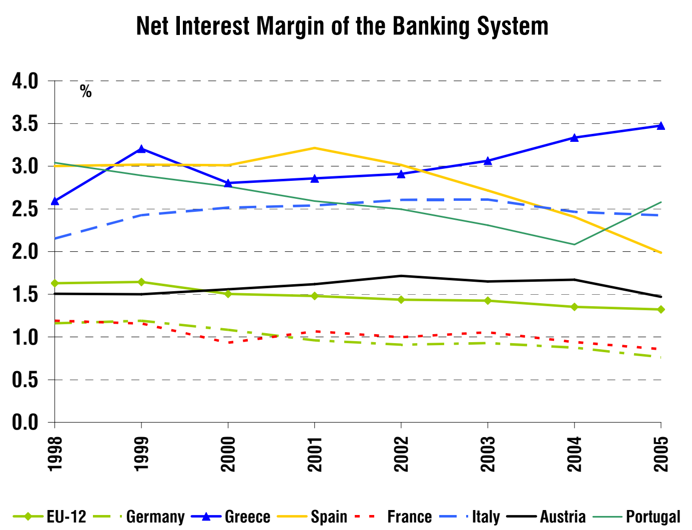


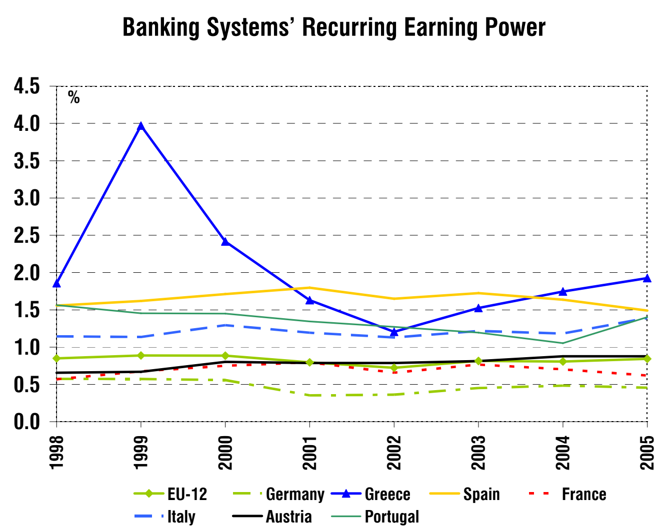


Interest Margins

Greek banks' net interest margins in 2005 stood at 3.5%, significantly above the EU-12 average of 1.3%. These strong results were shaped by a combination of factors, some of which we have already touched upon. The most important of those is the emphasis that Greek banks' have given to the most profitable segments of the banking sector's activities by switching their portfolios away from lower yielding government bonds and other tradable securities and into retail and especially consumer lending. An added benefit of this emphasis on retail is the fact that Greek banks have one of the highest rates of recurring earnings in the EU.

Figure 21



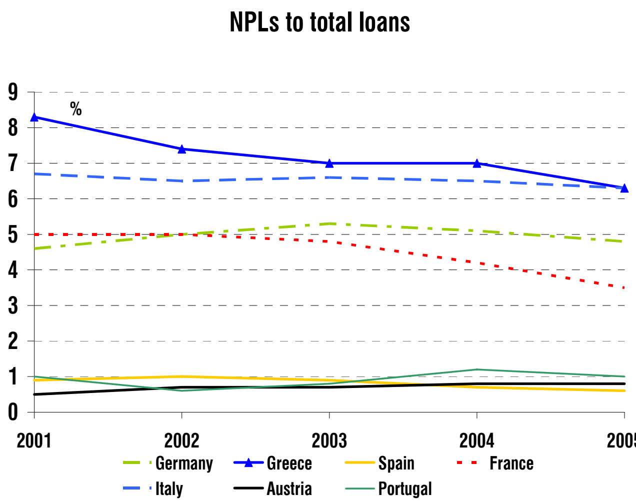


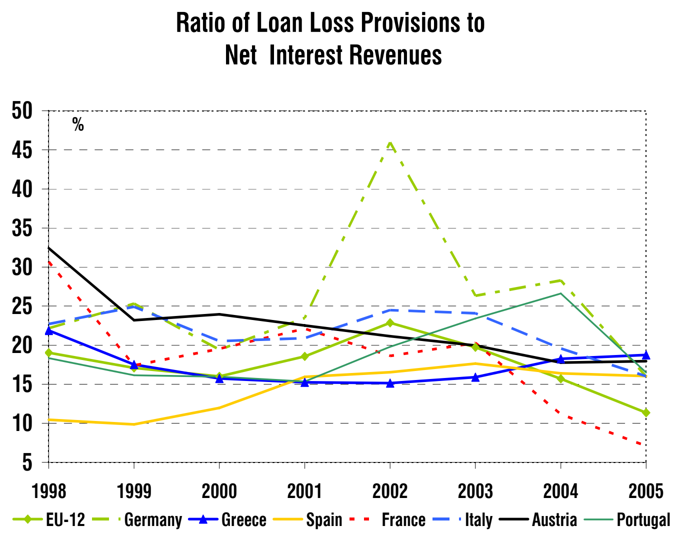
Costs

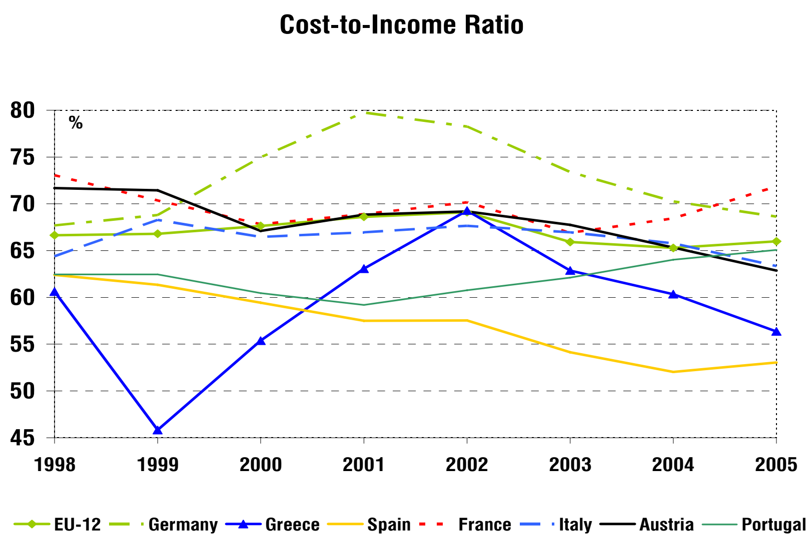
These high interest rate margins should be considered against the substantial costs that Greek banks have to face. The main sources of expenditure for Greek banks are related to the cost of building-up their retail networks, the low turnover of this network, the high percentage of non-performing loans and the Greek banks' high cost of capital. More analytically,

1. The strong emphasis on expanding their retail activities from 1999 onwards, led to an initial spike in the cost to income ratio, which rose to the EU-12 levels in 2002, but has been declining ever since.
2. Low turnover of the retail network. Greek banks overall performance is adversely affected by the small amount of business conducted by their branches. Indicative of this situation is that fact that the Greek banking sector has one of the lowest ratios of banks' assets per employee. In Greece, the ratio of bank assets per employee stands at €3.8mn, while the same ratio stands at € 6.98mn in Spain, €6.5mn in Portugal and €16.1mn in Ireland. The EU-25 average ratio is €10.2mn.

Figure 22







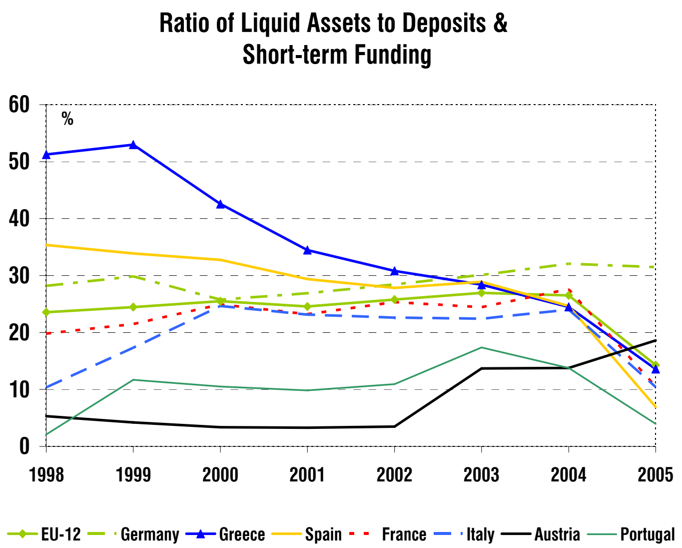
3. High percentage of non-performing loans. One negative aspect of the rapid credit expansion is the unavoidable increase of non performing loans and provisions. Indeed, the Greek banking sector has repeatedly recorded one of the highest ratios of non performing loans to total loans in the EU. In 2005, the NPLs amounted to 6.3% of total loans roughly double the EU average of 2.7%. Mortgage loans NPLs were 3.6% of total mortgage loans, but consumer credit and business loans NPLs were even higher at 7.8% and 7.1% respectively. As a result, in 2005, the Greek banking system recorded the highest ratio of loan loss provisions to net interest revenues of 18.7%.
4. Lengthy legal bankruptcy procedures lower the value of collateral in case of default.
5. High cost of capital. Due to their lower size and lower credit rating (which is also affected by the lower sovereign rating of the Greece), Greek banks face higher costs of both equity and debt capital. This problem is compounded by the fact that, as we discuss below in the Capital Adequacy section, Greek banks are also forced to hold larger amounts of both tier 1 and tier 2 capital.

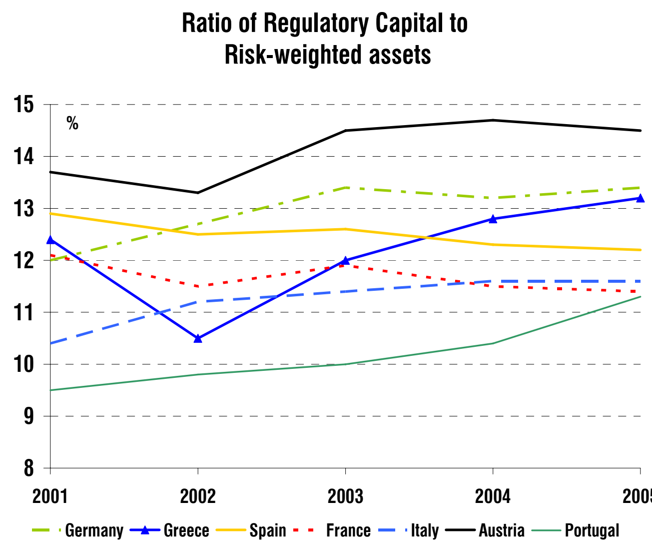
Liquidity & Capital Adequacy

As we discussed above, the ratio of loans to deposits for the Greek banking system stands at 90%, which provides ample room for Greek banks to expand their loan portfolio. At the same time though, the shift away from liquid marketable assets (mainly government securities) towards longer term illiquid loans, has led to a constant decline of the liquid assets to deposits and short-term funding ratio, from 51% in 1998 to 13.6% in 2005, marginally below the EU-12 level.

Yet, despite (or probably because of) their credit expansion and significant amounts of non-performing loans, Greek banks have continued to improve the level of their capital adequacy with the ratio of regulatory capital to risk weighted assets currently standing at 13.2%, up from 10.5% in 2002, substantially above the regulatory floor of 8%.

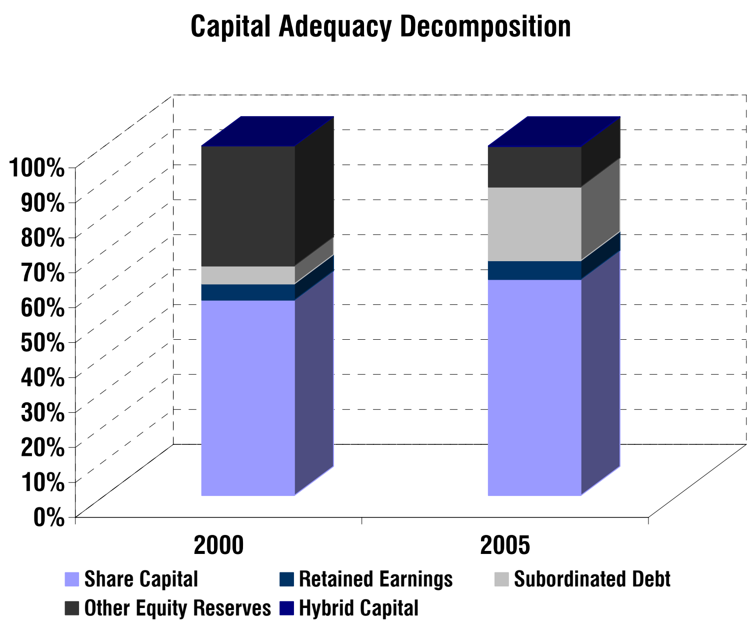
Figure 23





Looking at the changes in the breakdown of the various sources of capital, between 2000 and 2005, we see that Greek banks not only have they increased their capital adequacy but they have also improved the composition of their capital base. The contribution of common and preferred shares increased from 55.9% in 2000 to 61.8% in 2005. Similarly, the share of retained earnings has increased from 4.6% to 5.4%. A further conclusion from this breakdown is that Greek banks have been able to take advantage of their improved reputation and credit rating, as well as the elimination of FX risk with the adoption of the Euro, to raise funds from the European bond markets. The share of subordinated debt has increased from 5%of total funds in 2000 to 21% in 2006, while Greek banks have also issued small amounts of hybrid capital, which currently accounts for 0.17% of the total. These increases occurred at the expense of the "Other Equity Reserves" category (down from 34.4% in 2000 to 11.6% in 2005), that usually includes accounting rather than cash elements of capital, such as various revaluation reserves.

Figure 24



Return on Assets & Return on Equity

Data on Return on Assets (RoA) and Return on Equity (RoE), are traditionally quite volatile. In addition, aggregate data for the entire EU-12 were difficult to compile. Nevertheless, based on the data reported on the table below, a clear pattern emerges. Despite the high rates of growth and the substantial interest margins that Greek banks earn from their lending operations, both their RoE and RoA have been trending downwards from 2001 to 2004 and only managed to recover in 2005. It is also interesting to see that, with the exception of Germany, the RoE and RoA of all other countries in our sample show a very small degree of dispersion. In 2005, the RoA of those countries ranges between 0.6% and 1% and the RoE between 11.4% and 16.9%, with the Spanish, Portuguese and Greek banks being on the upper bounds of these ranges (Table 2).

Table 4

Banks' Profitability Indicators

	Austria	France	Germany	Greece	Italy	Portugal	Spain
				Return on Assets			
2001	0.5	0.5	0.2	1.0	0.5	1.0	1.0
2002	0.7	0.5	0.1	0.5	0.4	0.6	0.9
2003	0.7	0.4	-0.1	0.6	0.4	0.8	0.9
2004	0.8	0.5	0.1	0.3	0.6	1.2	0.9
2005	0.8	0.6	0.2	0.9	0.7	1.0	1.0
				Return on Equity			
2001	9.8	9.6	4.6	12.4	9.1	17.8	13.5
2002	5.4	9.1	2.9	6.8	6.4	11.8	12.1
2003	6.3	8.5	-1.5	8.9	6.7	16.1	13.2
2004	9.3	10.6	1.9	5.6	10.7	20.5	14.1
2005	11.4	11.9	3.5	16.2	13.3	16.9	16.9

Source: IMF

In order to identify the key factors that determine Greek banks' profitability, we decompose their profits into the constituent elements and examine their contribution to total profitability. On an aggregate level, banks' profitability is defined by the following accounting identity:

$$\begin{aligned}\frac{\text{profits before tax}}{\text{total assets}} = &\frac{\text{net interest income}}{\text{total assets}}\\ &+\frac{\text{net non - interest income}}{\text{total assets}}\\ &-\frac{\text{overheads}}{\text{total assets}}\\ &-\frac{\text{loan loss provisions}}{\text{total assets}}\\ &\pm\frac{\text{non - recuring items}}{\text{total assets}}\end{aligned}$$

Hence, any changes in total profitability, expressed as returns on total assets, can be attributed to changes in one, or more, of the above components. Focusing on 2005, which is the last period that we have complete data for, we estimate that Greek banks we able to boost their returns mainly by increasing their efficiency (overheads to total assets declined by 12.5%). An additional source of profitability was non-recurring items, which in 2005 had a positive contribution (increased by 18%) mainly due to profits from the sell-off of participation to affiliated companies and non-core business units. This is a marked change from 2004, when non-recurring items had a negative contribution to total profitability due to costs related to voluntary redundancies and other related expenses. Greek banks also reduced slightly the percentage of provisions to total assets (provisions to assets declined by 4.7%). On the contrary, both interest and non-interest income declined (as a percentage of total assets) in 2005 by 7.1% and 4.1%, respectively.

New Europe

- The Central and Eastern European countries exhibit strong macroeconomic fundamentals.
- Rising disposable income boosts household consumption and demand for credit.
- Greek banks control 14.3% of banking assets in Romania, 16.3% in Serbia, 28.3% in Bulgaria, 32% in Albania and 3.5% in Turkey.
- With the exception of NBG, New Europe's contribution to Greek banks' results still not substantial.

In an attempt to diversify their sources of income and profitability, Greek banks have invested a significant amount of their capital in acquiring financial institutions in the countries of Central and Eastern Europe, to which we collectively refer to as New Europe.

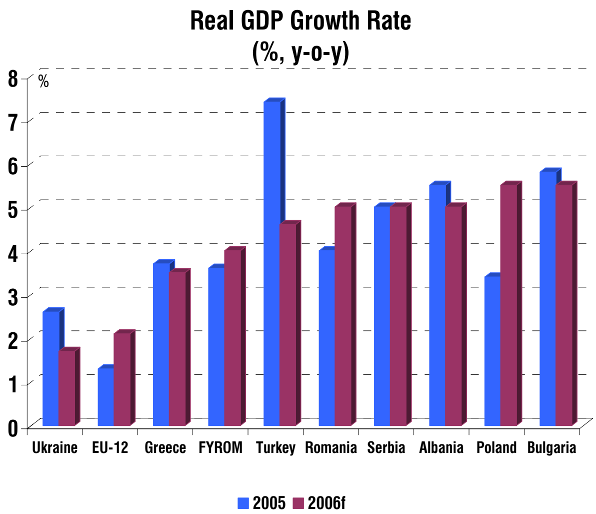
The rationale behind this eastward expansion is the following:

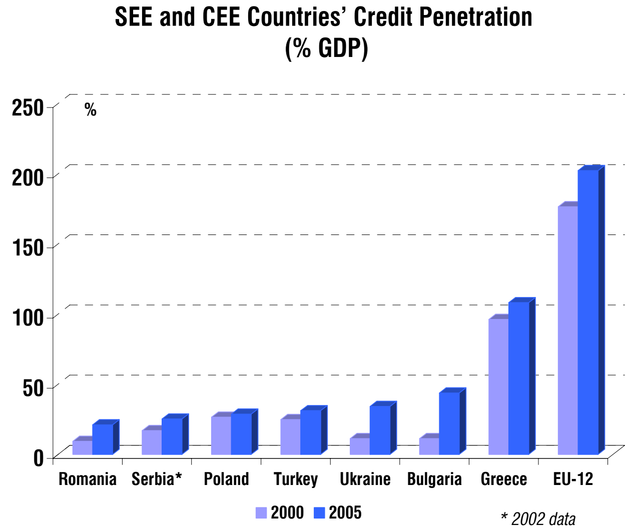
a) Significant improvement of the macroeconomic conditions. After a long period of economic restructuring, these countries have achieved significant rates of economic growth and have managed to address a number of chronic problems of the past. In parallel, they have managed to attract a substantial flow of portfolio and FDI investments, in order to build up their production capacity and modernize their infrastructure. Finally, from January 2007, Bulgaria and Romania will become members of the European Union and will benefit further from structural and cohesion funds.

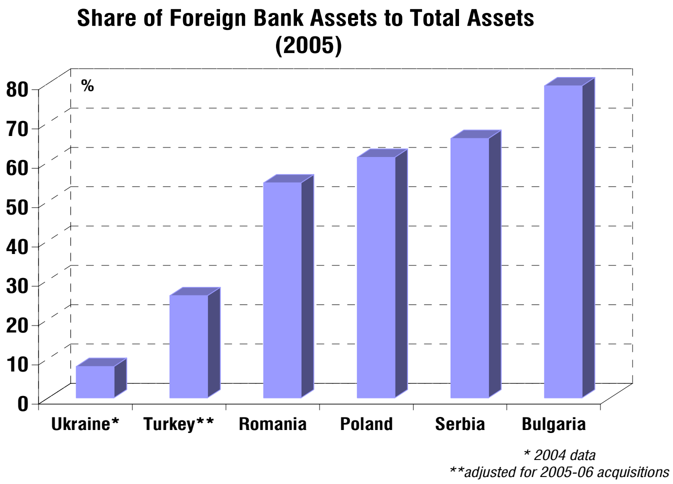
b) High rates of credit expansion. Improving macroeconomic conditions have increased the need for new investments from enterprises, which (given the degree of stock market underdevelopment) are financed by bank loans. At the same time, rising disposable income and the desire to improve the standards of living have given a boost to household consumption. This catch-up demand, assisted by falling local interest rates and/or the ability to borrow in foreign currency, has led to an unprecedented rate of credit growth. This demand for credit provides banks with a unique opportunity to expand their loan portfolios and increase their market shares in the local economies.

c) Extensive privatization programs. Buffeted by banking crises that crippled their entire economies, local governments have realized the importance of opening up their banking systems to foreign capital and know-how. These privatization programs were so extensive and foreign investors demand so high that in most countries the largest proportion of banking system is already controlled by foreign banks.

Figure 25







Given the close cultural and economic ties that Greece has with these countries, Greek banks found an opportunity to expand their activities abroad. As a result, Greek banks currently control 14.3% of banking assets in Romania, 16.3% in Serbia, 28.3% in Bulgaria, 32% in Albania and 3.5% in Turkey (Table 3).

Turning our attention to the contribution of their Eastern European subsidiaries to their consolidated results we see that, for the first half of 2006, they accounted for 6.6%[7] of the four largest banks' total pre-tax profits. This share grows to 15.2% once the contribution of the recently acquired Finansbank by the National Bank of Greece (NBG) is included. According to banks' own projections, the share of Greek

[7] Including Greek banks' subsidiaries in Egypt.

banks' profits from their subsidiaries in New Europe is expected to grow to more than 20% of total profits in the period 2008-2010. Hence, the realistic conclusion is that, with the exception of NBG, Greek banks' expansion to New Europe represents more an investment for the future, to pick up the slack when the pace of credit expansion in Greece will start moderating, rather than an immediate source of revenue.

Table 5

	Market Share (% Assets)	**Number of Branches**	**Number of Employees**
F.Y.R.O.M.	**40.1**	**54**	**1,135**
Albania	**32.0**	**36**	**408**
Bulgaria	**28.3**	**316**	**3,965**
Serbia	**16.3**	**194**	**2,842**
Romania	**14.3**	**266**	**5,744**
Cyprus	**12.6**	**57**	**1,019**
Turkey	**3.5**	**263**	**7,529**
Egypt	**0.9**	**25**	**695**

Source: Hellenic Bank Association, Eurobank Research

Conclusions

The main motivation behind this review was to examine, in a systematic and comprehensive way, the issue of whether the Greek banking system has still room to grow substantially above trend, or whether it is in the process of gravitating towards more mature banking systems.

Our main conclusion is that at least for the foreseeable future the Greek banking system, especially its retail side of operations, will continue to grow with rates substantially above the Eurozone's norm. This conclusion is not merely the outcome of a forecasting exercise. Instead, we base our assessment on a wide variety of indicators that affect the prospects of the Greek banking system. The main paragon of banking sector growth was the adoption of the Euro and the associated decline of interest rates and general improvement of the macroeconomic fundamentals. Additional factors, such as the relative underdevelopment of the banking system, the strong demand for credit from households and the expansion to Central and Eastern European countries will help Greek banks to maintain their original momentum.

Yet, it would be misleading to assume that the Greek banking sector faces no downside risks. Credit expansion, if left unchecked, has the potential to lead to overborrowing and unavoidably to the deterioration of the credit quality of the banks' portfolio. Already, we can see signs of high NPLs in the Greek banking system, although the Greek banks are well capitalized. Furthermore, Greek banks should seek to diversify their sources of income and not rely exclusively on households getting on more debt, in the form of either mortgage or consumer credit. In that respect, expansion in New Europe can provide a useful alternative, as well as a hedge for future credit growth, for the time when the Greek market reaches maturity.

Appendix A: Greek Banking Sector in Numbers

Macroeconomic Data

	1998	1999	2000	2001	2002	2003	2004	2005
Nominal GDP at Current Prices (bln Euros)	105.8	112.7	124.4	133.1	143.5	155.5	168.4	181.1
Real GDP Growth Rate	3.4	3.4	4.5	5.1	3.8	4.8	4.7	3.7
Inflation Rate	4.8	2.6	3.2	3.4	3.6	3.5	2.9	3.5
Per Capita National Disposable Income (in Euros)	10,540	11,137	11,779	12,219	13,051	14,052	15,121	16,025
Budget Deficit (% GDP)	-4.3	-3.4	-4	-4.9	-4.9	-5.8	-6.9	-4.5
General Government Debt (% GDP)	112.4	112.3	111.6	113.2	110.7	107.8	108.5	107.5
Current Account Deficit (%GDP)	-4.9	-5.7	-8.8	-9.2	-9.7	-10	-9.5	-9.2
Unemployment Rate (%)	10.9	12	11.3	10.8	10.3	9.7	10.5	9.8
Real Wages (%, annual percentage change)	0.8	4.1	-1.5	3.5	7.3	1.7	3.2	2.3
Real Unit Labor Cost (%, anuual percentage change)	4.2	3.3	4.2	3.5	5.1	3.6	4.1	2.2
Nominal Interest Rate (%)	13.96	10.24	7.72	4.2	3.31	2.3	2.1	2.2
Real Interest Rate (%)	9.2	7.57	4.57	0.82	-0.32	-1.23	-0.79	-1.34

Banking Sector

	2000	2001	2002	2003	2004	2005
Other MFIs Assets (bln Euros)	183.91	190.59	189.13	199.67	227.67	266.74
Other MFIs Assets (% GDP)	147.84	143.19	131.80	128.41	135.20	147.29
Mortgage Loans (bln Euros)	11.27	15.65	21.22	26.53	33.13	43.20
Mortgage Loans (% GDP)	9.06	11.76	14.79	17.06	19.67	23.85
Mortgage Loans Growth Rate (%, y-o-y)	-	38.86	35.60	25.02	24.85	30.41
Consumer Loans (bln Euros)	5.70	8.18	10.27	13.66	18.51	22.50
Consumer Loans (%GDP)	4.58	6.14	7.16	8.79	10.99	12.42
Consumer Loans Growth Rate (%, y-o-y)	-	43.50	25.65	33.01	35.45	21.56
Business Loans (in bln Euros)	42.36	50.20	55.01	60.98	65.57	71.28
Business Loans (% GDP)	34.05	37.72	38.34	39.21	38.93	39.36
Business Loans Growth Rate (%, y-o-y)	-	18.50	9.59	10.85	7.52	8.72
Deposits (in bln Euros)	90.74	135.73	133.85	140.03	159.85	187.59
Domestic Deposits (% GDP)	89.30	97.29	89.21	83.84	84.73	91.39
Savings Ratio (% of Gross Disposable Income)	10.53	9.69	8.34	8.31	8.92	6.80
Financing Gap (% Gross Capital Formation)	-4.69	-4.66	-4.40	-3.38	-1.82	-0.99
Average Lending Interest Rate (%)	9.68	7.26	6.38	6.04	6.03	5.73
Average Deposit Interest Rate (%)	4.00	1.96	1.64	1.15	1.19	1.25
Interest Rate Differential (in basis points)	568	530	474	489	484	447

Banking Sector's Performance

	1998	1999	2000	2001	2002	2003	2004	2005
Liquidity								
Liquid Assets to Deposits & Short-term Funding (%)	51.2	53.0	42.6	34.5	30.8	28.4	24.5	13.6
Profitability								
Return on Assets (%)	-	-	-	1.0	0.5	0.6	0.3	0.9
Return on Equity (%)	-	-	-	12.4	6.8	8.9	5.6	16.2
Net Interest Income to Total Assets (%)	2.4	2.5	2.4	2.5	2.6	2.8	3.0	2.8
Net Non-Interest Income to Total Assets (%)	2.3	3.7	2.6	1.7	1.2	1.2	1.2	1.2
Recurring Earning Power (%)	1.9	4.0	2.4	1.6	1.2	1.5	1.7	1.9
Net Interest Margin (%)	2.6	3.2	2.8	2.9	2.9	3.1	3.3	3.5
Net Interest Revenue/Total Operating Income (%)	51.6	40.6	47.9	59.9	68.9	70.1	71.3	70.6
Asset Quality								
Non-Performing Loans to Total Loans (%)								
– Total Loans	-	-	-	8.3	7.4	7.0	6.3	6.4
– Consumer Loans	-	-	-	8.3	8.5	8.0	7.2	7.8
– Mortgages	-	-	-	6.6	6.9	4.8	4.6	3.6
– Business Loans	-	-	-	8.7	7.4	7.4	7.8	7.1
Loan Loss Provissions to Net Interest Revenues (%)	21.9	17.5	15.8	15.3	15.2	15.9	18.3	18.7
Capital Adequacy								
Regulatory Capital to Risk-Weighted Assets (%)	-	-	-	12.4	10.5	12	12.8	13.2
Efficiency								
Cost-to-Income (%)	60.6	45.8	55.4	63.1	69.3	62.9	60.3	56.4
Overheads to Total Assets (%)	2.86	2.82	2.78	2.66	2.65	2.53	2.58	2.26

Banking Lending by Category (% of Total Loans)

	Housing Loans	Consumer & Other Loans	Business Loans
Greece			
Dec-00	19	9.6	71.4
Mar-06	32.19	16.65	51.15
Spain			
Dec-00	34.88	13.27	51.85
Mar-06	38.92	10.96	50.12
Italy			
Dec-00	13.19	20.35	66.46
Mar-06	21.32	16.61	62.07
Germany			
Dec-00	31.43	10.24	58.33
Mar-06	34.97	10.24	54.79
Portugal			
Dec-00	38.98	13.89	47.13
Mar-06	43.99	10.97	45.03
France			
Dec-01	31.23	17.7	51.07
Mar-06	38.62	16.3	45.12

Appendix B: Data Sources

The data sources for the figures and tables in this report are as follows:

Figure 1: Eurostat, Ameco, Eurobank Research
Figure 2: Eurostat, Ecowin
Figure 3: ESCB Statistics, Eurostat
Figure 4: ECB
Figure 5: Fitch Ratings, IMF
Figure 6: ECB
Figure 7: ESCB Statistics
Figure 8: Central Banks, Eurostat
Figure 9: Central Banks, Ameco
Figure 10: ECB
Figure 11: Eurobank Research
Figure 12: Central Banks, Eurostat
Figure 13: Ameco
Figure 14: Eurobank Research
Figure 15: ESCB Statistics
Figure 16: Ameco,Eurostat, ESCB Statistics
Figure 17: Bankscope
Figure 18: Bankscope
Figure 19: Central Banks
Figure 20: Central Banks
Figure 21: Bankscope
Figure 22: Bankscope, Bank of Greece, IMF
Figure 23: Bankscope, IMF
Figure 24: Bankscope
Figure 25: National Sources, National Central Banks

Table 1: HBA, ASE, HCMC, AGII, AIC, ICAP, Bank of Greece
Table 2: HBA, S&P
Table 3: ECB
Table 4 IMF
Table 5: HBA, Banks' Websites