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Studying banking performance from an accounting perspective: Evidence from Europe

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Abstract. *This paper investigates the relationship between management quality and bank performance through a system of bank-specific factors, under the constraint of the prudential regulations and the macroeconomic environment. The research, based on multiple linear regressions, analyzes a sample of 207 banks from 29 European countries, grouped according to the IMF classification into emerging and developed countries, for the period 2010-2015. We find that performance is positively influenced by: the efficiency of managing the bank assets; the high weight of traditional banking activities in total activities; the inflation; the economic growth rhythm, combined with the monitoring of the credit and liquidity risks. Performance is negatively correlated with the raise in the banking functionality costs and the diversification of activity through financial investments on the capital markets. This research extends the existing literature by analyzing the post-crisis period and by introducing the influence of additional internal determinants, not considered in other studies.*

Keywords: determinants of bank profitability; post-crisis period; European banks; regression analysis.

JEL Classification: G21, M40, M10.

1. Introduction

In the last decades, significant restructuring of the banking industry took place, confining the traditional banking activities (collecting deposits and granting loans). Banks became more international as a result of the deregulation of the banking system, of the evolution of technologies and of the new means of communication, which contributed to a better mobilisation of customers' savings and to a more efficient portfolio management (Palomo Zurdo and Sanchis Palacio, 2010). The adaptation and transformation constraints have lead to the identification of new opportunities for obtaining performance. The main purpose of the redefinitions of the banking activity, which complicated bank management, was to increase bank performance. Performance is a generic concept explained by notions such as: profitability, competitiveness, cost and profit efficiency, productivity, value added and other accounting performance criteria (Munteanu et al., 2013; Alhassan and Asare, 2016).

This paper investigates the effect of bank-specific and macroeconomic determinants on bank profitability. First, it analyzes the relationship between bank performance and management quality, evaluated through a new series of indicators that express the efficiency of using the bank resources. Second, it studies the extent to which bank profitability is also affected by the macroeconomic environment. Third, it investigates if adding proxies for capital adequacy, asset quality and liquidity enhances the performance of the analyzed banks. All the variables have been selected taking into account the modification of the behaviour of the credit institutions towards the injunction of the regulating authorities and towards other factors external to the banking system.

Our study attempts to provide additional and more recent evidence on the determinants of bank profitability in Europe. It differs from the earlier papers in several aspects. First of all, it includes a more recent period by investigating the post-crisis period. This allows interesting deductions, since the period is marked by a deterioration of the bank performance, in the context of a decrease in the crediting demand, as a result of the change in the customers' behaviours during crisis. Furthermore, it examines new factors such as asset rotation, elasticity coefficient – operating, elasticity coefficient – financial and net gains/losses on trading securities and derivatives over total income. Thirdly, it defines profitability by using additional dependent variables such as recurring earning power and net interest income to interest-earning assets, alongside the more traditional approaches of which we choose only return on assets to enable comparisons with previous studies. Fourthly, it distinguishes between emerging and developed countries, according to the International Monetary Fund (IMF) classification.

The paper is organized as follows: Section 2 deals with the literature review and development of hypotheses, Section 3 describes the empirical approach providing details about variables used, data sources, descriptive statistics and the econometric specification, Section 4 discusses the results and section 5 concludes the paper.

2. Literature review and development of hypotheses

Prior literature consists of studies that focus on the *determinants of bank profitability*, divided into *internal factors*, influenced by the management's policy decisions, and *external factors* or *macroeconomic variables*, that gather the influence of economic and industry conditions (Athanasoglou et al., 2008).

Usually, these studies measure bank performance through return on bank assets – *ROA,* return on bank equity - *ROE* and net interest margins – *NIM*. According to Demirgüç-Kunt and Huizinga (1999), *NIM* is an ex-post interest rate spread. It gives a good measure of the cost of financial intermediation because it explains banks' purely operational efficiencies and the competitive nature of the banking industry (Jara-Bertin et al., 2014). Garcia-Herrero et al. (2009) argue that *ROA* and *ROE* are more comprehensive measures of bank profitability as they include expense management and loan loss provisioning. At the same time, Demirgüç-Kunt and Huizinga (1999) claim that, in developing countries, *ROA* is a more appropriate measure of bank profitability than *ROE* as the latter is more liable to suffer from artificial changes due to recapitalization governmental programs, which allow banks to operate with extreme low equity levels.

In terms of internal determinants, the *quality of expense management* is usually measured by the cost to income ratio. A decrease in the efficiency of expense management translates into lower profitability measures (Maudos and Fernandez de Guevara, 2004). Athanasoglou et al. (2008) provide empirical evidence that the level of operational efficiency positively affects bank profitability. In terms of *diversification*, Demirgüç-Kunt and Huizinga (1999) and Pestana-Barros et al. (2007) report that banks with a relatively high share of non-interest earning assets are less likely to perform well.

As this work focuses on the study of the profitability determinants in terms of *bank management*, it introduces new indicators, such as: *asset rotation* (*AR*), which shows the rhythmicity with which the total assets (less fixed assets and intangibles) generate net banking income, emphasizing the management ability to increase the efficient use of bank assets; *elasticity coefficient – operating (ECO),* which quantifies the sensitivity of operating earnings to changes in the volume of banking transactions. Banks recording a level of overheads that significantly approaches the value of their net banking income are considered risky and less flexible to market changes; *diversification measures* such as: elasticity *coefficient – financial (ECF)* showing the impact of non-operating activities on net income and *net gains/losses on trading securities and derivatives to total income – net* (*NGLTD/TIn*) that becomes more relevant in the context of the post-crisis period. After 2008, the weight of these earnings in the net banking revenues has diminished. If in the mid-2000s, their share was up to 50% in some banks' balance sheets, at present it does not exceed more than 10-15%, and some banks report losses from these transactions (Lamarque, 2014).

Based on these findings and considerations, we develop the following hypothesis:

H_1: Management quality, measured by the return on the traditional banking activity, the asset utilization intensity, the efficiency of the functionality costs and the diversification of banking operations, significantly influences bank performance.

In extant literature, bank performance is also expressed as a function of *external triggers,* reflecting the economic, legal and financial context. Pasiouras and Kosmidou (2007) argue that *inflation* is positively related to domestic banks, which anticipate its levels and accordingly adjust their interest rates, earning higher profits. Messai et al. (2015) show that inflation is negatively related to *NIM* as a higher rate of inflation increases uncertainty and reduces the demand for credit. Albertazzi and Gambacorta (2009), Ongore and Kusa (2013) notice that gross domestic product (GDP) has a positive impact on banking profitability. Allen et al. (2004) mention that the negative connection between the economic context and the risk of credit has become axiomatic. Evidence provided by Saunders and Schumacher (2000) shows that the higher the volatility of interest rate, the greater NIM is. Demirgüç-Kunt and Huizinga (1999) analyze the financial market structure (stock market capitalization over *GDP*) and find that development of stock markets positively influences profitability as, due to better availability of information, banks can better monitor their customers.

The identification of the factors non-controllable by managers makes the difference between real efficiency, due to the bank managers' ability to make correct decisions, and the increase in efficiency as a consequence of an advantageous external environment. The distinction between these two effects allows for a more accurate interpretation of our findings. In the context of an analysis performed on two groups of countries, including macroeconomic indicators is essential as they have the ability to elucidate some of the performance differences steaming from the different level of macroeconomic development of the two regions. Accordingly, we develop the 2nd hypothesis:

H_2: Management quality, analyzed in a macroeconomic context, significantly influences bank performance.

Banking performance depends on how the entity works to meets its strategic objectives; e.g. offering depositors higher liquidity than the market one; estimating the quality of assets and diversifying them by owning low-risk assets; preserving an optimal balance between costs and benefits; sizing for the optimum level of the capital reserve, etc.

After the crisis, banks repositioned through risk management strategies or even through survival strategies, in a context where customers' habits were affected. Improving operational performance and risk management through the effort of the internal control departments has become a stake for the regulating authorities as well. The resilience of banks in stressful conditions depends on the liquidity level and on capital adequacy. A stronger capitalization is associated with a lower probability of experiencing bank crises and severe costs that affect financial stability (Kosmidou, 2008). Goddard et al. (2004) argue that a bank's capacity to absorb unforeseen losses determines its level of risk measured through proxies such as capital or equity ratio. Research during the financial crisis showed that while the capital ratio did not have a significant impact on bank profitability before the crisis, it had a negative effect on ROA during the 2007-2009 period.

Literature abounds in studies that analyse the effect of "size" on banking profitability, which conclude that banking profitability decreases at the same time with the bank size (Athanasoglou et al., 2008). Other studies identify the positive effect of the bank size on

profitability up to a certain threshold after which profitability stops growing and starts decreasing (Berger, Hasan and Zhou, 2010; Hughes and Mester, 2013). De Coussergues, S. and Bourdeaux, G. (2013) and Khamis et al. (2015) are convinced of the positive effects of bank size on their performance, which is also proven by the restructuring operations that the banking system underwent in many countries.

Garcia-Herrero et al. (2009) argue that profitability is increased by high levels of *liquidity* as long as interest rates on loans are liberalized and the bank applies mark-up pricing. Rahman et al. (2015) confirm the positive and significant impact of loans to assets ratio on *ROA*. Pestana-Barros et al. (2007) state that more specialized, loan-intensive banks (and smaller-sized banks, at the same time) are more likely to perform better. According to Dumicic and Rizdak (2013), asset quality, measured as loan loss provisions to loans or non-performing loans to loans, is significantly negatively correlated with net interest margin for banks in the Central and Eastern European (CEE) countries because they are not allowed to accrue interest on bad loans. In this context, we develop the 3rd hypothesis:

H_3: Management quality, analyzed in a macroeconomic context, together with the level of capital adequacy, asset quality and liquidity enhance bank performance.

3. Empirical approach

This section deals with the variables included in the models, the data sources, the main descriptive statistics and the econometric specification.

3.1. Discussion of variables

Table 1 provides a short description of all dependent and independent variables selected for our research. The explanatory power of the indicators-variables and the way they correlate with banking performance are presented in what follows.

Table 1. *Variables involved in the proposed models*

Variables	Description	Expected correlations to earnings
I. Dependent variables		
Earnings		
NIM	*Net Interest Margin = Net Interest Income/ Interest-Earning Assets*	
ROA	*Return on Assets 2 = Net Income/ Total Assets*	
REP	*Recurring Earning Power = (Profit Before Tax + Loan Loss Provisions)/ Total Assets*	
II. Independent Variables		
II.A Bank-specific characteristics (internal factors)		
Management Quality		
NII/TIn	*Net Interest Income/ Total Income_Net*	+
NFC/TIn	*Net Fees and Commissions/ Total Income_Net*	+
NGLTD/TIn	*Net Gains or Losses on Trading and Derivatives/ Total Income_Net*	±
NII/TL	*Net Interest Income/ Total Loans*	+
CIR	*Cost to Income Ratio = Overheads/ Total Income_Net*	-
AR	*Asset Rotation = Total Income_Net/ Interest-Earning Assets*	+
NIEA/TA	*Non-Interest Earning Assets/ Total Assets*	
ECO	*Elasticity Coefficient Operating = % Change in Operating Income/ % Change in Net Interest Income*	±
ECF	*Elasticity Coefficient Financial = % Change in Net Income/ % Change in Operating Income*	±

Variables	Description	Expected correlations to earnings
Capital Adequacy, Asset Quality and Liquidity		
LnTA	*Ln Total Assets*	±
EQAS	*Equity/ Total Assets*	+
LLP/TL	*Loan Loss Provisions/ Total Loans*	±
TL/TA	*Total Loans/ Total Assets*	±
II.B Macroeconomic condition (external factors)		
InflRate	*Inflation Rate*	±
Ind_GDP	*Index of Gross Domestic Product* = GDP_t / GDP_{t-1}	±
TA/GDP	*Total Assets/ Gross Domestic Product*	±
VarSI	*Variation of Stock Market Index* = Δ *Stock index / Stock index* $_{t-1}$	±
EONIA	*Euro OverNight Index Average*	±
SMC/GDP	*Stock Market Capitalisation/ Gross Domestic Product*	±
ITE/PBT	*Income Tax Expense/ Profit Before Tax*	-

NIM is the expression of the efficiency of the crediting policy, measured by comparing the difference between the collected interests and the paid interests with the size of the revenue-generating assets (Robert et al., 2015). *ROA* reflects the bank institution's manager's ability to use its assets in order to generate positive results, while taking the risks of impairment of receivables, other systemic and market risks. *ROA* is significantly influenced by the structure of the net banking asset, which is correlated with the bank specialisation. *REP* measures the ability of the bank to attain profitability recurrently and sustainably, without taking the risk associated with profitability. Non-exposure to risk is reflected in the numerator of the indicator by not subtracting the loan loss provisions from the profit before tax.

According to Table 1, NII/TIn shows the contribution of the traditional banking activity (collecting deposits and granting credits), measured by the net interest income, to the net banking income. Granting loans represents the basis of the banking activity that brings, in the opinion of certain authors, approximately 50% of the net banking income (Lamarque, 2014). The value of this indicator drops when the possibilities of non-financial entities to attract resources from the financial market grow (Albert, 2015). NFC/TIn measures the extent to which net fees and commissions contribute to the net banking income (De Coussergues and Bourdeaux, 2013). The commission level is more instable than the interest margin, especially in the case of commissions that fund the operations with the financial market (issuing titles, mergers - acquisitions) that depend on the economic context. The general tendency of the banks is to diversify their sources of income, including by diversifying the products and services billed by commissions, in the hope to enhance their performance (Albert, 2015).

NGLTD/TIn quantifies the contribution in obtaining net banking income of the profits/losses from transactions with financial instruments or from transactions that restrict risk exposure (derivatives). NII/TL reflects the net interest margins corresponding to one monetary credit unit granted by the bank, knowing that crediting operations generate higher margins than cash operations or than activities on the financial market. CIR reflects the efficiency of the bank's expenses in order to insure its functioning, an important banking objective in a market characterised by increasing levels of competitive pressure. In the structure of the general expenses, staff expenses have the highest weight,

which, according to some authors, absorb approximately 2/3 of the net banking income, followed by expenses with IT systems, marketing expenses, etc. (Lamarque, 2014). A high CIR tends to diminish performance and to increase the bank failure probability (Robert et al., 2015). *AR* expresses, in number of rotations, the intensity with which total assets generate net banking income. A growing tendency of the *AR* is specific to banks that efficiently manage their assets through customer operations. NIEA/TA is a profitability ratio that quantifies the extent to which the diversification of the banking activity may contribute to enhancing performance. It expresses how much Non-Interest Earning Assets was generated by the total assets involved in the banking activity. ECO measures the operational risk that appears when a less significant decrease in the banking activity triggers high negative variations of the operational result. For banks in this situation, any drop in the volume of operations generates high risk, since it will trigger a drop in the net banking income meant to cover the general expenses and the cost of risks. ECF characterises the relative modification of the net result in relation to the modification the operational result. When less significant variations of the operational income generate high negative variations of the net income, this means that non-recurrent operations have affected the bank's net income.

Based on the TA of a bank, it is possible to evaluate the market share of this bank in the banking system. The competitive advantage of a large bank is rather based on the scale economy than on the customers with whom it develops distant and standardised relationships. According to Stiglitz (2013), banks that are “too big to fail” have the advantage, compared to other banks, that their funders know that they may count on government guarantees and are thus willing to offer resources at lower interest rates, favouring big banks in obtaining performance and in increasing the quota they own on the credit market. *EQAS* represents a security margin in case the risks have a negative and unpredicted evolution (De Coussergues, 2007). Prudential regulations suggest the value of 3% for this ratio, a value that cannot burden banks. EQAS is negatively correlated with the banks' bankruptcy probability. *LLP/TL* is used to analyse the quality of a bank's creditors. It quantifies the size of the provisions meant to compensate the losses from irrecoverable credits, which may affect the bank's loans to its customers. With the economic crisis, the cost of risks increased, diminishing net profits. (Lamarque, 2014). The higher values of the LLP numerator show that some of the financial assets are immobilized in such provisions, and they can have no other destination that would insure the generation of banking income. As a consequence, over a certain LLP_TL limit, it can be negatively correlated with banking performance. TL/TA is a structure ratio of the banking asset used to anticipate the future income of the banks, which is an important source of profit in the era of brokerage and financial liberalisation. The loans volume is thus positively and significantly correlated with banking performance, but without a strict regulation of the crediting activity, they can become a source of systemic risk (Robert et al., 2015).

InflRate plays an essential role in setting interests through the monetary policy. The growth in inflation triggers several investments funded by debt, which leads to an increase in the crediting ratio and insures a larger net interest margin and substantial profits for banks (Demirguc-Kunt and Huizinga, 1999). Moreover, the amplification of

inflation tensions leads to an overvaluation of banking expenses which, in fact, are supported by deponents and creditors. Ind_GDP characterises the macroeconomic situation specific to each country (Motofei, 2017). An intensified economic growth for a nation triggers consumption, savings, and investments, which result in increasing the need for credits and the banks' profit in relation to the net interest margin. Robert, Aèrsne and Belery (2015) consider that the growth perspectives of developed economies are based on drops in the oil price, while favourable funding conditions are preserved, and inhibiting factors associated with the degree of debt in the private sector become more limited.

TA/GDP quantifies the extent to which the total bank assets increase as an effect of the economic growth of a nation, knowing that the intensification of economic growth determines the growth of the need for credits and favourably influences banking performance. Specialised literature points to the fact that the influence of the GDP growth has a higher positive effect on the net margin from interests in the case of bigger banks. VarSI reflects the overall evolution of the securities and, indirectly, the investors' perception on the general state of an economy. An upward tendency of the stock market index is negatively correlated with the net margin from interests. EONIA is the mean performance of the inter-banking monetary market. The financing costs of banks were stabilised around the historical minima, and their drop was propagated gradually into lower levels of collected interests, which improved the dynamics of loans. At the same time, the discrepancies between the Euro-zone countries started to diminish from the point of view of interest rates for bank loans. *SMC/GDP* takes into consideration the fact that there should be a positive relation between economic growth and the development of the financial market. ITE/PBT indicates the fiscal pressure in the case of banks, respectively the weight of taxes in the profit before tax.

3.2. Data sources

The initial population consisted of 2605 observations randomly extracted from the Bankscope Database of Bureau van Dijk's company for the period 2010-2015 from the European banking industry. When financial statements with incomplete data for any of the variables necessary to estimate profitability and/or the internal determinants were eliminated, a number of 2461 observations remained. Further reduction of the sample was determined by selecting banks with a certain specialization (1343 observations remained) and dropping banks not listed on a stock exchange. The final sample consists of 935 observations from 207 banks located in 29 European countries for a period of 6 years (2010-2015). As not all financial statements were available for the whole analysed period, the number of observations differs from one year to another. Only banks with complete data for at least one year between 2010 and 2015 in the Bankscope Database were kept in the sample. Sampled banks have the specializations presented in Table 2.

Table 2. *Breakdown of sampled banks by specialization*

Specialization	Number of banks	%
Commercial banks	147	71.01
Cooperative banks	23	11.11
Investment banks	12	5.80
Savings banks	20	9.66
Real estate & mortgage banks	5	2.42
Total	207	100

Data extracted from the annual financial statements characterize banks from countries with diverse levels of economic, social, and financial development, and with customers whose perspective differs with regards to business funding alternatives. For this reason, we have considered it opportune to group banks into two more homogenous categories: the group of banks in the Central, Eastern and South-Eastern European (CESEE) countries, and respectively the banks in Western European (WE) countries. This separation is based on the regional grouping made by the IMF for Europe.

Therefore, the final sample of CESEE countries includes: Bulgaria, Croatia, Czech Republic, Hungary, Macedonia, Lithuania, Poland, Russia, Slovakia, Slovenia, Turkey and Ukraine. The WE group of countries includes: Austria, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom. More than 66% of the sampled banks come from the WE countries.

The information concerning the macroeconomic indicators (Inflation rates, GDP, EONIA, and Stock Indexes) is taken from: IMF International Financial Statistics and the databases available on the World Bank website and global-rates.com.

3.3. Summary statistics

Table 3 shows the descriptive statistics of the banks in the sample for each variable.

Table 3. *Descriptive statistics*

Variables	N	Mean	Std. Deviation	N	Mean	Std. Deviation
	CESEE countries			Western European countries		
NII/TL	306	0.422	6.362	624	0.048	0.151
NII/TIn	306	-1.004	1.757	629	0.455	0.348
NFC/TIn	306	-3.477	6.082	629	0.200	0.130
NGLTD/TIn	306	2.897	5.068	629	0.017	0.073
CIR	306	-5.563	9.732	629	0.718	4.749
AR	306	0.123	0.202	626	0.132	0.524
ECF	238	76.123	11.562	492	0.538	15.709
ECO	238	-107.219	16.206	485	10.463	16.094
NIEA/TA	306	0.118	0.065	629	0.082	0.101
lnTA	306	15.317	2.111	629	16.123	2.653
EQAS	306	0.122	0.072	629	0.108	0.116
LLP/TL	306	.0160	0.026	624	0.009	0.252
TL/TA	306	0.689	0.101	629	0.673	0.186
ITE/PBT	306	-0.357	8.740	629	0.327	2.089
SMC/GDP	306	0.007	0.012	629	0.008	0.025
TA/GDP	306	0.056	0.077	629	0.179	0.367
InflRate	306	4.557	3.310	629	1.541	1.082
EONIA	306	0.002	0.002	629	.002	0.002
Ind_GDP	306	1.049	0.077	629	1.021	0.039
VarSI	306	1.047	0.197	629	1.045	0.195

Variables	N	Mean	Std. Deviation	N	Mean	Std. Deviation
	CESEE countries			Western European countries		
REPln	285	-4.043	0.824	567	-4.463	0.825
ROAln	261	-4.770	1.141	510	-5.354	1.085
NIMln	306	-3.281	0.447	618	-3.937	0.543

On the average, the *NIM* corresponding to €1 of credit granted by the bank (*NII/TL*), shows a more efficient management of the lending activity for banks in the CESEE countries (0.422) compared to the WE banks (0.048). The low profitability of WE banks can be, on the one hand, a consequence of the high volume of loans, whose future collection depends on the customers' quality, or the consequence of a low NIM, caused by the elevated cost of deposits. Operational banking income is exceeded by operational expenses, leading to a negative net banking income for the CESEE banks and a negative mean for the NII/TIn indicator (-1.004). The contribution of the traditional banking activity in creating the net banking income is, on the average, 45.55% for the WE banks group. NFC/TIn has a negative mean (-3.477) for the banks in the CESEE group, because of the negative values of the net banking income. NFC contributes to creating the net banking income by approximately 20%. The CESEE banks record losses from transactions with financial derivative instruments (NGLTD/TIn) of €2.897 per €1 of net banking income. In the WE group, NGLTD contributes by 1.71% to creating the net banking income.

The CIR mean confirms, for the CESEE banks, the inefficiency of the functioning expenses, as to obtain €1 of operational banking income, €5.563 are spent. The WE banks spend efficiently, on average €0.718, to obtain €1 of net operational banking income, which leaves a mean operational income equal to €0.281 per €1 of operational banking income. In a fiscal year, AR generates net banking income approximately equal for the two groups. Therefore, the interest-earning assets participate on the average 0.123 times in obtaining net banking income for CESEE banks and 0.132 times for WE banks. ECF shows that for an increase by 1% of the operational result, the net income increases by 76.12% for the CESEE banks. The sensitiveness of the net income is reflected in a mean increase by only 0.53% for an increase of 1% of the operational income, for the WE banks. ECO expresses the high sensitiveness of the operational earnings, which drop by 107.21% to the increase of the net interest margin by 1%, in the case of the CESEE banks. For the WE banks, an increase of NIM by 1% determines an increase in the operational income by 10.46%, meaning they have a higher safety margin to risks. NIEA/TA shows that €1 of total assets corresponds to €0.118 NIEA for the CESEE banks, compared to €0.082 NIEA for the WE banks.

For CESEE banks, the mean of total assets is €4,490 million (lnTA equal to 15.317), whose mean growth ratio is 9.63% (Ind_TA is 1.0963). A higher degree of capitalization characterises WE banks, with a mean total asset of €10,052 million (lnTA equal to 16.123), with a mean growth ratio of 4.18% (Ind_TA is 1.0418). This represents a premise for better performance and risk resistance. EQAS stresses that the non risk-adjusted capital ratio is equal to 12.26% for CESEE banks and 10.83% for WE banks. Both bank groups show financial solidity and ability to absorb the losses caused by

potential risks. For CESEE banks, we can see a higher mean for LLP of €0.016 for €1 of total loans (LLP/TL). A smaller part of the financial assets of the WE banks are immobilised in LLP (€0.009 per €1 of total loan). The cost of credit risk is lower for the WE banks than the CESEE banks, because the losses expected from risk exposure are low. For both groups, the weight of the granted loans in the total assets exceeds the weight of deposits in the total assets (TL/TA is 68.91% for the CESEE banks and 67.33% for the WE banks).

ITE/PBT indicates a higher fiscal pressure in the case of the CESEE banks, of approximately -€0.357 for €1 of profit before tax (the minus sign is due to the fiscal calculus). For the WE banks, the fiscal pressure is €0.327 per €1 of profit before tax. SMC/GDP for the CESEE banks shows that €1 of economic growth corresponds to €0.007 of SMC, the ratio being €0.008, in the case of the WE banks. TA/GDP reflects the positive effect of economic growth on total assets that is more significant in the case of the WE banks, €0.179 compared to €0.056.

InflRate records, for the CESEE countries, an average of 4.55%, the inflation pressure being lower, 1.54%, in the case of the WE group. EONIA reflects a mean approximately identical for the CESEE and the WE countries (0.24%). VarSI indicates a mean increase of the capital markets in the CESEE countries by 4.16% and 4.25% in the WE countries.

REPln shows a profit of €0.0175 (lnREP is -4.043) for the CESEE banks and a profit of €0.0115 (lnREP equal to -4.463) for the WE banks. Lending intermediation is, on average, profitable (NIMln) for the banks in the sample. The net interest income is, on average, €0.0375 (lnMIN equal to -3.281), in the case of the CESEE banks, and €0.0195 (lnNIM is -3.937) in the case of the WE banks. ROAln shows that the analyzed banks generated positive results from their current activity. The CESEE banks obtained, on the average, a net profit of €0.008 (lnROA is -4.770), while the WE banks obtain, on the average, €0.004 net profit (lnROA is -5.35).

3.4. Econometric specification

To estimate the association between variables, *a multiple linear regression analysis is* performed. To test H_1, equation (1) is estimated for both groups of countries:

$$Y_{ij} = \beta_0 + \beta_1 NII/TIn_{ij} + \beta_2 NFC/TIn_{ij} + \beta_3 NGLTD/TIn_{ij} + \beta_4 NII/TL_{ij} + \beta_5 CIR_{ij} + \beta_6 AR_{ij} + \beta_7 NIEA/TA_{ij} + \beta_8 ECO_{ij} + \beta_9 ECF_{ij} + \varepsilon_{ij} \quad (1)$$

where: REP_{ij}, NIM_{ij} and ROA_{ij} are the dependent variables (Y_{ij}) of a bank i in country j; β_i are the coefficients of the regression equation measuring the change of the dependent variable under the influence of the independent ones (X_i) (Table 1); the residual variable (ε) sums up the influence of other variables, not included in the models. As the dependent variables are naturally log transformed to ensure the normal distribution of data (Osborne, 2002), the coefficients in the regressions tables should be interpreted after their reverse transformation, through an exponential function: $(e^{\beta i}-1) \times 100$.

To test H_2, equation (2) is estimated for both groups of countries:

$$Y_{ij} = \beta_0 + \beta_1 NII/TIn_{ij} + \beta_2 NFC/TIn_{ij} + \beta_3 NGLTD/TIn_{ij} + \beta_4 NII/TL_{ij} + \beta_5 CIR_{ij} + \beta_6 AR_{ij} + \beta_7 NIEA/TA_{ij} + \beta_8 ECO_{ij} + \beta_9 ECF_{ij} + \beta_{10} InflRate_j + \beta_{11} Ind\_GDP_j + \beta_{12} TA/GDP_j + \beta_{13} VarSI_j + \beta_{14} EONIA_j + \beta_{15} SMC/GDP_j + \beta_{16} ITE/PBT_{ij} + \varepsilon_{ij} \quad (2)$$

To test H_3, equation (3) is estimated for both groups of countries:

$$Y_{ij} = \beta_0 + \beta_1 NII/TIn_{ij} + \beta_2 NFC/TIn_{ij} + \beta_3 NGLTD/TIn_{ij} + \beta_4 NII/TL_{ij} + \beta_5 CIR_{ij} + \beta_6 AR_{ij} + \beta_7 NIEA/TA_{ij} + \beta_8 ECO_{ij} + \beta_9 ECF_{ij} + \beta_{10} InflRate_j + \beta_{11} Ind\_GDP_j + \beta_{12} TA/GDP_j + \beta_{13} VarSI_j + \beta_{14} EONIA_j + \beta_{15} SMC/GDP_j + \beta_{16} ITE/PBT_{ij} + \beta_{17} EQASij + + \beta_{18} lnTA_{ij} + \beta_{19} LLP/TA_{ij} + \beta_{20} TL/TA_{ij} + \varepsilon_{ij} \quad (3)$$

Stepwise method is used to select the variables that best explain the variations of the dependent ones. All models were checked for any violations of the multiple regression assumptions. They failed the Kolmogorov-Smirnof test for normality of the error distribution. According to Jemna (2012), because the sample size is large, the error mean does not significantly differ from zero (as seen from One Sample t-test results) and the errors are distributed around the mean, the violation of the normality assumption does not significantly affect the quality of the model. To test for the autocorrelation of errors, we performed Durbin Watson. The models showing values around 2.000 passed the test (Jaba and Grama, 2004). In terms of homoscedasticity, results of Breucsh Pagan test show that estimated variance of the residuals from the regressions are not dependent on the values of the independent variables.

The independent variables were checked for the nonlinearity through Variance Inflation Factor (VIF) test. We used a level of 10 and above for VIF to indicate a multi-linearity problem (Jemna, 2012). Based on these results, the variables are correlated, but there is no evidence of multi-linearity in any of the models.

To examine if the introduction of proxies for capital adequacy (EQAS and size), asset quality (LLP/TL) and liquidity (TL/TA) enhance bank performance, we compare the 3 models using their adjusted R^2.

To test the economic impact of the explanatory variables on the dependent variables, we use a model ran by Claeys and Vander Vennet (2008) that reveals the effect that an increase of one standard deviation of each independent variables has on REP, ROA and NIM, according to equation 4.

$$(\%SDXi * \beta i) / \%SDYi \quad (4)$$

where: %SD is an increase of one standard deviation, Xi are the independent variables, βi are the regression coefficients, Yi are the dependent variables.

4. Findings and discussions

Results of the test based on equation (1) are presented in Table 4.

Table 4. *Estimations of the regression coefficients for the CESEE and the WE countries*

Countries	CESEE countries			WE countries		
	REP	ROA	NIM	REP	ROA	NIM
No of observations	*285*	*261*	*306*	*566*	*389*	*616*
Equation 1						
Intercept	-3.342	-2.915	-3.722	-3.588	-3.397	-4.259
CIR	-4.539*	-6.172*		-3.871*	-4.775*	-0.786*
NGLTD/TIn	-2.745*	-2.651**	-8.205**		-3.196*	-0.774**
NII/TL	2.915*	3.865*	6.521*	3.836*	-2.156*	-0.284**
NII/TIn	2.069*	1.605*		0.938*		1.318*
AR	1.725*	1.842*	0.427*	0.686*	0.700*	
ECO					-0.001*	
NFC/TIn						-0.433**
NIEA/TA		-2.094**		2.187*	2.140*	2.512*
Adjusted R^2	*0.571*	*0.534*	*0.380*	*0.363*	*0.385*	*0.304*
F-testANOVA (sig.)	*59.826 (0.000)*	*39.546 (0.000)*	*49.505 (0.000)*	*50.750 (0.000)*	*41.450 (0.000)*	*35.817 (0.000)*

*, ** coefficients are statistically significant at the 1% and 5% level (2-tailed).

Table 5 presents the economic impact of the independent variables on the dependent one (REP, ROA, NIM) for the 2 subsamples: CESEE and WE.

Table 5. *Coefficient impact*

Variables	REP		ROA		NIM	
	CESEE	WE	CESEE	WE	CESEE	WE
CIR	-53.609	-22.283	-52.643	-20.900		-6.874
NGLTD/TIn	-16.883		-11.775	-0.215	-93.027	-0.104
NII/TL	22.506	0.702	21.551	-0.300	92.811	-0.079
NII/TIn	4.412	0.396	2.472			0.845
AR	0.423	0.436	0.326	0.338	0.193	
ECO				-0.015		
NFC/TIn						-0.104
NIEA/TA		0.268	-0.119	0.199		0.467

Coefficient impact is calculated according to eq. 4 as the impact on the dependent variable (REP, ROA, and NIM) following a one standard deviation increase in each variable multiplied by the corresponding estimated coefficient in Table 4. All numbers are statistically significant at least at the 5% level.

When REP and ROA are the dependent variables, the models have a higher explanatory power (adjusted R2) for the CESEE banks than for the WE banks (Table 4). The explanatory powers are pretty similar for the NIM regressions, with adjusted R2 being just a little higher in the CESEE countries. For all models, the F-test has high values which, coupled with the corresponding null values of the p-value (Sig.), confirms the existence of a significant linear connection between the independent and dependent variables. Table 4 shows that results are relatively similar for banks in the two subsamples (CESEE and WE). Almost the same determinants are deemed statistically significant for both groups of banks. For the CESEE banks, the internal management determinants affecting all 3 dependent variables are NII/TL, AR and NGLTD/TIn. For the WE group, NII/TL, NIEA/TA and CIR explain both bank profits and interest margins.

The positive relationship between NII/TL and REP/ROA, which is also noticeable for the share of NII in TIn, shows the considerable contribution of traditional banking activity to

the formation of net banking income in the case of the CESEE banks. This is confirmed by the clearly stronger economic impact that an increase of one standard deviation of NII/TL has, on average, on the CESEE bank profitability and margins compared to the WE banks (Table 5). For the other subsample, NII/TL negatively impacts ROA and NIM because the re-launch of lending in the post-crisis growth leads to a simultaneous increase of the credit risk with short-term adverse consequences on ROA and NIM.

The asset rotation (AR) positively affects bank performance and interest margins of both subsamples (Table 4), even though the intensity with which the interest-earning assets participate at the creation of the net annual banking income (TIn) is rather weak. NGLTD/TIn, seen as a measure of diversification, is negatively associated with all dependent variables, which could be explained by NGLTD being a net loss from trading securities and derivatives. Moreover, a one standard deviation rise in NGLTD/TIn decreases ROA and NIM more dramatically in the case of the CESEE banks compared to the WE ones (Table 5). This result is somehow predictable as the capital markets in CESEE countries, both in terms of trading volumes and liquidity, are weaker than those from Western Europe. Another measure of diversification (NIEA/TA) increases both profitability and margins of the WE banks, probably due to the low levels of non-interest earning assets of these banks compared to their earning assets. At the same time, it negatively impacts ROA of the CESEE banks for which a high share of non-interest assets means less profitability. This finding confirms previous results by Demirgüç-Kunt and Huizinga (1999).

For the CESEE subsample, cost to income ratio (CIR) negatively impacts REP and ROA (which corroborates previous findings of Athanasoglou et al., 2008) while NIM is not significantly affected by the poor expense management (which contradicts results reported by Dumicic and Rizdak, 2013). As CIR has a negative connection with all three dependent variables for the WE subsample, is means that an increase in operating expenses reduces significantly the profits of all European banks. However, the economic negative impact is double in the case of the CESEE banks as a one standard deviation rise of CIR reduces REP and ROA with 53.60% and 52.64%, respectively, compared to 22.28% and 20.90%, respectively, in the WE banks (Table 5). These results confirm the inefficient management of the general expenses of the CESEE banks, already noticed in the Summary statistics section; the elevated level of these expenses is connected to the important expansion of the banking activities in the region in the recent decades and is not matched by the corresponding level of banking revenues.

In spite of the similar results, there are some differences between the 2 subsamples that are worth discussing. The structure of the WE banks' income shows levels of net fees and commissions (NFC/TIn) that negatively affect NII. This is consistent with findings of Maudos and Fernandez de Guevarra (2003). In addition, another new profitability driver, ECO, enters the ROA regression negatively. The impact is explained by the following finding: a 1% increase of NIM causes an increase about 10 times higher of the operating income, thus reducing the operational risk. But this positive effect is counteracted by the dynamic of LLP and overheads and, at the same time, by the increase in total assets, meaning that the overall effect is negative.

Hypothesis H_1 is supported.

Results of testing the models illustrated by equation (2) are presented in Table 6.

Table 6. *Estimations of the regression coefficients – macro-economic variables*

Countries	CESEE countries			WE countries		
	REP	ROA	NIM	REP	ROA	NIM
No of observations	*285*	*261*	*306*	*566*	*389*	*616*
Equation 2						
Intercept	-3.342	-2.915	-3.565	-3.600	-6.253	-4.352
CIR	-4.539*	-6.172*		-3.944*	-4.516*	-0.825*
NGLTD/TIn	-2.745*	-2.651**	-7.786**		-2.650*	
NII/TL	2.915*	3.865*	5.376*	3.148*	-2.184*	-0.358*
NII/TIn	2.069*	1.605*		0.974*		1.504*
AR	1.725*	1.842*	0.355*	0.632*	0.651*	
ECO					-0.001*	
NFC/TIn						-0.422**
NIEA/TA		-2.094**		2.427*	2.026*	2.664*
TA/GDP				-0.746*	-1.242*	-0.409*
SMC/GDP			4.857*	5.929*	18.052*	
VarSI			-0.270**			
InflRate			0.034*	0.080*		0.053*
ITE/PBT					-0.324*	
Ind_GDP					2.854**	
Adjusted R^2	*0.571*	*0.534*	*0.459*	*0.440*	*0.468*	*0.396*
F-TestANOVA (sig.)	*59.826 (0.000)*	*39.546 (0.000)*	*34.570 (0.000)*	*43.801 (0.000)*	*35.128 (0.000)*	*45.912 (0.000)*

*, ** coefficients are statistically significant at the 1% and 5% level (2-tailed).

Table 7 presents the economic impact of the independent variables on the dependent one (REP, ROA, NIM) for the 2 subsamples: CESEE and WE.

Table 7. *Coefficient impact*

Variables	REP		ROA		NIM	
	CESEE	WE	CESEE	WE	CESEE	WE
CIR	-53.609	-22.703	-52.643	-19.766		-7.215
NGLTD/TIn	-16.883		-11.775	-0.178	-88.276	
NII/TL	22.506	-0.400	21.551	-0.304	76.515	-0.100
NII/TIn	4.412	0.411	2.472			0.360
AR	0.423	0.401	0.326	0.314	0.286	
ECO				-0.015		
NFC/TIn						-0.101
NIEA/TA		0.297	-0.119	0.189		0.496
TA/GDP		-0.332		-0.420		-0.276
SMC/GDP		0.180		0.416	0.130	
VarSI					-0.119	
InflRate		0.105			0.252	0.106
ITE/PBT				-0.624		
Ind_GDP				0.103		

Coefficient impact is calculated according to eq. 4 as the impact on the dependent variable (REP, ROA, and NIM) following a one standard deviation increase in each variable multiplied by the corresponding estimated coefficient in Table 6. All numbers are statistically significant at least at the 5% level.

When REP and ROA are the dependent variables, introducing macro-economic variables for the CESEE banks leaves the regression coefficients unaltered, including the adjusted R2 (Table 6). As far as NIM (for the CESEE group) and all dependent variables (for the WE banks) are concerned, this new addition amplifies the explanatory power (R2) of the

models. Nevertheless, direction and magnitude of the relationship between the management indicators and the three dependent variables remain almost unchanged.

Therefore, we only examine the influences of the macro-economic indicators, which are statistically significant mostly in the case of the WE banks. Moreover, the economic impact of a one standard deviation rise in these variables on the dependent ones is considerably weaker compared to the internal determinants (Table 7). The lack of statistically significant influence on the CESEE banks might be explained by the fact that, although in the analyzed period, the region is in a phase of economic growth, this is not reflected in the banking performance because it is offset by the cautious customer behaviour specific to post-crisis periods.

The macro-economic determinants that have similar impact for both country groups are inflation rate and SMC/GDP. Inflation rate positively impacts NIM in the CESEE countries and REP and NIM in the WE countries, as it is known that inflation encourages investment financed by debt, which has the effect of increasing the volume of lending. This confirms results by Demirgüç-Kunt and Huizinga (1999). The same relationship exists between SMC/GDP and NIM (CESEE banks) and SMC/GDP and REP and ROA (WE banks), showing the direct relationship between economic growth and growth of capital markets. The first one generates financial resources which are reinvested, with an important contribution from banks acting as intermediaries in the reinvestment process.

The average increase of capital markets in CESEE countries lead banks to diminish their NIM in order to maintain their customers, which explains the negative association between the variations of the main stock indexes, VarSI, and bank NIM. For the WE banks, when divided by GDP, total bank assets negatively influence all three dependent variables. This is due to the fact that simultaneously with the amplification of economic growth, there is an increase in bank assets, which increases the banking system's exposure to liquidity and credit risks. Results related to the influence of TA/GDP are in line with those of Demirgüç-Kunt and Huizinga (1999). Taxation negatively affects ROA in Western Europe. These results confirm the findings of Dietrich and Wanzenried (2011) that higher tax rates lead to lower post-tax profits, but the impact is rather small meaning that banks seem to be able to shift a large fraction of their tax burden onto their customers. WE banks' interest margins are positively associated with variations in GDP, which contradicts the findings of Messai et al. (2015). Normally, the economic growth favours lending activities which also increases the risk exposure. But an efficient management of this exposure combined with the favourable influence of other sources of income eventually exerts a positive effect on ROA. Hypothesis H_2 is confirmed.

Table 8 presents the results of testing the models illustrated by *equation (3)*.

Table 8. *Estimations of the regression coefficients: capital adequacy, asset quality and liquidity*

Countries	CESEE countries			WE countries		
	REP	ROA	NIM	REP	ROA	NIM
No of observations	*285*	*261*	*306*	*566*	*389*	*616*
Equation 3						
Intercept	-6.003	-6.165	-5.886	-3.885	-2.167	-1.605
CIR	-3.699*	-4.840*		-3.884*	-3.954*	-0.832*
NGLTD/TIn	-2.206*	-2.323**			-2.847*	

Countries	CESEE countries			WE countries		
	REP	ROA	NIM	REP	ROA	NIM
NII/TL	3.882*		8.045*	5.732*	-2.891*	-0.505*
NII/TIn	1.666*	1.146*		0.633*		1.362*
AR	1.772*	2.031*	0.570*	0.233**	0.651*	
ECO					-0.001**	
NIEA/TA			1.246*	2.348*	1.703*	2.680*
TA/GDP				-0.294*	-0.522**	
SMC/GDP				4.821*	14.476*	
InflRate	-0.025**		0.014**	0.082*		0.057*
ITE/PBT					-0.314*	
Ind_GDP						-1.163**
TL/TA	1.300*		1.559*	0.976*		0.373*
lnTA	0.088*	0.153*	0.049*	-0.043**	-0.104*	-0.112*
EQAS	2.073*	3.482*		2.486*	2.954*	-0.912*
LLP/TL				6.038*		
Adjusted R^2	*0.611*	*0.556*	*0.537*	*0.549*	*0.529*	*0.563*
F-TestANOVA (sig.)	*39.552 (0.000)*	*43.206 (0.000)*	*46.814 (0.000)*	*45.249 (0.000)*	*44.598 (0.000)*	*69.597 (0.000)*
*,** coefficients are statistically significant at the 1% and 5% level (2-tailed)						

Table 9 presents the economic impact of the independent variables on the dependent one (REP, ROA, NIM) for the 2 subsamples: CESEE and WE.

Table 9. *Coefficient impact*

Variables	REP		ROA		NIM	
	CESEE	WE	CESEE	WE	CESEE	WE
CIR	-43.688	-22.358	-41.282	-17.306		-7.277
NGLTD/TIn	-13.568		-10.318	-0.192		
NII/TL	29.972	1.049		-0.402	114.502	-0.140
NII/TIn	3.552	0.267	1.765			0.873
AR	0.434	0.148	0.360	0.314	0.258	
ECO				-0.015		
NIEA/TA		0.287		0.159	0.181	0.498
TA/GDP		-0.131		-0.177		
SMC/GDP		0.146		0.334		
InflRate	-0.100	0.108			0.104	0.114
ITE/PBT				-0.605		
Ind_GDP						-0.084
TL/TA	0.159	0.220			0.352	0.128
lnTA	0.225	-0.138	0.283	-0.254	0.231	-0.547
EQAS	0.181	0.350	0.220	0.316		-0.195
LLP/TL		1.844				
- Coefficient impact is calculated according to eq. 4 as the impact on the dependent variable (REP, ROA, and NIM) following a one standard deviation increase in each variable multiplied by the corresponding estimated coefficient in Table 8. All numbers are statistically significant at least at the 5% level.						

As seen from Table 8, the models corresponding to equation (3) have the highest explanatory power, reflected in the value of the adjusted R2, which confirms hypothesis H3. As results do not significantly change compared to the previous models, we focus on analysing the impact of the newly-introduced variables in equation 3.

The positive impact of TL/TA on NIM and REP for both groups shows banks' ability to integrate risk and cost considerations (as loans are the most risky and cost intensive class of assets) in their loan pricing behaviour (Claeys and Vander Vennet, 2008). An increase of one standard deviation of this liquidity ratio adds 0.159 percent to REP in the CESEE

banks compared to 0.22 percent in the WE banks (Table 9). The situation is reversed in the case of NIM that is more sensitive to changes in liquidity in the CESEE banks than in the WE banks.

Size (lnTA) increases profitability measured through REP, ROA and NIM for the CESEE banks. According to Goddard et al. (2004), this means that large banks benefit from economies of scale, but also that they exert market power through stronger brand image or implicit regulatory protection (the "too big to fail" theory). A negative relationship exists between size and bank performance in the WE region. This finding is in line with Pasiouras and Kosmidou (2007) that document a negative relationship explained by the diseconomies of scale encountered by larger banks that tend to earn lower margins.

The accounting capital adequacy ratio (EQAS) positively impacts both CESEE and WE banks' profits (REP and ROA) (Table 8). This finding is consistent with previous studies (Maudos and Fernandez de Guevara, 2003; Claeys and Vander Vennet, 2008) confirming the fact that well capitalized banks face a more reduced risk of going bankrupt and are in less need of costly borrowed funds. The negative relationship between EQAS and NIM for the WE banks is explained by the fact that a significant share of the shareholders' equity is fixed, according to prudentiality requirements, and cannot be included in the lending activity in order to generate interest margins. The weaker sensitivity of the CESEE bank profitability in respect to the capital ratio compared to the WE banks (Table 9) is due to higher levels of equity reported by these banks (12.26% compared to 10.83% - see Table 3). This high level of capital is explained by a combination of factors: an application of severe banking regulations, a careful monitoring of risks and an elevated degree of caution caused by the more powerful effects of the global crisis on economies in the region. These results lend support to the idea that well-capitalized banks are more profitable.

LLP/TL has a positive connection with REP for the WE banks as loan loss provisions are lower for these banks which enables them to report higher net income.

5. Conclusions

In the present paper, we aimed to analyse the relationship between management quality and banking performance, on a sample of 207 banks of 29 European countries, groups in compliance with the IMF classification into emerging countries (CESEE) and developed countries (WE). The analysis was performed on a six-year time horizon (2010-2015). This research is included in a stream of literature that studies banking performance through an accounting-based approach, using the information in financial statements in order to compute the values of the determinants of banking profitability.

Our research approach represents a rigorous analysis performed in *three stages*. This implies a successive inclusion into the suggested model of: the internal factors that characterise banking management quality (stage 1); the external factors that describe the macro-environmental conditions (stage 2); the factors related to capital adequacy, asset quality and liquidity (stage 3). In what follows, we sum up our main findings.

The first stage (equation 1) allows us to conclude that the performance of both bank groups was positively influenced by the intensity and efficiency of managing the banking assets in the relationship with the customers. A similar impact is exerted by the high weight of the traditional banking activities in the overall activities, expressed both through the volume of net interest income and the profitability of the interests. Cost to income ratio proves to be a significant negative trigger for banking performance of both groups. We interpret this finding as a proof of increasing banking functionality costs. Their level was determined by an intensification of monitoring and internal control actions on risky practices, imposed by stricter post-crisis prudentiality standards. Another deduction is that performance is also penalised by the banks' attempts to diversify their activities through financial investments, whose outputs were below the managers' forecasts. The decreasing tendency of banking performance, caused by the diversification of activities, is more significant in the case of the WE banks. The analysis also shows mixed influences exerted by some internal determinants. For instance, the higher weight of non-interest-earning assets in total assets for the CESEE banks decreases performance, because it reduces the weight of the interest-earning assets. This situation is reversed for the WE group. In both cases, an explanation could be given by the higher presence of commercial banks in the sample.

In *stage two* (equation 2), one can notice approximately the same direction and magnitude of the connections between management quality variables and banking performance. Evidence suggests a positive relation between inflation and interest margins for both bank groups, which increases bank lending under the reserve of minimising non-performing loans. The analyzed banks register performance, as financial intermediaries, in the context of improving the returns of the capital markets as a result of the economic growth trend. These results confirm the evidence documented in the specialised literature referring to the positive correlation between the economic growth ratios and the banking performance, in the conditions of monitoring the credit and liquidity risks.

Stage three (equation 3) shows the reaction of banking performance to the influence of capital adequacy, asset quality and liquidity. At an international level, the restrictions related to capital adequacy, non-performing loans and funding conditions within the banking groups (the shift towards the self-sustained local banking model) (EIB, 2013) are causes for the lower loan supply during the post-crisis period, which affects in a counter-productive manner the companies' needs for development. For the analyzed sample, these tendencies are not too obvious. On the average, the strategic operations to increase bank capitalisation do not affect the loan supply, but rather contribute to preserving the state of performance through judicious commercial policies that transform the diversified granted loans portfolio into profit margins.

From one stage of analysis to another, the explanatory power of the models increases, which confirms all the formulated hypotheses. With only one exception, the explanatory power of the supported models is higher for the CESEE banks than the WE group. The reason could be that the banks in the first group come from countries that are more vulnerable economically, and are therefore very prudent in complying with the bank authorities' decisions and concerned with preserving the stability of the financial system.

We consider that our paper is interesting for: the decision makers in the banking industry, who control the impact of their actions on the banks' profitability; the shareholders who are interested in the effect of bank management on the return of their investments; the authorities that supervise the banking behaviour, who are concerned with preserving the stability of the financial system. The factors that influence banking performance can be transformed by the management into action, control, and forecast levers.

The sample size, dependent on the availability of the data collected from BankScope Database of Bureau van Dijk, and the relatively short time span analyzed are the main limitations of our research, which invites for the results obtained to be cautiously interpreted.

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