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THE IMPACT OF IFRS 9 ON THE GREEK SYSTEMIC BANKS

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Abstract
This paper examines the impact of IFRS 9 - Financial Instruments on the four systemic banks in Greece upon the transition to the new accounting standard on January 1, 2018. The implementation of the new standard resulted in an average increase in the impairment of financial assets by 1.38 billion euros (or 11%) at the group level and 1.30 billion euros (or 12%) at the bank level. In addition, the impact on average equity on 1/1/2018 was a decrease of 1.38 billion euros (or 16%) at the group level and 1.34 billion euros (or 17%) at the bank level. The impact on the regulatory capital was an average decrease of 0.55% (0.45%) at the group (bank) level, based on the transitional arrangements, or a decrease of 3.84% (3.91%) at the group (bank) level on a fully-load basis. Finally, some key financial leverage ratios were significantly affected by the new standard.

Keywords: *Accounting standards, IFRS 9, financial assets, expected credit loss, Banks*

JEL Classification Codes: *M41*

I. INTRODUCTION

The new International Financial Reporting Standard (IFRS) 9 - *Financial Instruments* became effective in the European Union on the 1st of January 2018. IFRS 9 concerns the classification and measurement of financial assets and financial liabilities, as well as some contracts to buy or sell non-financial items. The new standard replaced the International Accounting Standard (IAS 39) - *Financial Instruments: Recognition and Measurement*, which was adopted by the International Accounting Standards Board in April 2001.

The adoption of the new standard was the answer to the call for an improvement in the standards regarding the valuation of financial assets, especially in the banking sector. The standard was expected to enhance the trust of investors in the financial statements of banks, but also in the entire financial system. The need for improvement was justified by several complexities and drawbacks in the previous accounting framework mainly concerning the delays in recognizing credit losses, based on the incurred impairment model of IAS 39, and hedge accounting.

IFRS 9 introduced a new approach to the classification and measurement of financial instruments and a new impairment model. The new standard requires that, at the initial recognition of a financial asset, an entity must classify it based on its business model for managing the asset, as well as the contractual cash flow characteristics of the asset. Based on this requirement, there are three options available for the classification of financial assets.

The first option concerns the financial assets which are measured at amortized cost, provided that the asset is held within a business model which seeks to hold assets to collect contractual cash flows. In addition, the contractual terms of the financial asset must give rise on specific dates to cash flows that are solely payments of principal and interest (SPPI) on the principal amount outstanding. The second option concerns the classification of assets at fair value through other comprehensive income (FVTOCI). Financial assets are classified and measured at FVTOCI if they are held in a business model that targets both collecting contractual cash flows and selling financial assets. The last option regards the classification of assets at fair value through profit or loss (FVTPL). Any financial asset that is not held in one of the two previous business models is measured at FVTPL.

On the other hand, the new impairment model of IFRS 9 considers the Expected Credit Losses (ECLs) rather than the incurred losses of IAS 39. The IFRS 9 impairment model no longer requires the loss event to occur to recognize impairment loss. On the contrary, an entity must recognize ECLs for an asset measured at amortized cost or FVTOCI from the initial recognition of the asset onwards. In addition, the impairment of assets is recognized, on an individual or collective basis, in three stages under IFRS 9.

In the case of banks, when a loan is originated or purchased at Stage 1, ECLs resulting from default events that are possible to happen within the next 12 months are recognized and a loss allowance is accounted

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for. On subsequent reporting dates, 12-month ECLs also apply to existing loans with no significant increase in their credit risk since their initial recognition. At Stage 1, interest revenue is calculated on the loan's gross carrying amount without the deduction of ECLs.

In determining whether a significant increase in credit risk has occurred since the initial recognition of a loan, a bank has to assess any change in the risk of default over the expected life of the loan. In this exercise, all available information concerning the actual credit loss experience of the bank, information on payment status, and macroeconomic variables must be taken into consideration.

At Stage 2, if a loan's credit risk has increased significantly since its initial recognition and is not considered low, lifetime ECLs must be recognized. At Stage 2, the calculation of interest revenue on the loan is the same as for Stage 1, i.e., without deducting ECLs from the gross carrying amount of the loan.

At Stage 3, if the credit risk of the loan increases to the point where it is considered credit-impaired, interest revenue is calculated based on the amortized cost of the loan, which is calculated as the gross carrying amount less the loss allowance. Similar to Stage 2, lifetime ECLs are recognized at Stage 3.

In this paper, we examine the day-one impact of IFRS 9 on the four systemic banks in Greece upon the transition to the new accounting standard on January 1, 2018. In examining the impact of the new standard, we focus on the allowance for financial assets' impairment, total equity, regulatory capital, and key financial ratios. Information on the changes that occurred with the implementation of the new standard is found in the published financial statements of the Greek banks for the year ended on December 31, 2018.

The findings indicate that the new standard resulted in an average increase in the impairment of financial assets by 1.38 billion euros or 11% at the group level. The corresponding figures at the bank level are 1.30 billion euros and 12%. The impact on average equity on the transition day was a decrease of 1.38 billion euros or 16% at the group level and 1.34 billion euros or 17% at the bank level. On the other hand, the regulatory capital decreased by an average of 0.55% and 0.45% at the group and bank level, respectively, based on the transitional arrangements. On a fully loaded basis, the decrease in the regulatory capital was 3.84% at the group and 3.91% at the bank level. Finally, key financial leverage ratios were significantly affected by the new standard.

Our study contributes to the relevant literature in several ways. To the best of our knowledge, there is only a paper on IFRS 9 which focuses on the Greek banking system. More specifically, Ntaikou *et al.* (2018) provide a general overview of IFRS 9 and highlight the expected impact on the financial condition of the Greek banking sector. However, this article is a critical overview of the new standard, which is based on papers published by the regulatory authorities, as well as papers by professionals and other guidance reports. In fact, no actual data about the effect of IFRS 9 on Greek banks are offered. We expand the previous work on the Greek banking system by offering real-time data on the impact of the new standard. Going further, the findings of our study could be reflected in other peripheral banking systems with similar characteristics in terms of size, level of concentration, growth potential, number of customers, and openness degree. If so, we could have a broader view of the impact made by IFRS 9 on the international banking system.

The rest of the paper is structured as follows: The next section discusses the main studies on IFRS 9 conducted so far. Section three concerns the methodological approach and the sample of our study. Section 4 provides the findings of our study. Finally, section 5 summarizes the conclusions of our study.

II. LITERATURE REVIEW

A sum of the most representative recent studies on IFRS 9 is discussed in this section. A couple of years before the first adoption of IFRS 9 on January 1, 2018, the study of Novotny-Farkas (2016) examined the interaction of the expected credit loss of IFRS 9 with supervisory rules and discussed potential implications for financial stability in the European Union. According to this study, compared to the incurred loss approach of IAS 39, the model for credit losses suggested by IFRS 9 will incorporate at an earlier stage larger impairment allowances, also being more closely aligned with regulatory expected loss. In addition, IFRS 9 is expected to increase the volatility of regulatory capital for some banks. Overall, the potential benefits of the standard will crucially depend on its proper and consistent application across jurisdictions.

In a case study on a Greek government bond for the period 2009-2011, when Greece's credit rating declined sharply, Gebhardt (2016) highlights the discretion that the preparers have when estimating impairments. According to the author, IFRS 9 relies more on management expectations and will lead to earlier impairments. However, these still appear delayed and low if compared to the fair value losses. Overall, the effect of the transition to IFRS 9 was supposed to be lower than the expected one.

Furthermore, Abad and Suarez (2017) develop a recursive model to assess how different approaches to measuring credit impairment losses will affect the average levels and dynamics of the impairment allowances associated with the loan portfolio of a bank. The results of the simulation showed that, on average, impairment allowances under IFRS 9 are about 1.52% larger than those under the incurred loss approach and about 0.88% larger than those under the one-year expected loss approach.

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In another study, Csaba (2017) analyzes the impairment requirement under IAS 39 and IFRS 9 by focusing on the time and the amount of impairment under the two accounting standards. The author concludes that, under IFRS 9, the provision for loan impairment comes earlier and in a higher amount compared to IAS 39. The provision can be even higher during times of unexpected shocks or uncertainties in economic circumstances. Moreover, Kruger et al. (2018) show that the revised model suggested by IFRS 9 for loan loss provisioning implies a reduction in Tier 1 capital for banks. The reduction is more severe during economic downturns, for credit portfolios of low quality, for banks that do not tighten capital standards during downturns, and under a more comprehensive definition of a significant increase in credit risk under IFRS 9.

In another study, Seitz et al. (2018) collected data from the European banking system over the period 2005-2014 to simulate time series using the expected credit loss model under IFRS 9 and analyze how these behave compared to loan loss reserves under IAS 39. The results indicate that, while the simulated reserves for loan impairment under IFRS 9 are not higher than those under IAS 39, they tend to exceed IAS 39 reserves during times of crisis. In addition, the simulated reserves are very sensitive to changes in the market conditions and differ substantially for more troubled compared to non-troubled banks. In a similar study, Gomaa et al. (2019) examine the efficacy of the replacement of the incurred credit loss model of IAS 39 with the expected credit loss model of IFRS 9 to account for credit impairment losses. The main finding is that the combined effects of eliminating the minimum “probable” threshold condition together with allowing managers to incorporate forward-looking information results in higher impairment reserves.

All the studies above were conducted with data before the actual implementation of IFRS 9 on the 1st of January 2018. In an ex-post study, Loew et al. (2019) conducted the first comprehensive study on the IFRS 9’s effect on a sample of 78 systemic banks in Europe, which are supervised by the European Central Bank (ECB). The study reveals an impact on CET1 which ranges from a positive impact of 540 basis points (bps) to a negative impact of 373 bps. The average impact on the CET1 ratio is negative at -30 bps, while the median impact is also minus at -20 bps. The overall impact on the equity of banks ranges from -26.6% to 4.9%, with the average and median equity impact being equal to -3.6% and -1.4%, respectively. Moreover, Febriani et al. (2019) examine loan loss provisions and discretionary loan loss provisions before and after the adoption of IFRS 9 using a sample of banks in European countries. The results suggest that there is not any significant difference in loan loss provisions and discretionary loan loss provisions after the adoption of IFRS 9.

Going further, Orban and Tamimi (2020) focus on the largest banks in Europe, i.e., 50 banks in the UK, France, Spain, Germany, Netherlands, Italy, and Switzerland, trying to highlight the magnitude of the IFRS 9 impact on the loan impairments recognized by the banks under the new accounting standard. The findings show that IFRS 9 has no significant impact on the total amount of expected credit losses for the largest banks in Europe. In addition, there is no difference in the calculated expected credit losses among banks in the same country. However, differences in the expected losses are observed among banks from different countries. Finally, there is a difference in total assets and the total amount of loan loss allowances among countries. Similarly, Groff and Mörec (2021) investigate the day-one transition effect of IFRS 9 on the level of loan impairments and total equity of banks in Slovenia. The comparative analysis is done on banks that transferred deteriorated loan portfolios to the state’s Bank Assets Management Company and all other banks. The authors find that banks without extensive asset portfolio improvements recognized additional loan impairments on the transition to IFRS 9, whereas the opposite effect is observed for banks that performed state-assisted loan portfolio restructuring.

Finally, Collaku et al. (2021) examine the day-one transition effect of IFRS 9 on assets, allowance for loan losses, and regulatory capital of banks in Kosovo. The findings reveal a significant influence on the recognition of additional impairment for loans. On the other hand, the assets and the regulatory capital of the Kosovan banks were not affected significantly.

III. RESEARCH METHODOLOGY

In this section, we describe our research approach towards the investigation of IFRS 9’s impact on the financial statements and ratios of the Greek systemic banks upon the transition to the new accounting standard on January 1, 2018.

3.1. Impact on balance sheet

In the first step, we quantify the impact of IFRS 9 on the balance sheet of the Greek banks. It is important to notice that the Greek banks chose not to restate the published financial statements for the year ended on 31/12/2017, as they were allowed to by the new standard. On the contrary, they chose to adjust the opening balance of their balance sheet on January 1, 2018, recognizing the impact of IFRS 9 through their opening equity balances compared to those reported in their financial statements for 2017.

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As a consequence of this choice of banks, the comparative balance sheet figures in the financial statements of 2018 are those published in the financial statements of 2017. To prepare the revised balance sheet on January 1, 2018, we used relevant information on the balance sheet items that were affected by the application of IFRS 9. The necessary information was found in the notes of financial statements for 2018.

After the preparation of the revised balance sheets of the Greek banks as of 1/1/2018, we focus on the impact of IFRS 9 on the allowance for assets' impairment on the transition date. Again, the necessary information is found in the notes of 2018's financial statements. The next issue of interest concerns the impact of IFRS on banks' equity on the transition date.

3.2. Impact on regulatory capital

After the examination of the balance sheet, we focus on the regulatory capital of banks, i.e., Common Equity Tier 1 (CET1). CET1 is a component of Tier 1 capital that is primarily common stock held by a bank or other financial institution. CET1 is a capital measure that was introduced in 2014 mainly in the European banking system as a precautionary way to protect the economy from a financial crisis. All Eurozone banks are expected to meet the minimum CET1 ratio requirements to their risk-weighted assets as outlined by financial regulators. Concerning the regulatory capital, it should be noted that on October 25, 2017, an agreement was reached between the European Parliament, the European Council, and the European Commission on the proposal for a Regulation of the European Parliament and of the Council amending Regulation [(EU) 575/2013], regarding the transition period to mitigate the impact of the introduction of IFRS 9 on regulatory capital. The regulation (2395/2017) was adopted by the European Parliament and the Council and was published in the Official Gazette of the European Union on December 12, 2017.

Based on the transitional provisions, banks are allowed, from the first date of IFRS 9's application and for a period of five years, to add to the CET1 ratio the post-tax amount of the difference in provisions that will result from the transition to the new IFRS 9 concerning the provisions that would have been recognized at 31/12/2017 under IAS 39. The amount of the difference in provisions to be added to the CET1 ratio will decrease annually on a weighting basis so that the amount of provisions added to the CET1 ratio gradually decreases until the full impact of IFRS 9 is absorbed by the end of the five years.

The Greek banks made use of the transitional provisions regarding their regulatory capital. However, in their 2018 financial statements, they reported the impact on their capital by IFRS 9 on a fully-load basis too.

3.3. Impact on financial ratios

In the last step, we examine the effect of IFRS 9 on the financial ratios of the Greek banks on 1/1/2018. We chose three key alternative ratios concerning the leverage of the Greek banks. We first compute the following equity ratio (1):

$$\textit{Equity Ratio} = \frac{\textit{Total Equity}}{\textit{Total Assets}} \tag{1}$$

The equity ratio (or equity to asset ratio) is a measure of a company's financial leverage calculated by dividing its equity by its total assets. It indicates the percentage of total assets that are financed by shareholders' equity. A high equity-to-asset ratio means that a company is more likely to be able to pay back its debtors. A low equity-to-asset ratio means that a company is more likely to go bankrupt.

The second ratio we compute is the following:

$$\textit{Leverage Ratio} = \frac{\textit{Total Liabilities}}{\textit{Total Assets}} \tag{2}$$

Total debt-to-total assets is a leverage ratio that defines how much debt a company owns compared to its assets. Using this metric, analysts can compare the leverage of a company with that of other companies in the same industry. This information can reflect how stable a company is from a financial perspective. The higher the ratio, the higher the degree of leverage and, consequently, the higher the risk of investing in that company.

Finally, we calculate the following ratio:

$$\textit{Debt-to-Equity Ratio} = \frac{\textit{Total Liabilities}}{\textit{Total Equity}} \tag{3}$$

The debt-to-equity ratio is used to evaluate a company's financial leverage and is calculated by dividing a company's total liabilities by its shareholder equity. This ratio is an important metric in corporate finance as it measures the degree to which a company is financing its operations with debt rather than its resources.

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4.4. Sample

The sample of our study includes the four systemic banks in Greece that were (and still are) listed in the Athens Exchange upon the transition to IFRS 9. All the data that we use has been found in the financial statements of banks for the year ending 31/12/2018.

Annex A reports some key balance sheet figures of the Greek banks, that is, total assets, total equity, total liabilities, receivables from customers (loans), total investment portfolio, payables to customers (deposits), and loans payable to central banks of other credit institutions. The figures are reported for the year 2017 and revised for 2017, when applicable, as well as for 2018 (for informational reasons). In addition, the accounting data are presented both at the group (consolidated balance sheet) and the bank (separate) level.

In terms of assets, the biggest group in the sample as of December 31, 2017, was that of the National Bank of Greece. The assets of this group at the end of 2017 amounted to 64.77 billion euros. The revised assets on 1/1/2018 were 61.43 billion euros. On the other hand, the smallest group at the time was that of the Eurobank Ergasias Bank, whose assets before and after the revision due to IFRS 9 amounted to 60.02 and 58.94 billion euros, respectively.

Overall, at the group level, the average assets of the sample on December 31, 2017, and January 1, 2018, were equal to 63.26 and 61.45 billion euros, respectively. In percentage terms, the difference between the average consolidated assets before and after the implementation of IFRS 9 is -2.85%. Someone could argue that the decrease in total assets by approximately 3% is not that material. A similar decrease of 2.97% applies to the average assets of the sample at the bank (separate) level.

When it comes to consolidated equity, the mean term of the sample as of December 31, 2017, was equal to 8.43 billion euros. The corresponding amount for the parent companies was 7.81 billion euros. The revised consolidated and separate total equity of the sample decreased by 1.38 and 1.34 billion euros, respectively. Average total liabilities also decreased upon the transition to IFRS 9 by 423 and 368 million euros at the consolidated and bank level.

The receivables from customers (loans) decreased between the closing date of 2017 and the opening date of 2018 by 2.78 (or 6.83%) and 2.69 (or 7.14%) billion euros in consolidated and company terms, respectively. That decrease of about 7% in receivables from customers due to the first-time adoption of IFRS 9 cannot be considered to be that immaterial.

In the case of the investment portfolio, the impact of IFRS 9 translates into an average increase at the consolidated level of 341 million euros (or 24.31%) and a corresponding increase of 389 million euros (or 29.21%) at the bank level. On the other hand, payables to customers and loans payables were not affected by IFRS 9. As a piece of additional information on the banks of the sample, Annex 2 presents some key profit and loss items for the years 2017 and 2018. The items presented are the total revenue from interest, total revenue from commissions, total net revenue, total charges for the impairment of financial assets, the impairment charges as a percentage of total receivables from customers, and profits before and after taxes.

Total average consolidated revenue from interests in 2018 was lower in 2018 than it was in 2017 by 223 million euros. At the bank level, the decrease in this figure amounted to 220 million euros. On the other hand, the average revenue from commissions saw an increase between the two years by 17 and 27 million euros, at the consolidated and bank level, respectively. Overall, total net revenue between 2017 and 2018 decreased by 109 (in consolidated terms) and 91 (in separate terms) million euros.

Interestingly enough, the total average consolidated impairment charges decreased in 2018 compared to those in 2017 by 351 million euros. The corresponding decrease at the average bank level amounted to 364 million euros. These numbers possibly indicate that the impact of IFRS 9 on the profit and loss statement of the Greek banks was not that material, as a significant impairment of financial assets was recognized through equity on the transition date and afterward big annual impairments were not necessary (relevant data for the following years 2019, 2020, 2021 and 2022 could verify or reject this argument). In the same direction, the ratios of total impairment charges to receivables from customers in 2018 were lower than those in 2017 by an average of 0.64% (group) and 0.66% (bank).

Finally, regarding profitability, average consolidated profits before tax (PBT) were slightly positive in 2018 (by 8 million euros), but they were negative in 2017 (by 251 million euros). At the bank level, both years were negative in average terms. In the case of profits after tax (PAT), the average annual consolidated terms are negative. On the other hand, the average profits for the parent companies are positive for both years. Given that the average PBT of banks was negative, the positive average PAT must be the result of recognizing net deferred tax assets (revenues) in both years compared to the previous ones (2018 vs 2017 for 2018 and 2017 vs 2016 for 2017).

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IV. EMPIRICAL RESULTS

The results of our empirical analysis are reported in this section. We first analyze the findings respecting the impact of IFRS 9 on the balance sheet. We then discuss the impact on the regulatory capital and financial ratios, respectively.

4.1. Impact on balance sheet

Annexes C and D present the published consolidated and separate balance sheets, of the Greek bank for the year 2017, along with the revised balance sheets we prepared based on information found in the notes of 2018 published financial statements.

We have already discussed above the changes incurred in total assets, receivables from customers, investment portfolio, total equity, and total liabilities between 1/12/2017 and 1/1/2018 due to the implementation of IFRS 9. Other balance sheet items that were affected upon the transition to the new standard were interest-bearing deposits with banks, derivative financial assets, deferred tax assets, other assets, derivative financial liabilities, deferred tax liabilities, other liabilities and provisions (other than that for the impairment of financial assets).

At the consolidated level, deferred tax assets increased by an average of 100 million euros. Other assets increased by an average of 538 million euros. Finally, the average derivative financial liabilities decreased by 468 million euros. At the bank level, the corresponding changes were +102, +474, and -468 million euros. The impact on the other balance sheet items that were affected by the transition to the new accounting standard was not that significant.

Annex E presents the movement of the consolidated allowance for the impairment of financial assets between IAS 39 on 31/12/2017 and IFRS 9 on 1/1/2018. Annex F presents the corresponding movement at the bank level. The changes reported in the tables concern the effect on loans receivable and other financial assets included in the balance sheet as of 31/12/2017. The effect of IFRS 9 on off-balance sheet financial assets and commitments is presented too.

In absolute terms, the group Piraeus Bank was the most affected by the application of IFRS 9's requirements. The overall additional impairment that was recognized by this group was 1.94 billion euros. Eurobank Ergasias was the least affected group (it recognized an additional impairment of 1.09 billion euros). On average, the consolidated allowance for financial assets' impairment increased by an amount of 1.38 billion euros (or 11%) due to the application of IFRS 9 on 1/1/2018 compared to the amount of the accumulated allowance on 31/12/2017. The respective average increase at the bank level was 1.30 billion euros or 12% in percentage terms.

Table 1 focuses on the IFRS 9's impact on the equity of the Greek banks. In particular, the table differentiates between the impact on other reserves and the impact on retained earnings.

Table 1: Impact on Equity 1/1/2018

NATIONAL BANK OF GREECE	**GROUP**	**BANK**
Equity 31/12/2017	7,379	6,214
Total impact on reserves	42	42
Total impact on retained earnings	-1,582	-1,546
Total impact (loss) on equity	-1,540	-1,504
Revised Equity 1/1/2018	5,839	4,710
% Total Impact on Equity	-21%	-24%
PIRAEUS BANK	**GROUP**	**BANK**
Equity 31/12/2017	9,546	9,426
Total impact on reserves	13	26
Total impact on retained earnings	-1,772	-1,894
Total impact (loss) on equity	-1,759	-1,868
Revised Equity 1/1/2018	7,787	7,558
% Total Impact on Equity	-18%	-20%
ALPHA BANK	**GROUP**	**BANK**
Equity 31/12/2017	9,626	9,145
Total impact on reserves	37	103
Total impact on retained earnings	-1,179	-1,108

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Total impact (loss) on equity	-1,142	-1,005
Revised Equity 1/1/2018	8,484	8,140
% Total Impact on Equity	-12%	-11%
EUROBANK ERGASIAS	**GROUP**	**BANK**
Equity 31/12/2017	7,150	6,442
Total impact on reserves	9	13
Total impact on retained earnings	-1,094	-995
Total impact (loss) on equity	-1,085	-982
Revised Equity 1/1/2018	6,065	5,460
% Total Impact on Equity	-15%	-15%
SAMPLE AVERAGE	**GROUP**	**BANK**
Equity 31/12/2017	8,425	7,807
Total impact on reserves	25	46
Total impact on retained earnings	-1,407	-1,386
Total impact (loss) on equity	-1,382	-1,340
Revised Equity 1/1/2018	7,044	6,467
% Total Impact on Equity	-16%	-17%

Source: Author's elaboration

The table shows that the equity of the Piraeus Bank's group experienced the highest impact among the Greek banks, i.e., total equity decreased by 1.76 and 1.87 billion euros at the consolidated and the bank level, respectively. On average, the equity of the groups in the sample decreased upon the transition to IFRS 9 by 1.38 billion euros 16% compared to the equity published on 31/12/2017. The biggest part of the decrease was recognized through the retained earnings (-1.41 and -1.39 billion euros in consolidated and company terms). On the other hand, reserves increased by 25 and 46 million euros at the consolidated and the bank level, respectively.

4.2. Impact on regulatory capital

The changes that were incurred in the regulatory capital of the Greek banks due to the application of IFRS 9 are presented in Table 2. The changes are presented both at the consolidated and the bank level. In addition, the changes are presented both in accordance with the transitional arrangements and the fully-load basis.

Table 2: Impact on regulatory capital 1/1/2018

NATIONAL BANK OF GREECE	**GROUP**	**BANK**
CET 1 ratio 31/12/2017	**16.98%**	**16.82%**
Total impact on CET 1 ratio (transitional arrangements)	-0.58%	-0.12%
Revised CET1 1/1/2018 (transitional arrangements)	**16.40%**	**16.70%**
CET 1 ratio 31/12/2017	**16.98%**	**16.82%**
Total impact on CET 1 ratio (fully loaded basis)	-3.73%	-4.08%
Revised CET1 1/1/2018 (transitional arrangements)	**13.25%**	**12.74%**
PIRAEUS BANK	**GROUP**	**BANK**
CET 1 ratio 31/12/2017	**15.10%**	**16.30%**
Total impact on CET 1 ratio (transitional arrangements)	-0.52%	-0.48%
Revised CET1 1/1/2018 (transitional arrangements)	**14.58%**	**15.82%**
CET 1 ratio 31/12/2017	**15.10%**	**16.30%**
Total impact on CET 1 ratio (fully loaded basis)	-4.52%	-4.48%
Revised CET1 1/1/2018 (transitional arrangements)	**10.58%**	**11.82%**
ALPHA BANK	**GROUP**	**BANK**
CET 1 ratio 31/12/2017	**18.30%**	**18.70%**
Total impact on CET 1 ratio (transitional arrangements)	-0.90%	-0.88%

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Revised CET1 1/1/2018 (transitional arrangements)	**17.40%**	**17.82%**
CET 1 ratio 31/12/2017	**18.30%**	**18.70%**
Total impact on CET 1 ratio (fully loaded basis)	-4.30%	-4.28%
Revised CET1 1/1/2018 (transitional arrangements)	**14.00%**	**14.42%**
EUROBANK ERGASIAS	**GROUP**	**BANK**
CET 1 ratio 31/12/2017	**17.90%**	**18.90%**
Total impact on CET 1 ratio (transitional arrangements)	-0.20%	-0.30%
Revised CET1 1/1/2018 (transitional arrangements)	**17.70%**	**18.60%**
CET 1 ratio 31/12/2017	**17.90%**	**18.90%**
Total impact on CET 1 ratio (fully loaded basis)	-2.80%	-2.80%
Revised CET1 1/1/2018 (transitional arrangements)	**15.10%**	**16.10%**
SAMPLE AVERAGE	**GROUP**	**BANK**
CET 1 ratio 31/12/2017	**17.07%**	**17.68%**
Total impact on CET 1 ratio (transitional arrangements)	-0.55%	-0.45%
Revised CET1 1/1/2018 (transitional arrangements)	**16.52%**	**17.24%**
CET 1 ratio 31/12/2017	**17.07%**	**17.68%**
Total impact on CET 1 ratio (fully loaded basis)	-3.84%	-3.91%
Revised CET1 1/1/2018 (transitional arrangements)	**13.23%**	**13.77%**

Source: Author's elaboration

Under the transitional arrangements, the impact of IFRS 9 on CET1 does not seem to be significant, as it ranges from a decrease of 20 pbs (30 bps) in the case of the Ergasias Bank group (bank) to a decrease of 90 bps (88 bps) in the case of the Alpha Bank Group (bank). On average, CET1 decreased by 55 bps (45 bps) upon the transition to IFRS 9.

The modest impact on regulatory capital that we see by examining the scenario of transitional arrangements vanishes when the fully-load basis is taken into consideration. Under this scenario, the average regulatory capital decreased by about 4%, from 17.07% to 13.23% at the consolidated level, and from 17.68% to 13.77% at the bank level. The latter decreases cannot be considered to be insignificant.

4.3. Impact on financial ratios

The effect of IFRS 9 on the financial ratios of Greek banks is discussed in this section. The relevant calculations are presented in Annex G. The annex presents the ratios as of 31/12/2017, before and after the application of IFRS 9, and quantifies the differences between the two versions of ratios.

Regarding the equity-to-assets ratio, the average consolidated ratio of the sample was 13.32% under IAS 39 and decreased by 1.86% to 11.46% under IFRS 9. At the bank level, the decrease in equity-to-assets ratios was equal to 1.98%. The decrease in this ratio by about 2% indicates a worse condition of the Greek banks under IFRS 9 compared to that under IAS 39. Similar percentage decreases are observed in the leverage (total-liabilities-to-total-assets) ratios.

The same case can be identified for the debt-to-equity ratio too. At the consolidated level, the average ratio before the implementation of IFRS 9 was 663.81%. After the adoption of IFRS 9, the average consolidated debt-to-equity ratio jumped to 792.91%. This change indicates that the leverage (risk) profile of the Greek banks deteriorated after the induction of IFRS 9. A similar deterioration applies to the leverage status of the parent companies too, as the average debt-to-equity ratio increased by 142.29%, from 658.45% to 800.74%.

V. CONCLUSION

In this paper, we investigated the impact of IFRS 9 on the financial statements and the regulatory capital of the four systemic banks in Greece upon the transition to the new standard on the 1st of January 2018. The focus was on the allowance for the impairment of financial assets and total equity on the transition date. In this respect, the results revealed that the implementation of the new standard resulted in an average increase in the impairment of financial assets by 1.38 billion euros (or 11%) at the group level and 1.30 billion euros (or 12%) at the bank level. In addition, the average equity of the Greek banks decreased on 1/1/2018 by 1.38 billion euros (or 16%) at the group level and 1.34 billion euros (or 17%) at the bank level.

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Next, we paid attention to the effect of IFR9 9 on the regulatory capital of the Greek banks. Based on information released in the financial statements of the Greek banks for the year ended 31/12/2018, IFRS 9 caused an average decrease in the CET1 by 0.55% (0.45%) at the group (bank) level. These percentages concern the scenario of the transitional arrangements allowed by the EU. In a fully-load basis scenario, the decrease in CET1 amounted to 3.84% (3.91%) at the group (bank) level.

Finally, as far as the leverage of the Greek banks is concerned, the effect of IFRS 9 on relevant key financial ratios was significant. In terms of leverage, the financial status of Greek banks worsened under IFRS 9 compared to that under the previous accounting framework of IAS 39.

Overall, based on the results of our analysis, we can argue that the impact of IFRS on the Greek banks was significant. The significance of the effect is in line with the expectations formed in academia based on simulations or other studies conducted before the application of the new accounting standard on the 1st of January 2018.

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ANNEX A. Key balance sheet figures

Mil. Euros	**TOTAL ASSETS**			**EQUITY**			**TOTAL LIABILITIES**			**RECEIVABLES FROM CUSTOMERS**			**INVESTMENT PORTFOLIO**			**PAYBLES TO CUSTOMERS**		**LOANs PAYBLE**	
GROUP	**2018**	**2017**	**2017R**	**2018**	**2017**	**2017R**	**2018**	**2017**	**2017R**	**2018**	**2017**	**2017R**	**2018**	**2017**	**2017R**	**2018**	**2017**	**2018**	**2017**
NATIONAL BANK OF GREECE	65.095	64.768	61.429	5.638	7.379	5.839	59.457	57.389	55.590	30.134	37.941	30.972	8.967	5.581	9.225	43.027	40.265	7.935	7.512
PIRAEUS BANK	61.880	67.417	65.658	7.506	9.546	7.787	54.374	57.871	57.871	39.841	44.720	43.001	3.073	3.817	1.594	44.739	42.715	5.548	11.435
ALPHA BANK	61.007	60.808	59.775	8.143	9.626	8.484	52.864	51.182	51.291	40.228	43.318	41.894	7.013	5.894	5.893	38.732	34.890	10.456	13.142
EUROBANK ERGASIAS	57.984	60.029	58.944	5.031	7.150	6.065	52.953	52.879	52.879	36.232	37.108	36.084	7.815	7.654	7.598	39.083	33.843	8.426	13.991
SAMPLE AVERAGE	**61.491**	**63.255**	**61.452**	**6.580**	**8.425**	**7.044**	**54.912**	**54.830**	**54.408**	**36.609**	**40.772**	**37.988**	**6.717**	**5.737**	**6.078**	**41.395**	**37.928**	**8.091**	**11.520**

Mil. Euros	**TOTAL ASSETS**			**EQUITY**			**TOTAL LIABILITIES**			**RECEIVABLES FROM CUSTOMERS**			**INVESTMENT PORTFOLIO**			**PAYBLES TO CUSTOMERS**		**LOANs PAYBLE**	
BANK	**2018**	**2017**	**2017R**	**2018**	**2017**	**2017R**	**2018**	**2017**	**2017R**	**2018**	**2017**	**2017R**	**2018**	**2017**	**2017R**	**2018**	**2017**	**2018**	**2017**
NATIONAL BANK OF GREECE	59.287	58.425	55.338	4.638	6.214	4.710	54.649	52.211	50.628	29.103	36.248	29.537	8.754	5.232	8.874	42.249	38.849	8.143	7.673
PIRAEUS BANK	60.420	64.491	62.623	7.554	9.426	7.558	52.866	55.065	55.065	40.641	44.885	43.111	3.055	3.609	1.582	44.919	41.301	5.862	11.772
ALPHA BANK	55.176	55.854	54.962	7.851	9.145	8.140	47.325	46.709	46.822	35.648	38.521	37.236	5.879	4.894	4.892	33.492	30.255	10.689	13.752
EUROBANK ERGASIAS	50.275	51.448	50.466	4.378	6.442	5.460	45.897	45.006	45.006	29.354	30.866	29.893	6.615	6.629	6.573	29.135	25.015	11.297	17.162
SAMPLE AVERAGE	**56.290**	**57.555**	**55.847**	**6.105**	**7.807**	**6.467**	**50.184**	**49.748**	**49.380**	**33.687**	**37.630**	**34.944**	**6.076**	**5.091**	**5.480**	**37.449**	**33.855**	**8.998**	**12.590**

Note: 2017R refers to the revised figures of 2017 after allowing for the impact of the implementation of IFRS 9 on 1/1/2018.

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ANNEX B. Key profit and loss figures

Mil. Euros	REVENUE FROM INTERESTS		REVENUE FROM COMMISSIONS		NET TOTAL REVENUE		NET IMPAIRMENT COST		N.IMP.C/REC.F. CUS.		PROFIT BEFORE TAX		PROFIT AFTER TAX	
GROUP	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
NATIONAL BANK OF GREECE	1,094	1,532	240	233	1,320	1,594	312	807	1.04%	2.13%	9	-131	-50	-412
PIRAEUS BANK	1,410	1,639	339	331	1,882	2,146	669	2,203	1.68%	4.93%	80	-1,219	-171	-204
ALPHA BANK	1,765	1,943	335	323	2,605	2,467	1,731	1,005	4.30%	2.32%	-289	165	53	21
EUROBANK ERGASIAS	1,416	1,464	298	258	1,845	1,882	701	800	1.93%	2.16%	232	181	91	104
SAMPLE AVERAGE	**1,421**	**1,644**	**303**	**286**	**1,913**	**2,022**	**853**	**1,204**	**2.24%**	**2.88%**	**8**	**-251**	**-19**	**-123**
Mil. Euros	**REVENUE FROM INTERESTS**		**REVENUE FROM COMMISSIONS**		**NET TOTAL REVENUE**		**NET IMPAIRMENT COST**		**N.IMP.C/REC.F. CUS.**		**PROFIT BEFORE TAX**		**PROFIT BEFORE TAX**	
BANK	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
NATIONAL BANK OF GREECE	1,032	1,464	212	197	1,325	1,462	299	822	1.03%	2.27%	66	243	7	9
PIRAEUS BANK	1,385	1,614	289	262	1,772	2,019	748	2,200	1.84%	4.90%	-57	-1,203	51	3
ALPHA BANK	1,522	1,694	286	278	2,001	1,938	1,479	798	4.15%	2.07%	-387	106	63	44
EUROBANK ERGASIAS	1,055	1,100	185	127	1,464	1,507	685	848	2.33%	2.75%	56	-24	33	11
SAMPLE AVERAGE	**1,248**	**1,468**	**243**	**216**	**1,640**	**1,732**	**803**	**1,167**	**2.34%**	**3.00%**	**-81**	**-220**	**39**	**17**

Note: N.IMP.C./REC.F.CUS.=Net Impairment Cost/Receivables from Customers

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ANNEX C. Total impact of IFRS 9 on balance sheet (per group)

GROUP	**NBG**			**PIRAEUS BANK**			**ALPHA BANK**			**EUROBANK**			**SAMPLE AVERAGE**		
Assets	**1/1/2018**	**31/12/2017**	**IMPACT**	**1/1/2018**	**31/12/2017**	**IMPACT**	**1/1/2018**	**31/12/2017**	**IMPACT**	**1/1/2018**	**31/12/2017**	**IMPACT**	**1/1/2018**	**31/12/2017**	**IMPACT**
Cash and cash due from banks	1.778	1.778	0	1.449	1.449	0	1.594	1.594	0	1.524	1.524	0	1.586	1.586	0
Interest bearing deposits with banks	1.736	1.736	0	2.148	2.148	0	1.715	1.716	-1	2.122	2.123	-1	1.930	1.931	-1
Trading portfolio assets	5.377	1.801	3.576	1.504	3.727	-2.223	15	9	6	48	49	-1	1.736	1.397	340
Derivative financial assets	3.680	3.681	-1	472	460	12	623	623	0	1.878	1.878	0	1.663	1.661	3
Loans and advances	30.972	37.941	-6.969	43.001	44.720	-1.719	41.894	43.318	-1.424	36.084	37.108	-1.024	37.988	40.772	-2.784
Investment securities	3.848	3.780	68	90	90	0	5.878	5.885	-7	7.551	7.605	-54	4.342	4.340	2
Holdings in associated undertakings	0	0	0	251	251	0	19	19	0	156	156	0	107	107	0
Investment property	874	874	0	1.121	1.121	0	553	553	0	277	277	0	706	706	0
Tangible assets	1.086	1.086	0	1.041	1.041	0	734	734	0	390	390	0	813	813	0
Intangible assets	132	132	0	301	301	0	390	390	0	152	152	0	244	244	0
Deferred tax assets	4.922	4.916	6	6.543	6.543	0	4.722	4.329	393	4.860	4.859	1	5.262	5.162	100
Other assets	1.593	1.612	-19	5.216	3.045	2.171	1.349	1.349	0	1.718	1.724	-6	2.469	1.933	537
Current tax assets	421	421	0	219	219	0	0	0	0	0	0	0	160	160	0
Assets held for sale	5.010	5.010	0	2.302	2.302	0	289	289	0	2.184	2.184	0	2.446	2.446	0
Total assets	**61.429**	**64.768**	**-3.339**	**65.658**	**67.417**	**-1.759**	**59.775**	**60.808**	**-1.033**	**58.944**	**60.029**	**-1.085**	**61.452**	**63.256**	**-1.804**
Liabilities															
Due to credit institutions and central banks	7.512	7.512	0	11.435	11.435	0	13.142	13.142	0	13.991	13.991	0	11.520	11.520	0
Derivative financial liabilities	1.927	3.798	-1.871	402	402	0	1.029	1.029	0	1.853	1.853	0	1.303	1.771	-468
Due to customers	40.265	40.265	0	42.715	42.715	0	34.890	34.890	0	33.843	33.843	0	37.928	37.928	0
Debt securities in issue and other borrowed funds	1.026	1.026	0	435	435	0	656	656	0	549	549	0	667	667	0
Liabilities for current income tax and other taxes	10	10	0	2	2	0	43	43	0	7	7	0	16	16	0
Deferred tax liabilities	0	6	-6	34	34	0	25	25	0	4	4	0	16	17	-2
Liabilities due to post-employment benefits	254	254	0	194	194	0	92	92	0	50	50	0	148	148	0
Other liabilities	992	914	78	960	960	0	871	871	0	498	498	0	830	811	20
Provisions	81	81	0	53	53	0	543	434	109	125	125	0	201	173	27
Liabilities associated with assets held for sale	3.523	3.523	0	1.641	1.641	0	0	0	0	1.959	1.959	0	1.781	1.781	0
Total liabilities	**55.590**	**57.389**	**-1.799**	**57.871**	**57.871**	**0**	**51.291**	**51.182**	**109**	**52.879**	**52.879**	**0**	**54.408**	**54.830**	**-423**
Equity															
Share capital	2.744	2.744	0	2.620	2.620	0	463	463	0	1.605	1.605	0	1.858	1.858	0
Share premium	13.866	13.866	0	13.075	13.075	0	10.800	10.800	0	8.055	8.055	0	11.449	11.449	0
Reserves	365	323	42	24	11	13	846	809	37	8.014	8.005	9	2.312	2.287	25
Other equity items	0	0	0	2.041	2.041	0	15	15	0	43	43	0	525	525	0
Retained earnings	-11.819	-10.237	-1.582	-10.099	-8.327	-1.772	-3.669	-2.490	-1.179	-11.655	-10.561	-1.094	-9.311	-7.904	-1.407
	5.156	**6.696**	**-1.540**	**7.661**	**9.420**	**-1.759**	**8.455**	**9.597**	**-1.142**	**6.062**	**7.147**	**-1.085**	**6.834**	**8.215**	**-1.382**
Non-controlling interests	683	683	0	126	126	0	29	29	0	3	3	0	210	210	0
Total equity	**5.839**	**7.379**	**-1.540**	**7.787**	**9.546**	**-1.759**	**8.484**	**9.626**	**-1.142**	**6.065**	**7.150**	**-1.085**	**7.044**	**8.425**	**-1.382**
Total Liabilities and equity	**61.429**	**64.768**	**-3.339**	**65.658**	**67.417**	**-1.759**	**59.775**	**60.808**	**-1.033**	**58.944**	**60.029**	**-1.085**	**61.452**	**63.256**	**-1.804**

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ANNEX D. Total impact of IFRS 9 on balance sheet (per bank)

BANK	**NBG**			**PIRAEUS BANK**			**ALPHA BANK**			**EUROBANK**			**SAMPLE AVERAGE**		
Assets	**1/1/2018**	**31/12/2017**	**IMPACT**	**1/1/2018**	**31/12/2017**	**IMPACT**	**1/1/2018**	**31/12/2017**	**IMPACT**	**1/1/2018**	**31/12/2017**	**IMPACT**	**1/1/2018**	**31/12/2017**	**IMPACT**
Cash and cash due from banks	1.491	1.491	0	1.154	1.154	0	775	775	0	372	372	0	948	948	0
Interest bearing deposits with banks	1.723	1.723	0	2.092	2.092	0	2.213	2.228	-15	2.918	2.867	51	2.237	2.228	9
Trading portfolio assets	5.354	1.780	3.574	1.495	3.520	-2.025	13	7	6	12	13	-1	1.719	1.330	389
Derivative financial assets	3.672	3.673	-1	473	461	12	628	628	0	1.884	1.884	0	1.664	1.662	3
Loans and advances	29.537	36.248	-6.711	43.111	44.885	-1.774	37.236	38.521	-1.285	29.893	30.866	-973	34.944	37.630	-2.686
Investment securities	3.522	3.452	70	89	89	0	4.881	4.887	-6	6.563	6.616	-53	3.764	3.761	3
Holdings in associated undertakings	1.443	1.443	0	1.057	1.057	0	2.049	2.049	0	1.814	1.814	0	1.591	1.591	0
Investment property	6	6	0	400	400	0	26	26	0	22	22	0	114	114	0
Tangible assets	248	248	0	898	898	0	629	629	0	237	237	0	503	503	0
Intangible assets	125	125	0	256	256	0	351	351	0	105	105	0	209	209	0
Deferred tax assets	4.906	4.906	0	6.484	6.484	0	4.690	4.282	408	4.846	4.846	0	5.232	5.130	102
Other assets	1.440	1.459	-19	4.714	2.795	1.919	1.254	1.254	0	1.602	1.608	-6	2.253	1.779	474
Current tax assets	410	410	0	217	217	0	0	0	0	0	0	0	157	157	0
Assets held for sale	1.461	1.461	0	183	183	0	217	217	0	198	198	0	515	515	0
Total assets	**55.338**	**58.425**	**-3.087**	**62.623**	**64.491**	**-1.868**	**54.962**	**55.854**	**-892**	**50.466**	**51.448**	**-982**	**55.847**	**57.555**	**-1.707**
Liabilities															
Due to credit institutions and central banks	7.673	7.673	0	11.772	11.772	0	13.752	13.752	0	17.162	17.162	0	12.590	12.590	0
Derivative financial liabilities	1.927	3.798	-1.871	404	404	0	1.037	1.037	0	1.850	1.850	0	1.305	1.772	-468
Due to customers	38.849	38.849	0	41.301	41.301	0	30.255	30.255	0	25.015	25.015	0	33.855	33.855	0
Debt securities in issue and other borrowed funds	742	742	0	435	435	0	558	558	0	503	503	0	560	560	0
Liabilities for current income tax and other taxes	0	0	0	0	0	0	18	18	0	0	0	0	5	5	0
Deferred tax liabilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Liabilities due to post-employment benefits	251	251	0	188	188	0	89	89	0	44	44	0	143	143	0
Other liabilities	1.111	823	288	860	860	0	824	824	0	318	318	0	778	706	72
Provisions	75	75	0	105	105	0	289	176	113	114	114	0	146	118	28
Liabilities associated with assets held for sale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total liabilities	**50.628**	**52.211**	**-1.583**	**55.065**	**55.065**	**0**	**46.822**	**46.709**	**113**	**45.006**	**45.006**	**0**	**49.380**	**49.748**	**-368**
Equity															
Share capital	2.744	2.744	0	2.620	2.620	0	463	463	0	1.605	1.605	0	1.858	1.858	0
Share premium	13.863	13.863	0	13.075	13.075	0	10.800	10.800	0	8.055	8.055	0	11.448	11.448	0
Reserves	214	172	42	186	160	26	676	573	103	7.768	7.755	13	2.211	2.165	46
Other equity items	0	0	0	2.041	2.041	0	0	0	0	43	43	0	521	521	0
Retained earnings	-12.111	-10.565	-1.546	-10.364	-8.470	-1.894	-3.799	-2.691	-1.108	-12.011	-11.016	-995	-9.571	-8.186	-1.386
	4.710	**6.214**	**-1.504**	**7.558**	**9.426**	**-1.868**	**8.140**	**9.145**	**-1.005**	**5.460**	**6.442**	**-982**	**6.467**	**7.807**	**-1.340**
Non-controlling interests	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total equity	**4.710**	**6.214**	**-1.504**	**7.558**	**9.426**	**-1.868**	**8.140**	**9.145**	**-1.005**	**5.460**	**6.442**	**-982**	**6.467**	**7.807**	**-1.340**
Total Liabilities and equity	**55.338**	**58.425**	**-3.087**	**62.623**	**64.491**	**-1.868**	**54.962**	**55.854**	**-892**	**50.466**	**51.448**	**-982**	**55.847**	**57.555**	**-1.707**

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ANNEX E. Reconciliation of impairment of assets 1/1/2018 (per group)

GROUP-NATIONAL BANK OF GREECE	IMPAIRMENT (IAS 39)	Reclassifications	IMPAIRMENT (IAS 39) after reclassifications	ECL ADJUSTMENT (IFRS 9)	FINAL ECL (IFRS 9)	VAR Mil. Euro	VAR %
On-balance sheet							
Total impairment of loans	10.239	-243	9.996	1.139	11.135	896	9%
Other financial assets	12	126	138	132	270	258	2150%
Total on-balance sheet assets	**10.251**	**-117**	**10.134**	**1.271**	**11.405**	**1.154**	**11%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	0	41	41	30	71	71	100%
Total off-balance sheet assets	**0**	**41**	**41**	**30**	**71**	71	100%
Total Impairment	**10.251**	**-76**	**10.175**	**1.301**	**11.476**	**1.225**	**12%**

GROUP-PIRAEUS BANK	IMPAIRMENT (IAS 39)	Reclassifications	IMPAIRMENT (IAS 39) after reclassifications	ECL ADJUSTMENT (IFRS 9)	FINAL ECL (IFRS 9)	VAR Mil. Euro	VAR %
On-balance sheet							
Total impairment of loans	15.378	0	15.378	1.724	17.102	1.724	11%
Other financial assets	223	0	223	61	284	61	27%
Total on-balance sheet assets	**15.601**	**0**	**15.601**	**1.785**	**17.386**	**1.785**	**11%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	0	0	0	154	154	154	100%
Total off-balance sheet assets	**0**	**0**	**0**	**154**	**154**	**154**	**100%**
Total Impairment	**15.601**	**0**	**15.601**	**1.939**	**17.540**	**1.939**	**12%**

GROUP-ALPHA BANK	IMPAIRMENT (IAS 39)	Reclassifications	IMPAIRMENT (IAS 39) after reclassifications	ECL ADJUSTMENT (IFRS 9)	FINAL ECL (IFRS 9)	VAR Mil. Euro	VAR %
On-balance sheet							
Total impairment of loans	13.336	-345	12.991	1.426	14.417	1.081	8%
Other financial assets	0	0	0	87	87	87	100%
Total on-balance sheet assets	**13.336**	**-345**	**12.991**	**1.513**	**14.505**	**1.169**	**9%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	1	0	1	109	110	109	13890%
Total off-balance sheet assets	**1**	**0**	**1**	**109**	**110**	**109**	**13890%**
Total Impairment	**13.337**	**-345**	**12.992**	**1.623**	**14.615**	**1.278**	**10%**

GROUP-EUROBANK ERGASIAS	IMPAIRMENT (IAS 39)	Reclassifications	IMPAIRMENT (IAS 39) after reclassifications	ECL ADJUSTMENT (IFRS 9)	FINAL ECL (IFRS 9)	VAR Mil. Euro	VAR %
On-balance sheet							
Total impairment of loans	10.085	0	10.085	1.022	11.107	1.022	10%
Other financial assets	0	0	0	71	71	71	100%
Total on-balance sheet assets	**10.085**	**0**	**10.085**	**1.093**	**11.178**	**1.093**	**11%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	0	0	0	0	0	0	0%
Total off-balance sheet assets	**0**	**0**	**0**	**0**	**0**	**0**	**0%**
Total Impairment	**10.085**	**0**	**10.085**	**1.093**	**11.178**	**1.093**	**11%**

GROUP-SAMPLE AVERAGE	IMPAIRMENT (IAS 39)	Reclassifications	IMPAIRMENT (IAS 39) after reclassifications	ECL ADJUSTMENT (IFRS 9)	FINAL ECL (IFRS 9)	VAR Mil. Euro	VAR %
On-balance sheet							
Total impairment of loans	12.259	-147	12.113	1.328	13.440	1.181	10%
Other financial assets	59	32	90	88	178	119	100%
Total on-balance sheet assets	**12.318**	**-115**	**12.203**	**1.416**	**13.618**	**1.300**	**11%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	0	10	10	73	84	84	100%
Total off-balance sheet assets	**0**	**10**	**10**	**73**	**84**	**84**	**100%**
Total Impairment	**12.318**	**-105**	**12.213**	**1.489**	**13.702**	**1.384**	**11%**

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ANNEX F. Reconciliation of impairment of assets 1/1/2018 (per bank)

BANK-NATIONAL BANK OF GREECE	IMPAIRMENT (IAS 39)	Reclassific ations	IMPAIRMENT (IAS 39) after reclassifications	ECL ADJUSTMENT (IFRS 9)	FINAL ECL (IFRS 9)	VAR Mil. Euro	VAR %
On-balance sheet							
Total impairment of loans	9.990	-450	9.540	1.088	10.628	638	6%
Other financial assets	12	126	138	132	270	258	2150%
Total on-balance sheet assets	**10.002**	**-324**	**9.678**	**1.220**	**10.898**	**896**	**9%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	0	248	248	40	288	288	100%
Total off-balance sheet assets	**0**	**248**	**248**	**40**	**288**	288	100%
Total Impairment	**10.002**	**-76**	**9.926**	**1.260**	**11.186**	**1.184**	**12%**
BANK-PIRAEUS BANK	**IMPAIRMENT (IAS 39)**	**Reclassific ations**	**IMPAIRMENT (IAS 39) after reclassifications**	**ECL ADJUSTMENT (IFRS 9)**	**FINAL ECL (IFRS 9)**	**VAR Mil. Euro**	**VAR %**
On-balance sheet							
Total impairment of loans	14.659	0	14.659	1.656	16.315	1.656	11%
Other financial assets	150	0	150	60	210	60	40%
Total on-balance sheet assets	**14.809**	**0**	**14.809**	**1.716**	**16.525**	**1.716**	**12%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	0	0	0	153	153	153	100%
Total off-balance sheet assets	**0**	**0**	**0**	**153**	**153**	**153**	**100%**
Total Impairment	**14.809**	**0**	**14.809**	**1.869**	**16.678**	**1.869**	**13%**
BANK-ALPHA BANK	**IMPAIRMENT (IAS 39)**	**Reclassific ations**	**IMPAIRMENT (IAS 39) after reclassifications**	**ECL ADJUSTMENT (IFRS 9)**	**FINAL ECL (IFRS 9)**	**VAR Mil. Euro**	**VAR %**
On-balance sheet							
Total impairment of loans	10.994	-345	10.649	1.300	11.949	955	9%
Other financial assets	0	0	0	88	88	88	100%
Total on-balance sheet assets	**10.994**	**-345**	**10.649**	**1.389**	**12.037**	**1.044**	**9%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	12	0	12	114	125	114	971%
Total off-balance sheet assets	**12**	**0**	**12**	**114**	**125**	**114**	**971%**
Total Impairment	**11.006**	**-345**	**10.661**	**1.502**	**12.163**	**1.157**	**11%**
BANK-EUROBANK ERGASIAS	**IMPAIRMENT (IAS 39)**	**Reclassific ations**	**IMPAIRMENT (IAS 39) after reclassifications**	**ECL ADJUSTMENT (IFRS 9)**	**FINAL ECL (IFRS 9)**	**VAR Mil. Euro**	**VAR %**
On-balance sheet							
Total impairment of loans	8.986	0	8.986	918	9.904	918	10%
Other financial assets	0	0	0	67	67	67	100%
Total on-balance sheet assets	**8.986**	**0**	**8.986**	**985**	**9.971**	**985**	**11%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	0	0	0	0	0	0	0%
Total off-balance sheet assets	**0**	**0**	**0**	**0**	**0**	**0**	**0%**
Total Impairment	**8.986**	**0**	**8.986**	**985**	**9.971**	**985**	**11%**
BANK-SAMPLE AVERAGE	**IMPAIRMENT (IAS 39)**	**Reclassific ations**	**IMPAIRMENT (IAS 39) after reclassifications**	**ECL ADJUSTMENT (IFRS 9)**	**FINAL ECL (IFRS 9)**	**VAR Mil. Euro**	**VAR %**
On-balance sheet							
Total impairment of loans	11.157	-199	10.958	1.241	12.199	1.042	9%
Other financial assets	41	32	72	87	159	118	100%
Total on-balance sheet assets	**11.198**	**-167**	**11.030**	**1.327**	**12.358**	**1.160**	**10%**
Off-balance sheet							
Off-balance sheet financial assets and commitments	3	62	65	77	142	139	4736%
Total off-balance sheet assets	**3**	**62**	**65**	**77**	**142**	**139**	**4736%**
Total Impairment	**11.201**	**-105**	**11.095**	**1.404**	**12.499**	**1.299**	**12%**

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ANNEX G. Impact on financial ratios 1/1/2018

	Equity Ratio			Leverage Ratio			Debt-to-Equity Ratio		
GROUP	**Published 31/12/17**	**Revised 31/12/17**	**VAR**	**Published 31/12/17**	**Revised 31/12/17**	**VAR**	**Published 31/12/17**	**Revised 31/12/17**	**VAR**
NATIONAL BANK OF GREECE	11,39%	9,51%	1,89%	88,61%	90,49%	-1,89%	777,73%	952,05%	-174,31%
PIRAEUS BANK	14,16%	11,86%	2,30%	85,84%	88,14%	-2,30%	606,23%	743,17%	-136,94%
ALPHA BANK	15,83%	14,19%	1,64%	84,17%	85,81%	-1,64%	531,70%	604,54%	-72,83%
EUROBANK ERGASIAS	11,91%	10,29%	1,62%	88,09%	89,71%	-1,62%	739,57%	871,87%	-132,30%
SAMPLE AVERAGE	**13,32%**	**11,46%**	**1,86%**	**86,68%**	**88,54%**	**-1,86%**	**663,81%**	**792,91%**	**-129,10%**
	Equity Ratio			**Leverage Ratio**			**Debt-to-Equity Ratio**		
BANK	**Published 31/12/17**	**Revised 31/12/17**	**VAR**	**Published 31/12/17**	**Revised 31/12/17**	**VAR**	**Published 31/12/17**	**Revised 31/12/17**	**VAR**
NATIONAL BANK OF GREECE	10,64%	8,51%	2,12%	89,36%	91,49%	-2,12%	840,22%	1074,90%	-234,69%
PIRAEUS BANK	14,62%	12,07%	2,55%	85,38%	87,93%	-2,55%	584,18%	728,57%	-144,38%
ALPHA BANK	16,37%	14,81%	1,56%	83,63%	85,19%	-1,56%	510,76%	575,21%	-64,45%
EUROBANK ERGASIAS	12,52%	10,82%	1,70%	87,48%	89,18%	-1,70%	698,63%	824,29%	-125,65%
SAMPLE AVERAGE	**13,54%**	**11,55%**	**1,98%**	**86,46%**	**88,45%**	**-1,98%**	**658,45%**	**800,74%**	**-142,29%**