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Costs and Benefits of Reducing Financing Costs Through Corporate Social Responsibility

Master dissertation

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DECLARATION OF AUTHORSHIP

I, Richard Bandžak, hereby declare that the thesis "Costs and Benefits of Reducing Financing Costs Through Corporate Social Responsibility" was written by myself, and that all presented results are my own, unless stated otherwise. The literature sources are listed in the References section.

Prague, September 30, 2015

Signature

ABSTRACT

The dissertation thesis investigates the relationship between corporate social responsibility (CSR) and financial performance (FP) on the sample of 51 Eurozone banks over the period from 2008 to 2014. The investigation is based on a panel data regression analysing the financial data from Bankscope and the social performance data from CSRHub. Return on assets and the ratio of non-performing loans to total loans represent the measures of financial performance and are used as dependent variables. The results of this model have shown a positive and statistically significant CSR-FP relationship.

It is argued that even though the results show statistical significance, they do not necessarily include such a strong informational value. This is caused by methodological limitations, such as potentially biased data on CSR, as well as by the theoretical ones. The main theoretical concern, detected in the dissertation thesis, is a need for redefinition of the banks' driving motives of engaging in CSR activities. Banks engaging in CSR activities for merely strategic reasons should be analysed separately on a firm-level as they may otherwise bias the empirical results.

Another important aspect of the work was an argument that banks benefit from CSR mainly through the product differentiation. This could not have been tested empirically, but it is assumed that the product differentiation, for example through reputation enhancement, may play a significant role in boosting bank's profits.

KEY WORDS

banking industry; corporate social responsibility; Eurozone; financial performance; non-performing loans; product differentiation; reputation; return on assets; sovereign debt crisis; stakeholders

ABBREVIATIONS

CSR	Corporate Social Responsibility	
CustD	Customer Deposits Ratio	
ECB	European Central Bank	
ETA	Equity to Asset ratio FP	Financial Performance
GDP	Gross Domestic Product	
HAC	Heteroscedasticity- and Autocorrelation-Consistent	
HighCSR	Dummy Variable of CSR	
lnTA	Natural Logarithm of Total Assets	
LTD	Loan To Deposit ratio	
NPL	Non-Performing Loans	
OLS	Ordinary Least Squares	
RGDP	Real Gross Domestic Product	
ROA	Return On Assets	

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CHAPTER I

Introduction

The link of firm's corporate social responsibility (CSR) to its financial performance (FP) has, in the recent years, become a subject for various debates in the field of academic research. On the one hand, the critics of CSR indicate the inefficient allocation of firm's resources, potentially leading to an agency problem, provided that managers engaged in CSR boost their own reputation on firm's expenses. The supporters of CSR, on the other hand, break the theoretical paradigm of the profit maximization being the firm's primary objective as they favour incorporating stakeholders' needs into managerial decision making. The motivation of engaging in CSR activities is argued to be prevalingly strategic as managers tend to enhance firm's profitability through the CSR, which is in the case of banking industry connected with the improvement of reputation.

Reputation may, in fact, relief the adverse effects of information asymmetry that are crucially influencing credit market. Reputational improvement may contribute to a product differentiation and consequently to an attraction of more solvent customers. At the same time, attraction of solvent customers seems to be positively affecting banks performance as the higher ratio of deposits to the total funding should result in enhanced asset quality and eventually in larger profits. The more detailed theoretical framework is discussed throughout the first part of the thesis.

The main objective of this dissertation thesis is to investigate the existence and intensity of the CSR-FP relationship by taking into consideration the sample of 51 Eurozone banks over the period from 2008 to 2014. The hypothesis of CSR positively influencing FP is tested using a fixed effects model. The second part of the thesis is structured as follows: the first section includes description and summary statistics of data, the second section reviews methodological limitations in testing the hypotheses and the third final section contains the statistical procedures along with the critical assessment of the results.

CHAPTER II

Theoretical background and literature review

2.1 CSR and stakeholder theory

Corporate social responsibility (CSR) is a widely discussed concept with various possible definitions. Many authors see for example *Lundgren (2011)*, *Scholtens (2009)*, *McWilliams and Siegel (2001)* - view CSR as a firm's voluntary behaviour addressing stakeholders' needs beyond the legal requirements. *Heal (2005)* develops a theoretical framework of economic and financial implications of CSR, emphasizing CSR's role in reducing firm's externalized costs, which would otherwise result in conflicts with stakeholders. Heal sees CSR as a means of correcting market failures that may occur in the case of mismatch between corporate and social interests.

It could be, however, argued that Heal's approach is vague in its very basis. Although there is a commonly perceived definition of what is a stakeholder, scholars examining CSR rarely specify who is a legitimate stakeholder and who represents social interests in any particular case. In general, stakeholders may be seen as "any group or individual who is affected by or can affect the achievement of an organization's objectives" (*Freeman and McVea, 2001, pp.2*). This is an intuitive definition, but it also implies that potentially anyone regardless of their geographical distance or real involvement could claim being affected by firm's particular actions.

Compared to shareholders' profit maximization objective, a management strat-

egy supporting the stakeholders' objectives (e.g. employees' objective may aim for higher earnings), is more complex and costly. Furthermore, critics of the stakeholder approach call attention to the possibility of an incorporated agency problem; for example, *Friedman* (1970) rejects the very idea of businesses being socially responsible, and he accordingly scolds managers who spend company's limited resources on CSR activities. Correspondingly, *Barnea and Rubin* (2005) find that managers are personally benefitting from association with a responsible firm, which may motivate them to over-invest in CSR at the expense of the firm's profit-generating operations. Nonetheless, if the objectives of management and owners were aligned there would hardly be any agency problems. Thus, in accordance with the CSR theory, owners and management should agree on common aims and as *Heal* (2005) suggests, attempt to anticipate potential conflicts with their stakeholders by taking preventive actions.

The variability of possible conflicts between firms and stakeholders leads to a conclusion that a thorough understanding of CSR dynamic and its shifting meaning over time, places and industries is a key aspect in a CSR analysis. Perspective on the nature of actions may differ - what is considered a corporate standard in one country, could be regarded as socially responsible in another country or business environment. This logic applies for industries as well, seeing that each industry faces demand for specific socially responsible activities (e.g. while a government could expect a steel producer to curtail carbon emissions, this would probably not be expected from a bank). Even though this seems to be quite obvious, some of the past researches do not control for industry effects in their regressions and, for that reason, as *McWilliams and Siegel* (2001) indicate, these research papers are possibly misspecified. Further, *Freeman and McVea* (2001) propose that good management should be based on knowledge and understanding of firm's stakeholders, which implies the existence of unique concerns in each firm and its own approach towards social responsibility. Assuming that management does not enforce social responsibility for egoistic

reasons and does it in accordance with firm's best interests, following paragraph will analyse the motives behind realising CSR.

2.2 Motives behind CSR

Wu and Shen (2013) discuss the motives of why banks engage in CSR activities. Their article distinguishes between greenwashing (i.e. enhancing public image without any major behavioural modifications), altruism, and strategy. Other authors use identical or similar motivational distinctions in their models. *Dam et al.* (2009) for example expect socially responsible firms to be cost-inefficient compared to irresponsible ones, due to costs incurred by the implementation of CSR programs. They conclude that if the cost-inefficient socially responsible activities increase firm's profit-efficiency (i.e. ability to realise firm's profit potential), the motive behind such actions will be strategic. On the other hand, if these activities do not result in increased profit-efficiency, the motive will be altruistic. Greenwashing, being based on promised rather than real socially responsible actions, should not have any effect on cost efficiency whatsoever. *Wu and Shen* (2013) assume that altruistic motive implies a lack of motivation to boost profitability through CSR. Their study provides empirical evidence of a strong positive relationship between FP and CSR, suggesting that a bank implementing CSR for strategic purposes would indeed benefit from being socially responsible e.g. by being able to charge higher interest rates. On the other hand, bank with an altruistic motive for implementing socially responsible behaviour would not intend to increase its profitability through CSR. The relationship between CSR and FP is therefore unclear but likely non-negative in the case of an altruistic motive. Essentially, these conclusions correspond with the results of *Dam et al.* (2009).

One of the considerable advantages connected with social responsibility is the effect of product differentiation, which may be of crucial importance in competition for

customers. CSR incorporation is assuredly strategic in the case of intentional product differentiation for the purpose of raising profitability. However, the process itself could be theoretically accompanied with merely non-existent raise in profit efficiency, which would disprove the elementary assumption of *Dam et al.* (2009) that strategic motive and profit efficiency improvement must go hand in hand. This implies that direct effect of such activity could be inefficient as its costs would potentially outweigh income in the short run. On the other hand, the product differentiation should lead to market advantage and to willingness of customers to pay higher price - and therefore result in potentially higher profits for bank. This scenario is unfortunately almost impossible to empirically analyse, since the defining parameters such as reactions on product differentiation based on customers' individual preferences or current income are frequently modifying and for that reason problematic to relevantly observe, as opposed to the relationship between CSR and FP that will be analysed next.

2.3 Relationship between CSR and FP

The connections between stakeholder-oriented management and firm's performance has drawn attention of many scholars examining the stakeholder theory, see for example *Donaldson and Preston* (1995). *Margolis and Walsh* (2003) review thirty years of research on the relationship between CSR and firm's FP and discover some intriguing facts. Their work reviews 127 studies published between 1972 and 2002. Larger part of the studies, 109 out of 127, uses CSR as an independent variable to predict FP. The majority of these studies discover a positive relationship - namely 54. On the other hand, only 7 works find a negative relationship. Non-significant relationship is presented in 28 studies, while 20 studies report mixed results. A dependent variable of CSR is predicted by FP in 22 of the 127 studies (there are more results than studies because four studies treated corporate social responsibility as both dependent and independent variable), among which the vast majority has

Effect	CSR	
	Independent	Dependent
Positive	54	16
Negative	7	
Mixed	20	
Non-significant	28	

Table 2.1: Review of 127 past studies
Margolis and Walsh (2003)

shown a positive relationship 16 out of the aforementioned 22. These studies show evidence of the existence of statistically significant relationship between CSR and FP although its direction is not completely clear.

Furthermore *Orlitzky et al. (2003)* develop a meta-analysis of 52 studies examining the same issue and come to a similar conclusion, i.e. positive relationship between CSR and FP. This could indicate a convincing and reliable evidence for a positive CSR-FP relationship, but that is not the case. *Margolis and Walsh (2003)* assess the methodology of the studies reviewed in their research and the outcome is not optimistic. They refer to past reviewers who found numerous problems and concerns with, for example, omissions and misspecifications of variables or the lack of causal theory between CSR and FP. These methodological imperfections, they claim, motivate researchers to repeatedly attempt presenting a finite conclusion, but the nature of the subject does not, by default, allow for convincing empirical solution. Besides the methodology, the core issue in this research area is the uncertainty of the actual causality between CSR and FP. The true question is whether corporate social responsibility is realisable only under the condition of resource surplus or, reversely, whether corporate social responsibility creates excessive resources through enhanced financial performance.

Hypothesis 1: There is a statistically significant positive relationship between CSR and FP, where CSR explains FP.

2.4 Product differentiation

Bank's product differentiation is associated with an attraction of new costumers and a possibility of adjusting rates for the current ones *McWilliams and Siegel* (2001). *Kim et al.* (2005) in their research focus on endogenous banks' product differentiation based on empirical evidence from the Norwegian credit market. *Kim et al.* (2005) constitute so called "quality characteristics" that stimulate customers' willingness to pay premium. These characteristics, e.g. loss avoidance, are part of a management strategic decision making and may be used to differentiate bank's products from its competition. Furthermore, *Kim et al.* (2005) define reasons for firms and households to carefully observe bank's qualities.

Firstly, customers should be aware of bank's capability of unproblematic functioning in the future periods. It reflects bank solvency contributed to by "a high capital ratio and low loss provisions" (*Kim et al.*, 2005, pp.6). *Kim et al.* (2005), however, do not find satisfactory evidence to consider this reason to be of major importance in the customers' decision making. This could be caused, thanks to governmental interventions and alike exogenous factors, by customers' negligible expectations of bank's bankruptcy. The reasoning of customers not worrying about bank's failure is fairly rational, but only under certain assumptions. The major ones are the existence of stable financial system and favourable economic conditions in the particular country. Secondly, *Kim et al.* (2005) claim that firms might prefer to borrow from a high-quality portfolio credit institution for attaining certification of their own credit worthiness.

The core idea behind the study of *Kim et al.* (2005) implies that any variation in bank's quality differentiates its product from its competitors on the market. This would eventually lead to a decreased competition as banks would attract specific types of customers who, in fact, have heterogeneous preferences and unique demands. Lower competition would enable banks to charge higher prices for their products and

services as they would control their own segment of the market and therefore they would, theoretically, no longer serve as substitutes to their competitors. Additionally, *Kim et al.* (2005) state that banks would be worse off in the case of obtaining the same level of quality with their competitors. This could be paralleled to the concept of efficiency wage that is based on the fallacy of composition. The fallacy claims that what is true for a part does not have to be true for whole, i.e. a bank would benefit from increasing its CSR to a certain level only until everybody else decides to do so as well. Therefore the second hypothesis presumes that the difference in quality between the competing banks would be crucial for the existence of advantage from incorporating a CSR strategy.

Hypothesis 2: CSR improves FP through product differentiation.

2.5 Alleviation of asymmetry information problems

Nevertheless, the difference in quality may be complicated to identify. The uncertainty in distinguishing bank's quality sets the problem of asymmetric information, well known from the theory of *Akerlof* (1970). His theory describes a scenario where high-quality products disappear from market due to the effects of information asymmetry. The effects of information asymmetry are, in this theory, a consequence of the assumed customer's incapacity of assessing the offered product's quality. There are two types of products on the market a low-quality and a high-quality, both having a different value. Customer, who is unable to distinguish between the products, thus attempts to reduce his or her risk by not paying a high price. Customer's motivation is to minimise his or her loss in case of incidentally buying a low-quality product. This behaviour is however beneficial for the seller of a low-quality product as the price that the customer is willing to accept is higher than the product's value. The

seller of a high-quality product is, on the other hand, offered a lower price than is the product's value and logically has no incentive of selling under price.

The CSR may help alleviating the detrimental effects of information asymmetry through the improvement of bank's reputation. *Kim et al.* (2005) argue that any firm would prefer to borrow from a bank with a low level of loan loss provisions in order to gain trust worthiness in the eyes of its own stakeholders. This firm would therefore be prepared to pay premium for the aforementioned certification of their high credit worthiness. *Kim et al.* (2005) state that the key element in reducing loan loss provisions is either risk-aversion or advanced screening and monitoring, which *Scholtens* (2009) classifies among fundamental processes in financing bank's economic activities. It may be argued that reputation contributes to a decrease of loan losses and thus to reduced financing costs.

2.6 Financing costs

The European Central Bank (ECB) report *Bank* (2012) studies changes in bank financing patterns since the outbreak of the subprime and the sovereign debt crises. It finds that "interbank liabilities as a proportion of banks' total assets fell substantially from the third quarter of 2008" (*Bank*, 2012, pp.4). On the other hand "the overall share of deposit liabilities in total assets started to increase, after declining gradually in the years to 2008. At the same time, loan-to-deposit ratios decreased from their peak in the third quarter of 2008" (*Bank*, 2012, pp.4). The report also reveals that banks strongly relied on a wholesale funding prior to the crises. *Babihuga and Spaltro* (2014) state that usage of the short term wholesale finance for funding the long term assets lead to increased liquidity risk and banks vulnerability. Crises have caused banks to rely on customer funding that, although being more time demanding to achieve, is, in fact, more stable. *Babihuga and Spaltro* (2014) consider this trend to be benefitting the bank asset quality and therefore decreasing funding costs in the longer

run. It also indicates that banks in pursuing more deposits face higher competition on the market and therefore the aforesaid elements of product differentiation and enhanced reputation may be advantageous.

CHAPTER III

Empirical evidence

3.1 Data

3.1.1 Sample selection process

The sample selection process starts with the sample from the European Central Bank's (ECB) list of significant banks in the Eurozone. The list is regularly updated under the Single Supervisory Mechanism (SSM) comprised of the ECB and the national supervisory authorities for the purpose of supervising European banks and ensuring the safety of the European banking system. Significant banks are under the direct supervision of the ECB and in order to classify as significant have to fulfil at least one of the following criteria defined in the ECB guide *Bank* (2014):

Firstly, bank assets have to exceed 30 billion euro in total value. Secondly, bank has to be economically important for a specific country, or for the European Union as whole. This criterion is a bit hazy, but is likely included to secure the presence of small banks that are of particular importance in their home country. The third condition is defined as "the total value of its [bank's] assets exceeds 5 billion euro and the ratio of its cross-border assets/liabilities in more than one other participating Member State to its total assets/liabilities is above 20 percent (*Bank*, 2014, pp.10) Finally, the last aspect applies for banks that have requested and received funding

	<i>ECB list</i>	<i>Bankscope</i>	<i>CSRHub</i>
<i>Austria</i>	8	6	2
<i>Belgium</i>	7	6	2
<i>Cyprus</i>	4	3	1
<i>Finland</i>	3	3	1
<i>France</i>	10	10	5
<i>Germany</i>	4	4	4
<i>Ireland</i>	4	4	2
<i>Italy</i>	14	13	10
<i>Luxembourg</i>	5	4	0
<i>Malta</i>	3	2	0
<i>Netherlands</i>	7	5	3
<i>Portugal</i>	4	4	4
<i>Spain</i>	15	13	5
<i>Total</i>	110	100	51

Table 3.1: Sample selection process.

from the European Stability Mechanism or the European Financial Stability Facility (for more information see the *Bank* (2014)).

The ECB’s list of significant banks consists of 123 banks from 19 members of the Eurozone. Due to a CSR data constraint, number of countries is reduced by excluding countries that had not been members (further ‘non-members’) of Eurozone before December 2008. This is the case of Estonia, Latvia, Lithuania and Slovakia, who became members of Eurozone in 2011, 2014, 2015 and 2009 respectively *ECB* (2015). Column 1 in 3.1 depicts the initial number of banks from each country.

The list of banks, excluding the non-members, is then combined with the consolidated financial data extracted from the Bureau van Dijk’s Bankscope database. Bankscope database contains a wide range of data on top 8000 European banks as well as on banks from other regions. Column 2 in 3.1 shows that data for the total number of 12 banks are not present or insufficient, e.g. for differing accounting standards or low amount of covered years, which reduces the sample to 100 banks. The sample is then merged with data from the CSRHub database and thus creates basis for the analysis.

CSRHub contains data on the period after 2008, therefore the dissertation work examines the period from 12/2008 to 12/2014. Column 3 in 3.1 finally states the total number of banks with reliable data on both financial and social performance, showing that only approximately a half of the total amount of banks listed by the ECB are applicable for the analysis.

3.1.2 CSR data

Corporate social responsibility is a widely discussed topic, as the evidence from *Orlitzky et al.* (2003) or *Margolis and Walsh* (2003) may indicate. Therefore there exists a demand for quantification of this seemingly abstract concept. That creates a methodological problem, as the majority of information collected for the purposes of ranking social responsibility is qualitative, i.e. it does not contain numerical values. This allows rating's authors to choose parameters they consider important and give them different weights, again on not necessarily independent principle. This makes the outcome of CSR measurements questionable; for more discussion see for example *Cornett et al.* (2014). The crucial element in creating such scores is therefore transparency. Its absence in the process is strongly criticized by *Scholtens* (2009). The methodological problem connected with the nature of data sources combined with the lack of transparency thus may arouse doubts of biased results.

CSRHub does not evaluate primary sources directly from firms, but combines and aggregates data from various secondary sources. The CSRHub database allows its users to elect weights for all four categories (i.e. community, employees, environment and governance) and sub-categories. The weights are, for the purposes of this dissertation thesis, set to be equal in order to fully exploit the data and mainly not to favour specific measure and therefore to prevent selection bias problem.

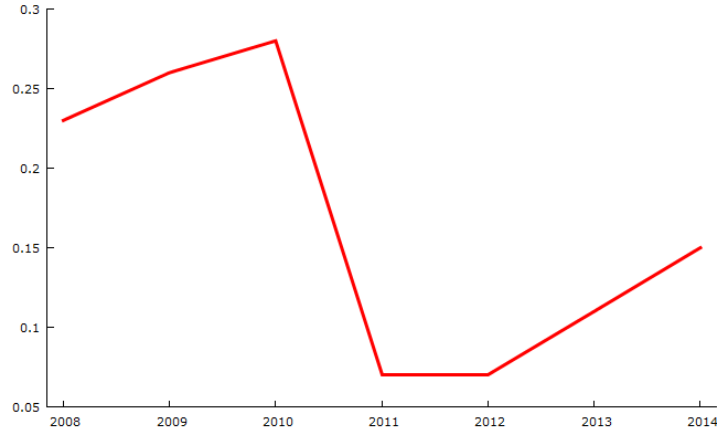


Figure 3.1: Median value of ROA.

3.1.3 Dependent variables

There are two regressions with two separate dependent variables to be estimated in this thesis. Hypothesis 1 assumes CSR to be positively explaining FP. Therefore, based on the presented theoretical background is return on assets (ROA) and ratio of non-performing loans to total loans (NPL) analysed as dependent variables. Both variables are explained in the following section.

ROA ROA is a commonly used measure of bank's financial performance; see *Wu and Shen* (2013), *Simpson and Kohers* (2002) or *Cornett et al.* (2014). In this particular example ROA represents ratio of bank's net income to its total assets. It "[return on assets] measures the ability of bank managers to acquire deposits at a reasonable cost, invest these funds in profitable loans and investments, and profitably perform the daily operations of the bank" (*Simpson and Kohers*, 2002, pp. 104). Median of ROA has plummeted between the years 2010 and 2011 (see 3.1). The sharp decline chronologically corresponds with the outbreak of the European sovereign debt crisis.

NPL NPL is a ratio of bank non-performing loans to total loans. Magnitude of this ratio indicates the level of bank's screening and monitoring or its risk aversion

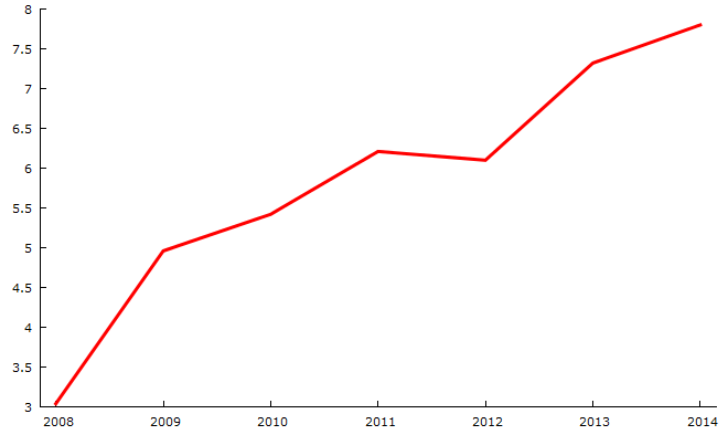


Figure 3.2: Median value of NPL.

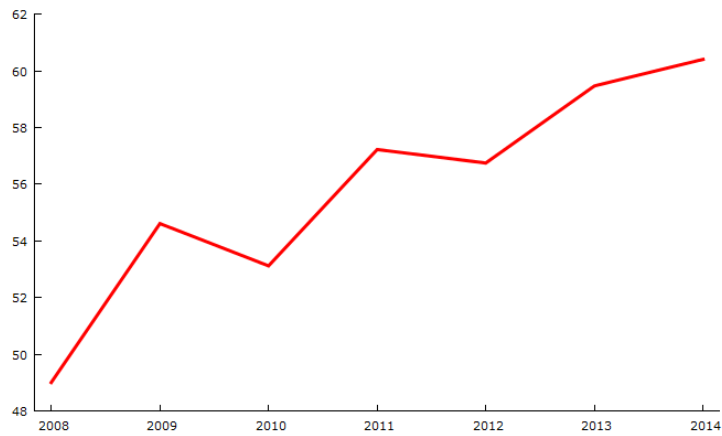


Figure 3.3: Median value of CSR.

as stated earlier in the theoretical part. *Pepur and Ćurak (2013)* identifies possible threats of fragility and insolvency stemming from a high level of NPL which may cause downturn of economic activity. Reduction of the ratio should therefore contribute not only to a more stable portfolio but also to a reputation enhancement and competitive advantage. 3.2 illustrates the upward sloping trend of the median NPL over time.

3.1.4 Independent variables

CSR CSR score is a crucial part of the analysis. Its values range from 1 to 100 and demonstrate weighted average of scores from each earlier described category.

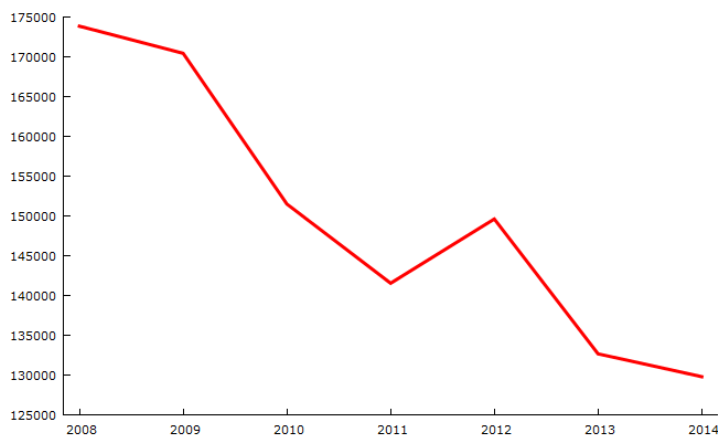


Figure 3.4: Median value of total assets.

In this analysis is CSR score transformed into a binary variable, where 1 expresses higher than median value of all CSR scores in the given year and 0 represents the opposite option. The rationale behind such step is connected to the nature of CSR scoring and its explanatory power, which may be enhanced by interpreting the scores in the context of the other banks' values. There are limitations connected with this adjustment, such as impossibility of capturing nuances, or dichotomy of the social responsibility actions to simply below and above median. But it still may have more explanatory power than the score itself as it is merely impossible to define what does each score mean in reality. In other words, as the score is constituted on the aggregation and statistical principles, it is undoubtedly possible to define the better of two scores, however when considering the intensity, the interpretation would become complicated. 3.3 illustrates the median value of CSR scores over the analysed period where the line characterizes the boundary above which are banks considered more responsible than the banks below the line.

Total assets Variable of total assets represents the bank size measured on the inflation adjusted basis in millions of euros. There is a wide range of values in the dataset, from the minimum of 23.9 billion euro (Banca Popolare di Sondrio Societa

Cooperativa per Azioni in 2008) to the maximum of 2.4 trillion euro (Deutsche Bank in 2008). Noticeable gaps among the assets values may be observed by comparing mean (392 billion euro) and median (149 billion euro). Logically, with a broad variety of dataset values, trend in the changes of overall mean values may be driven by the changes of the largest observed data (i.e. when the largest bank's assets plummet, it influences the mean more intensively than the fall of the smallest bank's assets) and therefore depicting median rather than mean should contribute to a larger informational value (see 3.4). The empirical evidence on the size-performance relationship is ambiguous. *Goddard et al.* (2004) find unconvincing evidence of the systematic size-performance relationship similarly to *Trujillo-Ponce* (2013) who with the sample of Spanish banks does not find enough evidence either. On the other hand, results of *Wu and Shen* (2013) indicate positive and statistically significant size-performance relationship. Also the "bank size could reflect bank strength and ability to cope with the problem of information asymmetry (...), smaller banks may have fewer resources to realize credit analysis efficiently" (*Pepur and Ćurak*, 2013, pp.47). Therefore in line with theory and past researches, total assets are expected to have non-negative relationship with the financial performance (ROA) and negative relationship with the non-performing loans ratio (NPL).

Loan to deposit ratio (LTD) Loan to deposit ratio (LTD) represents the extent to which bank issues interest-bearing loans from its deposits. Bank's risk aversion plays a significant role in the constitution of the ratio, because not only does the higher LTD results in higher income, but hand in hand with higher risk. Great level of LTD may therefore lead to increased liquidity risk based on the maturity mismatch as was the case of many Eurozone banks in the period prior to the European sovereign debt crisis.

In the analysed dataset, LTD reaches its peak in 2011 and then, arguably with the



Figure 3.5: Median value of LTD.

outbreak of the crisis, plummets. 3.5 demonstrates the evolution of loan to deposit ratio median over time. The initial decline and temporary raise correspond with the outcomes of the ECB report *Bank* (2012). Median value is chosen for the visual data demonstration for the analogous reason as in the case of the total assets. Outliers (e.g. the incredible maximum value of 598.73 percent of Mediobanca in 2008 or oppositely the minimum value of 67.08 percent of Credit Agricole in 2013) would distort the mean and hence the graph.

The LTD is predicted to have a positive relationship with NPL as both signal risk-seeking managerial decision making. LTD link to the ROA is however unclear as it could be both positive and negative. Positive in the short run, as additional loans would generate more income, but at the same time negative in the long run, as risk increases.

Equity to asset ratio (ETA) Equity to asset ratio could be interpreted as the proxy of bank indebtedness. "The higher equity-to-asset ratio, the lower need to external funding and therefore higher (...) profits. It is also a sign that well-capitalized banks face lower costs of going bankrupt and thus their cost of funding is reduced" (*Abreu and Mendes*, 2001, pp.4). This variable thus may serve as one of the bank



Figure 3.6: Equity to asset ratio.

quality indicators contributing to the product differentiation and hence influencing ROA positively and NPL negatively.

Customer deposit to total funding ratio As the name suggests, this variable measures the ratio of customer deposits to total funding excluding derivatives. There is evidence that "banks that had relied more on customer deposit funding fared better during the crisis" (*Babihuga and Spaltro, 2014, pp.3*). Higher ratio of customer deposits also contributes to the development of bank asset quality and mainly to the stability of bank funding. This has become relevant especially during the recent crisis, with "market funding becoming either unavailable or prohibitively expensive" (*Babihuga and Spaltro, 2014, pp. 3*). For these reasons is the customer deposit ratio expected to have positive relationship with ROA, also as pointed by *Trujillo-Ponce (2013)* and negative with NPL.

Overhead ratio Overhead ratio demonstrates the total amount of overhead costs compared to total assets. Overhead costs do not directly generate income but are

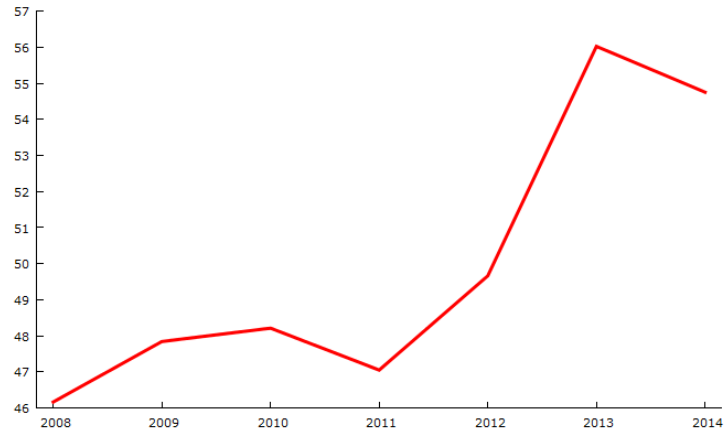


Figure 3.7: Median value of Customer deposit to total funding ratio.

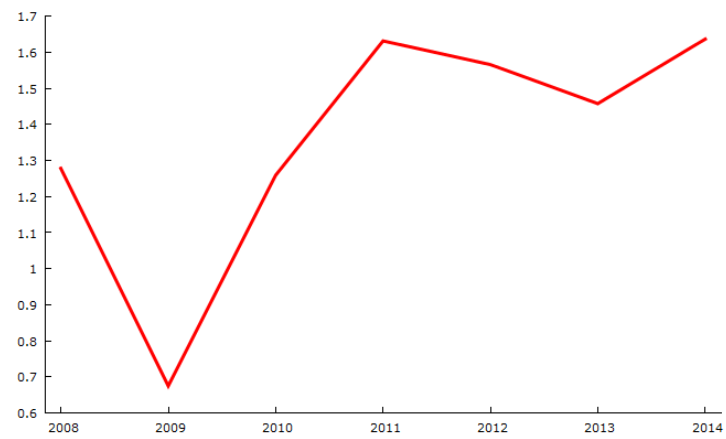


Figure 3.8: Median value of Overhead ratio.



Figure 3.9: The overall unweighted real GDP growth

necessary for maintaining bank operations and thus may serve as a proxy for management efficiency in keeping the operational cost at its minimum level. The ratio is expected to have a negative relationship with ROA, as with more costs the profits should decline and a positive relationship with NPL.

Real gross domestic product growth rate Real growth of gross domestic product (GDP) is a macroeconomic variable demonstrating economic conditions in the particular country. GDP growth may reflect the modifying income and solvency of bank customers, signalling their capacity to service their debt or to stimulate investment volumes and thus the demand for loans. It is then intuitive to conclude that GDP growth should influence ROA positively as more favourable economic environment may encourage potential customers to borrow money from a credit institution. Similar logic may apply to the relationship between GDP growth and NPL that is anticipated to be negative as the higher income of firms and households contributes to enhanced solvency. Real GDP growth pattern is merely identical for the Eurozone countries except for the several cases, i.e. Finland in 2009, Greece in 2011 (but in fact



Figure 3.10: Real GDP growth in the individual countries.

throughout the entire time period), Portugal in 2012 or Cyprus in 2013 3.9. These countries faced extraordinarily severe conditions during the crisis and in those particular years performed the worst among the Eurozone countries. The sample minimum value is terrifying 8.9 percent decline in Greece in 2008.

3.2 Methodology

3.2.1 Hypotheses examination

Hypothesis 1 expects a statistically significant positive relationship between CSR and FP, where CSR explains FP. The first part of the hypothesis could be empirically tested by quantitative analysis with earlier explained theoretical limitations associated with the possible unreliability of the CSR data.

The causality of the relationship is however troublesome to detect. The problem

of determining the cause is frequently recognized by scholars such as by *Heal* (2005) or *Simpson and Kohers* (2002), who confirm possibility of assessing existence and direction of the relationship between CSR and FP, but not the cause of such relationship. The dissertation thesis therefore assesses the causality on the theoretical and intuitive basis, rather than analytical, for the absence of methodological tools. The estimation of existence and direction of the relationship, between CSR and FP, is thus emphasized in the examination of Hypothesis 1.

Hypothesis 2 assumes CSR to be improving FP through product differentiation. Theory developed by *Kim et al.* (2005) considers the different level of quality among banks to be decisive for benefiting from the CSR actions regardless of the direction. Presumably, the CSR would lead to product differentiation if the level of bank's CSR noticeably differed from the levels of its competitors, i.e. if the banks CSR score differed from the median of all banks' CSR for the given year. In order to quantify this approach, CSR score median values for the individual years should serve as the benchmark. Unfortunately, this method contains several concerns.

Firstly, the individual Eurozone markets cannot be considered as fully integrated *Bank* (2014) therefore it is not correct to assume full competition among banks from various countries, implying non-existent or insignificant influence of foreign products on domestic markets. Disparity in quality could be theoretically assessed in each country individually if a larger sample of banks was available. Secondly, this approach would not capture the intensity of differentiation, since it would generate the exactly same results in the case of bank operating slightly above the social responsibility median as well as in the case of the most responsible bank on the market. Finally the endogenous nature of differentiation determinants may impede the assessment as for example larger banks may have more resources for marketing allowing them to communicate the CSR actions directly and more efficiently with the customers. For these reasons, product differentiation cannot be a direct part of here presented model

and hence is evaluated on purely theoretical principles.

3.2.2 Results

The here presented model is based on a panel data regression of 51 European banks over 7 years in the period from 2008 to 2014. Its main objective is to investigate the existence and intensity of a relationship between corporate social responsibility and two measures of financial performance, i.e. returns on assets (ROA) and non-performing loans ratio (NLP). The equation is constituted as follows:

$$y_{it} = \alpha_i + \delta_1 HighCSR_{it} + \beta_1 ETA_{it} + \beta_2 lnTA_{it} + \beta_3 RGDP_{it} + \beta_4 LTD_{it} + \beta_5 CustD_{it} + \beta_6 Overhead_{it} + \lambda_t + \varepsilon_{it} \quad (3.1)$$

The left-hand side of the equation 3.1 denotes the financial performance proxies of ROA and NLP of i-th bank at time t.

Statistical procedures Fixed effects model is chosen for the analysis for two particular reasons. These are the expected correlation between individual errors and the independent variables and especially the result of the Hausman test. The test rejects the null hypothesis of the random effects model consistency at the 1 percent level. The outcome of the Hausman test favours the fixed effects model, which is specific for the differing intercepts across individual banks but constant slope coefficients *Gujarati and Porter* (1999). The lack of subscript t at the intercept i implies its time invariance, which is not the case of the other variables. In fact t denotes the time effect dummies included to capture, among others, the exogenous factors that may occur during the analysed time period and influence the results, such as the European sovereign debt crisis.

Additionally the HAC (heteroscedasticity- and autocorrelation-consistent) standard errors are adopted to address the need for ordinary least squares (OLS) standard errors correction. This applies because the Wald heteroscedasticity test rejects the null hypothesis of homoscedasticity at the 1 percent level and thus indicates the presence of heteroscedasticity. The HAC standard errors not only control for heteroscedasticity but also for autocorrelation hence neither of the two should cause troubles in modelling the regressions.

Interpretation of the model The model interpretation commences by investigating the results of the existence and intensity of CSR-FP relationship as it is the main objective of the model. Both measures of bank performance are explained by corporate social responsibility at the statistically significant levels of 5 and 1 percent in the case of ROA and NPL respectively. The direction of the relationship also coincides with the anticipations as CSR influences ROA positively and NPL negatively. The intensity is however not that obvious at the first sight and therefore needs a closer examination. Firstly, it is important to realize that the CSR variable is binary and as such expresses a value relative to its alternative. In this case it estimates the difference between banks that achieve the score above the median, for the particular year, and the ones that score below. Another aspect of correctly interpreting this variable is incorporating a statistical benchmark for the comparison. Bearing this in mind, the relationship between CSR and both measures could be marked as economically significant. Banks that act more responsibly compared to their peers, receive, *ceteris paribus*, higher return on assets by 0.43 percentage points on average. That is a considerably large number taking into account the sample ROA median value of 0.18 percent. The same applies for the non-performing loans, where its ratio to total loans, *ceteris paribus*, decreases by 2.72 percentage points (the sample median value is 5.3 percent) when the bank is more responsible than the median. Not only

do the results correspond with the expectations set by theory and the Hypothesis 1, but happen to be unusually optimistic and economically significant. Next subsection shall analyse results of the individual control variables and the time effects.

ROA In the model explaining the ROA, the directions of the relationship with the individual control variables do not show any surprise. All control variables explain the dependent variable at statistically significant levels, with a single exception of loan to deposit ratio (LTD), which is clearly statistically insignificant. The assumptions directed to the relationship between LTD and ROA were unclear as both directions were plausible and the results thus do not prove either option.

Bank specific characteristics of size ($\ln TA$), equity ratio (ETA), overhead costs ratio (Overhead) and customer deposit to total funding ratio (CustD), as well as a macroeconomic factor of real GDP growth (RGDP) are all positively associated with the bank profitability proxy ROA. In assessing the economic effect of total assets natural logarithm, one has to be aware of the specific level-log result interpretation depicted by (*Wooldridge*, 2012, pp.45) in a general form as follows:

$$\Delta y = (\beta \div 100) \times \Delta x \tag{3.2}$$

This in turn defines the bank size economic impact on returns on assets in the following manner:

$$\Delta ROA = (\beta_2 \div 100) \times \Delta \ln TA \tag{3.3}$$

Thus calculating the effect of size on ROA from the results, it is possible to estimate that 1 percent change in the total assets, *ceteris paribus*, improves ROA by

approximately 0.01 percentage points which is the most negligible effect among the control variables. In addition to this discussion, it may be noted that the ratio of customer deposit to total funding is also rather economically insignificant contrary to the real GDP growth and the equity to total assets ratio. The only statistically significant control variable having a negative impact on ROA is the overhead costs ratio. The negative correlation was expected in this case as rising costs imply lower profits. The overhead costs ratio also seems to have a strong economic effect on ROA.

In addition to that, the model reveals that the time effects play a significant role in defining the financial performance in the particular years. Before evaluating individual effects it should be noted that the year 2008 serves as a benchmark and thus the each year values reflect their comparison with the situation in 2008. The most notable change in ROA is visible between the years 2009 and 2010 with a decrease of nearly 1.4 percentage points in the 2008 terms, followed by a further decline in the upcoming year - both being statistically significant at the 1 percent level. Nonetheless, more information on time effects shall be provided in the upcoming paragraph, together with the results of second regression.

NPL The results explaining NPL are a bit different. Disturbingly, three control variables indicate a different (i.e. positive) direction of relationship than expected by theory. However neither of the variables - equity ratio (ETA), total assets (lnTA) or real GDP growth (RGDP) - is statistically significant. Direction of the other control variables is corresponding with the expectations, but only one of them is statistically significant. It is the ratio of bank customer deposit to total funding (CustD), which does not seem to have any economic importance, with an effect of one extra percentage point decreasing the NPL by 0.26 percentage points (NPL median is 5.3 percent), holding other factors constant.

The most statistically significant and interesting part of the results is the time

effects that seem to capture a vast share of the NPL dynamics. Time effects results may include the inter-temporal pattern of both observed and unobserved time specific factors such as for example GDP growth or the aftermath of the European sovereign debt crisis. The benchmark of 2008 is once again used to recognise the inter-temporal changes of NPL. The intensive upward sloping direction of the trend across the time period is alarming, but already known from the plotted NPL data. The more intriguing is the fact that all time specific factors partially based on unobserved characteristics explain the dependent variable identically at the 1 percent level of statistical significance. This implies that the ratio of non-performing loans may be strongly influenced by factors not under direct control of bank management. On the other hand, the broad significance of time effects may be caused by the ongoing crisis and therefore the explanatory power of the model may be biased.

3.2.3 Discussion

Comparison of the two regressions may bring a valuable insight and contribute to a proper evaluation of the factors that affect the financial performance. This might serve for answering the implied question from the thesis title of what are the costs and benefits of reducing financing costs through CSR. The possibility of reducing financing costs through CSR shall be critically assessed together with a discussion whether the presented empirical results contribute to improving the knowledge on concerns and benefits associated with implementing the CSR activities.

The empirical evidence indeed proves a robust relationship between CSR and financial performance which especially in the case of NPL may indicate a financing costs reduction. The crucial limitation of this empirical evidence is the absence of reliable reasoning behind it. What are the precise CSR factors ameliorating the financial performance? Is the improvement caused by a more responsible behaviour towards employees or by a responsible policy in the community where the bank is

operating, or the mixture of both? These questions are merely impossible to answer and so that the examination of the CSR-FP relationship unfortunately produces more questions than answers.

The Hypothesis 2 states that the banks' main driving motive of acting socially responsibly is to differentiate their products from the competition and thus to gain advantage on the market. The empirical evidence presented in this work favours any incentive to increase the amount of deposits, as the customer deposit to total funding ratio is positively related with both measures of bank financial performance. The view of social responsibility as suggested by the Hypothesis 2, on the other hand, denies the fundamental implication of CSR, i.e. a firm being responsible in the first place and then being awarded by society for such actions. This hypothetical award could be in form of, for example, more customers or more loyal employees. As these awards evolve into the main driving motive for management to involve in CSR, the true meaning of CSR is shifted and shall be observed differently. Therefore, with CSR becoming solely a tool of gaining higher share of the market through the product differentiation, CSR actions could be hardly considered as a priori responsible in the true meaning of the word. Costs accompanied with CSR should then be treated as ordinary investments into the product differentiation or marketing.

The terminology thus may be the key to resolving the problem. If banks, or firms in general, would be considered as socially responsible only in case of genuine interest in the social responsibility, i.e. not for primarily strategic motive, then the examination of CSR-FP relations would be more reliable. On the other hand, altruism is in the eyes of for example Wu and Shen (2013) (i.e. altruistic motive being specific for the absence of resulting profit efficiency improvements) misspecified as it may include miscalculated strategic motive and neglect altruistic projects that eventually resulted in improved profit efficiency. The point is that as long as the firms, which driving motive behind the social responsibility remains enhancement of profitability,

are considered as socially responsible, it cannot be of much surprise when empirical evidence reveals a correlation between their CSR and FP.

3.2.4 Further research

Further research shall be done on redefining the driving motives of implementing CSR. Firms proven to engage in CSR for purely strategic reasons, should be rather examined on a firm level through marketing surveys and customer preferences recognition. Most of the theoretical assumptions expect CSR to enhance firm performance through already mentioned product differentiation, but also through an improvement of reputation and partially interconnected alleviation of asymmetric information problems (as more prestigious banks are believed to attract more solvent clients). Hence estimating the effects of this particular phenomenon by aggregating data collected through a doubtful methodology is probably not the best way. To conclude this discussion, even though there is in principle no fully reliable way of quantifying and ranking this more or less dynamically changing (as legislation and society expectations evolve) and often abstract concept, there will always be researchers doing so, as long as there exists a demand for it.

CHAPTER IV

Conclusion

The main objective of this dissertation thesis was to investigate the relationship between corporate social responsibility (CSR) and financial performance (FP) on the sample of 51 Eurozone banks in the period from 2008 to 2014.

The first part of the dissertation thesis has introduced theoretical concepts of the stakeholder view of managerial decision making; the motives behind incorporation of CSR; the relationship between CSR and FP; the product differentiation, which was, according to Hypothesis 2, supposed to be the main reason behind the positive CSR-FP relationship; the information asymmetry; and finally the financing costs.

The examination of the Hypothesis 2 has indicated incapability of measuring the effects of product differentiation with the data available for this particular research. The effects are generally difficult to measure, as they should include individual preferences of customers and their decision making. It was suggested that effects of product differentiation and interrelated reputation shall be measured on a firm-level surveys and market analysis.

Hypothesis 1, on the other hand, argued that the relationship is positive and that CSR explains FP. This has shown to be a correct assumption, as empirical evidence showed positive and both statistical and economic significance of this relationship. Empirical evidence was built on a quantitative analysis of panel data regressions

based on the fixed effects model. The dependent variables representing the bank financial performance were return on assets (ROA) (i.e. the ratio of net income to total assets) and non-performing loans to total loans ratio (NPL). A larger part of the results confirmed theoretical anticipations. Similarly, the time effects that were included to capture the model's time evolving dynamics seem to have played a major role in the evolution of banks' financial performance. Even though the results have proven the theoretical assumptions, there is no reason to celebrate. Accompanied concerns as the lack of knowledge of relationship's causality, unreliable methodology in obtaining the CSR scores or for example a need for redefining the motives behind CSR constitute inspiration for future research. This is stated with a full knowledge of uneasy or merely impossible ways of exploring them.

APPENDICES

APPENDIX A

A.1 Tests

Hausman test : 46.141 with p-value = 1.34808e-005

Distribution free Wald test for heteroskedasticity: Chi-square(51) = 8.25424e+028,
with p-value = 0

5 percent critical values for Durbin-Watson statistic, n = 300, k = 13 dL = 1.7210

dU = 1.9015 Durbin-Watson 2.087651

A.2 Model 1 : ROA

	Coefficient	Std. Error	p-value	
const	-14.254	6.918	0.040	**
HighCSR	0.430	0.185	0.021	**
ETA	0.395	0.037	0.000	***
lnTA	0.999	0.533	0.062	*
RGDP	0.258	0.059	0.000	***
LTD	-0.000	0.002	0.897	
CustD	0.023	0.012	0.058	*
Overhead	-0.685	0.259	0.009	***
2009	0.598	0.310	0.055	**
2010	-0.788	0.175	0.000	***
2011	-1.299	0.233	0.000	***
2012	-0.208	0.297	0.484	
2013	-0.649	0.254	0.011	**
2014	-1.260	0.211	0.000	***

N= 304

Within $R^2 = 0.555$

A.3 Model 2 : NPL

	Coefficient	Std. Error	p-value	
const	-61.370	66.075	0.354	
HighCSR	-2.727	0.952	0.005	***
ETA	0.081	0.328	0.805	
lnTA	5.874	5.054	0.246	
RGDP	0.374	0.232	0.109	
LTD	0.025	0.016	0.114	
CustD	-0.262	0.098	0.008	***
Overhead	0.642	2.060	0.755	
2009	4.079	1.181	0.001	***
2010	3.552	0.627	0.000	***
2011	6.448	1.018	0.000	***
2012	10.189	1.584	0.000	***
2013	13.926	1.883	0.000	***
2014	14.807	1.945	0.000	***

N=287

Within $R^2 = 0.569$

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