Proportionality of Banking Regulation - Evidence from Germany

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Abstract

The effects of banking regulation are a very intensively discussed issue among German cooperative banks. There is concern that an unproportional market intervention threatens the competitiveness of regional banks. The aim of this paper is to measure regulatory costs that occur within the German cooperative banking sector while complying with legal requirements for risk management, securities services, anti-money laundering rules and IT standards. To measure the compliance costs a survey analysis was conducted. It can be shown that the cost of compliance with the aforementioned regulations are not proportionally distributed as they vary with banking size. If this research outcome holds true for all regulations with minimum requirements, not just for the examined, the economies of scale caused by financial regulation could threaten the competitiveness of small and medium banks, so that they might become *"to small to survive"*.

Keywords: Cost of Regulation, Proportionality, Banking Regulation

JEL Codes: G21, G28, G34

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1 Introduction

The global financial crisis has led to a fundamental revision and reorientation of the regulation of financial intermediaries. The European Union, national governments and other economic policy actors imposed a multitude of new rules and regulations to address the fundamental causes of the crisis. As a result, banks have to respond to a wide range of regulatory initiatives. The implementation of new regulations and the continuing compliance with existing legislation result in rising cost of regulation for financial institutes.

The norm-setting institutions argue that enhanced financial regulation results in more transparency, improved market integrity and better consumer protection as well as in a more stable and efficient banking system. While the general objective of the banking regulation policy to resolve the problems of the past crisis and to prepare banks for future crises has become widely accepted, the current debate is dominated by the disagreement about the diverse effects of banking regulation, especially regarding the different effects on different bank sizes.

Thus, an important part of the current discussion deals with the proportionality of regulatory costs. An often-criticized point is that the regulatory regime follows a "one-size-fits-all" approach, which results in a comparatively high regulatory burden for small and medium-sized banks. On the one side, Hofmann (2014), the president of the European Association of Co-operative Banks (EACB), argues that it must not happen that smaller banks are no longer able to compete because they are no longer able to cope with the constantly growing set of requirements. "Too big to fail" should not be replaced by *"to small to survive"*. On the other side, representatives of the supervisory authorities reply that they recognize that the costs of adapting to the new set of rules are high, but nonetheless adequate in comparison to the overall financial stability. With regard to potentially disproportionate consequences, they reply that the principle of proportionality is largely respected.

To sum it up, the goal of this paper is to analyze whether the current financial regulation sufficiently respects the principle of proportionality. The analysis concentrates on four regulations that demand the fulfillment of minimum requirements and where the composition of the legal measurements technically considers proportionality.

The paper is organized as follows. Chapter 2 defines the term proportionality and the cost of banking regulation. Furthermore, it presents the four regulations that are measured in this study. Chapter 3 contains a literature review. Chapter 4 describes the generated survey data. Chapter 5 presents the results. Chapter 6 contains a discussion of the findings. In Chapter 7, the paper ends with a conclusion.

2 Proportionality and Cost of Banking Regulation

Proportionality of Banking Regulation

In general, banking regulation has to follow the paramount principles of the European Union's legal system. Beside the European legal principles of suitability and necessity the principle of proportionality is to be considered. The principle of proportionality is laid down in Article 5 of the Treaty on European Union. Regarding banking regulation, the European Banking Authority (EBA) (2015) defines this aspect as follows:

"The principle of proportionality means that small and non-complex institutions can comply with the principles by implementing less complex, but still appropriate, [...] policies, while large and complex institutions have to implement more sophisticated [...] policies".

The principle of proportionality should be interpreted as a security mechanism to protect less risky and smaller financial institutions from inadequate regulatory requirements. Regulatory costs should not distort market results and arbitrary effects on banks with different sizes should be avoided. Furthermore, there are two ways to follow the principle. First, legal proportionality refers to formal criteria that incorporate the different complexity and riskiness of bank business models. For example, exemptions with regard to the systemic importance of financial institutions allow for an adequate regulation. Second, supervisory proportionality refers to law enforcement. Frequency and intensity of audits by supervision agencies should be adequate, especially with regard to the quality of internal compliance processes of the banking institute. (Llewellyn (2016), Wundenberg (2012))

Disproportionality

A disproportionate allocation of regulatory induced costs especially results from the cost of implementation and ongoing compliance of regulatory guidelines, for example from investment in the IT infrastructure or from the use of human resources with specific knowledge. Primarily, this is the case when considering size-independent minimum requirements that apply to all banks, because they cannot be reduced to the full extent for small banks.

In general, disproportional effects can arise as a result of regulatory requirements if different cost structures exist. Economies of scale or specialization advantages (economies of skill) are the most important causes. For instance, small as well as large banks need to upgrade their personnel in both quantity and quality. To ensure that new requirements are implemented correctly and to guarantee ongoing compliance, the IT infrastructure needs to be upgraded as well. This results in high one-off expenses, fixed cost degression and hence in regulatory induced disadvantages for small banks. (Hoskins / Labonte (2015), Hackethal / Inderst (2015))

Regulatory Costs

Regulatory costs result from government intervention in the economic process. As outlined above, this paper focuses on the cost of compliance with banking regulations. Compliance costs can be categorized in three categories:

- Personnel costs consist of wages and salaries, including non-wage costs and non-regular payments, as well as additional costs associated with personnel, such as expenses for training and certification.
- Moreover, material and equipment costs have to be considered (overhead costs).
- In case banks decide to outsource some of the required legal activities, the costs for outsourcing services are also to be counted as compliance costs.

A differentiation is to be made between one-off costs and ongoing costs. One-off costs occur while implementing a new regulation, for example due to legal or consulting fees or expenses in connection with the adaption of the information technology infrastructure. Ongoing costs occur during the regular "every-day" compliance with the required rules. (Elliehausen (1998), Nijsen (2009), Charite et al. (2010), Renda et al. (2013))

Focus of this Study: Cost of Compliance

In General, compliance is the entirety of all measures that involve the conformable behavior of banks, their organs and employees with regard to laws, directives and self-imposed business standards. The first step of an effective compliance management is an identification of all relevant legal requirements and an assessment of their relevance for the business model of the bank. Second, the bank's individual risk exposure should be measured and the probability that the risk manifests itself should be determined. Third, banks have to monitor the compliance risk. The last step is to reduce the risk exposure by implementing appropriate risk reducing measures. (Wolberg (2014))

Many small and medium-sized banks criticize that the regulatory institutions developed the requirements for the compliance function and the compliance management systems with (larger) bank groups in mind. They especially refer to the lower complexity of their offered financial products as well as lower information asymmetries in comparison to big multinational banks. It is doubted that in small banks the evaluation of the appropriateness of the relation of costs to benefits comes to a similar conclusion as it would for large bank groups. Furthermore, German cooperative banks are member-owned organizations. While many aspects of banking regulation should apply to all banks, there are strong arguments to differentiate some measures, especially because of fewer agency problems (information asymmetries) and a different business objective (maximizing member value, not shareholder value). (Ferri / Kalmi (2014), Theurl (2013))

In order to analyze the cost effects of regulations with minimum requirements, this paper focuses on four specific regulations that are important for the legal compliance of banks:

- Minimum requirements for risk management (MaRisk): Banks are required to upgrade their internal control framework and implement an effective, risk appropriate and independent compliance function into their corporate governance.
- Minimum requirements for the compliance function in regard to investment advisory (MaComp): It is mandatory to install an appropriate compliance function as a second line of defense between the specialist level and the process-independent internal audit function. The compliance function has to be effective (e.g. necessary budget and equipment, competent employees), permanent (e.g. clear assignment of tasks, competencies and area of responsibility) and independent (e.g. only the management has the authority to give directives).
- Anti-Money Laundering / Combating the Financing of Terrorism (AMLCTF) rules: Money laundering is defined as concealing as well as obscuring the origin and thwarting investigations of the origin of money. Banks are required to install appropriate business and customer-related security systems in order to recognize conspicuous transactions.
- Information security policy regulations (ITComp): Banks are required to provide an adequate and risk reducing technical infrastructure. The IT infrastructure takes account of the operating environment of the bank and ensures confidentiality, integrity and authenticity of the customer data.

3 Literature Review

This paper analyzes the implementation costs of the compliance regulation for German cooperative banks and whether the principle of proportionality is respected. There is a vast economic literature that focuses on measuring regulatory burdens, but only few papers analyze whether minimum requirements for banks impose disproportionately high costs on small and medium-sized banks. In the following section the previous literature on proportionality of banking regulation is introduced.

A study by Elliehausen / Kurtz (1988) investigates scale economies in compliance costs for the Truth in Lending and Equal Credit Opportunity Acts at US commercial banks. The major finding is that there are large economies of scale and that the regulations impose a competitive disadvantage on small banks. However, the authors show that economies of scale decrease rapidly and do not lead to much greater concentration. A later study by Elliehausen / Lowrey (2000) with regard to the Truth in Savings Act confirms the

findings. In addition, WHEELOCK / WILSON (2011) confirm regulatory-induced economies of scale for the cost functions of US credit unions.

In a more recent study on North American credit unions, FERRI / KALMI (2014) show that the smallest quartile of banks uses about 43 percent (USA) or about 21 percent (Canada) of their personnel resources for regulatory-induced activities. For banks from the highest quartile, it is only about 4 percent for both countries. Based on a log-log regression model, the authors show that an increase in bank size by 10 percent leads to a reduction in relative implementation costs of 5.6 percent (USA) or 6.8 percent (Canada). Thus, the study shows a strong correlation between bank size and relative costs regulatory compliance. The authors explain the result with the large personnel-intensive activities that result in high fixed implementation costs.

Another study also focuses on the U.S.. FELDMANN ET AL. (2013) simulate the impact of additional regulatory-related costs for community banks. 13 percent of banks with a balance sheet total of less than USD 50 million are unprofitable due to the additional costs, compared with approximately 0.2 percent of banks with a balance sheet total of more than USD 500 million. Of all banks which become unprofitable due to the additional costs, 60 percent are in the lowest size category (balance sheet total $<$ USD 50 million).

There are not many studies that analyze regulatory-induced economies of scale for the European Union. The study of COSMA ET AL. (2013) uses a survey to measure the regulatory costs of implementation of the transparency guidelines for Italian banks. The authors determine one-off costs of about EUR 1 million per bank and ongoing costs of EUR 650.000 per year. This corresponds to 0.56 percent or 0.27 percent of administrative expenses, respectively. Their results show an asymmetrical distribution of the imposed costs with a disadvantage of smaller banking institutions.

For Germany, the study of HACKETHAL / INDERST (2015) analyzes the effects of regulation on German cooperative banks. The survey focuses on reporting legislation and investor protection law and aims to analyze direct regulatory costs for banks, with a specific focus on potential differences between small and large banks. In conclusion, the authors state that the disproportionately high costs for smaller banks risk negative effects on the provision of services to average customers, because small and medium-sized banks play a key role in financing local businesses and house-owners. However, the study was funded by the National Association of German Cooperative Banks.

In conclusion, there is preliminary evidence that the cost of banking regulation impose a disproportionately high burden on small and medium-sized banks. This paper adds representative results to the existing body of literature.

4 Data

The survey method - based on a structured questionnaire - is the most appropriate approach to answer the questions of this work, because implementation costs for regulatory measures are usually characterized as hidden costs. The required data is not publicly available and in many cases not even measured within the regulated banks. The use of a survey offers additional benefits. First, a high number of cases can be achieved, which is particularly important for the meaningfulness of the results. Second, the use of a questionnaire with a given response structure enables a high quality and comparability of the data. Third, the anonymity granted when completing the questionnaire is quality enhancing.

The object of this analysis are all co-operative banks in Germany. According to the National Association of German Cooperative Banks, there were 1.019 cooperative banks at the end of 2015. In order to ensure comparability with existing and future measurements, the survey indicates 2015 as the reference year. 325 cooperative banks were able to participate in the survey, which corresponds to an response rate of 31.89 percent. The participating banks have a average balance sheet total of EUR 939.6m, compared to EUR 793.5m of the basic population. Thus, the sample consists of more bigger banks and less small banks than in the population. Since the sample size in each size category is sufficient this should not be a problem for the interpretation of the following results.

Table 1: Sample and Population

Size Category	Balance sheet total in EUR	Sample	Sample	Population
Small	$x < 220m$	73	24.7 percent	32.2 percent
Medium	$220m < x < 550m$	74	25.2 percent	29.2 percent
Medium-Large	$550m < 1.2bn$	73	24.7 percent	21.7 percent
Large	$1.2bn < x$	75	25.4 percent	16.9 percent

For a high data quality, it is important that the interviewee has access to the information relevant to the investigation. For this reason, the questionnaire was addressed to board members. 58.9 percent of the answers were completed by board members. A further 32.2 percent of the participants were compliance officers. The members of the Management Board and the group of compliance officers is expected to have a high professional knowledge and proximity to the subject. This positively affects the quality of the attained cost data.

Moreover, to further ensure that the collected data meets the quality criteria, strategic response behavior should be excluded. The data would be biased, if only banks with high compliance costs would participate in the survey. However, the data shows that many banks of all size groups declare small regulatory costs. Thus, the remedy that only banks with high

costs participated can not be supported. Furthermore, the test by ARMSTRONG / OVERTON (1977) shows no significant result, so there is probably no distortion due to non-response.

According to ELLIEHAUSEN (1998) respondents might have the incentive to strategically overestimate the regulatory costs in order to generate regulatory benefits in the long run. To mitigate this problem, the cost should be measured as fragmented as possible. For this study, the respondents were asked to estimate the full-time equivalents for the four compliance regulations. Additionally, the questionnaire contained boxes for overhead costs, specific investments and expenses for education and training. Even though strategic answering cannot be fully excluded, the measures should be sufficient to minimize the distortions. Furthermore, a structural problem for the analysis of proportionality does not exist, because there is no plausible indication that small or large banks are more inclined to strategically overestimate regulatory costs.

5 Results

In order to calculate the regulatory costs, the following equation is used:

$$C_i = w(Z_{FTE} + \sum_{j=1}^{IV} PERS_j) + Z_{EUR} + \sum_{j=1}^{IV} INV_j + \sum_{j=1}^{IV} OUT_j \quad (1)$$

$j \in (I : MaRisk; II : MaComp; III : AMLCTF; IV : ITComp)$

The surveyed cooperative banks have indicated their personnel expenses in full-time equivalents (FTE) for each of the four compliance sub-areas ($PERS_j$). These are summed up and added to the general additional costs specified in FTE (Z_{FTE}). Finally, the summed personnel costs must be multiplied by a wage rate (w) in order to monetize it. Subsequently, the general additional costs, which are given in EUR, are added (Z_{EUR}). Additional costs include the investment and material costs in EUR (INV_j) and the outsourcing costs in EUR (OUT_j) for each compliance subarea.

In order to measure the full-time equivalent in EUR, a wage rate has to be determined. Using data from the Federal Statistical Office of Germany and the collective labor agreement for German cooperative banks, a wage of EUR 71,221.27 is used. This rate includes non-wage labor costs such as social security payments.

The results show that the absolute cost of regulation rises with banking size, which is not very surprising. However, relative compliance costs show different results: small banks use more than 6 percent of their administrative budget on compliance with the four analyzed regulations in this study. This percentage gets smaller with banking size. Large German

cooperative banks only use about 1 percent.

Table 2: Cost Estimates

		Bank Size			
	All	Small	Medium	Medium-Large	Large
Absolute costs	EUR 165,770	EUR 98,500	EUR 118,850	EUR 166,036	EUR 270,390
Relative costs		6.42 percent	2.41 percent	1.60 percent	1.01 percent

The calculated cost data can be used to measure the compliance costs for the entire German cooperative banking sector. The average relative compliance costs are multiplied with the aggregate administrative budget of all German cooperative banks. In conclusion, the compliance with the four analyzed regulatory measurements costs the entire sector abound EUR 413.94m.

Regression Analysis

In addition to the descriptive results, a log-log regression model is conducted. It was tested if there are further influences alongside the banks size. As possible reasons for the different distribution of costs the organizational forms of the compliance function come to mind. Banks can organize their internal compliance structure in a centralized or a decentralized way. In addition, outsourcing of some or all regulatory induced activities is possible. Moreover, control variables for the business area (rural, urban, provincial) and for geographic regions (Membership to the regional bank associations: RWGV, Weser-Ems, Bayern, BaW) are included.

Model 1 uses balance sheet totals as the size parameter for banks. The results show, that an increase of the size of the bank by 10 percent leads to a reduction of relative compliance costs by 6.09 percent. Model 2 uses the number of employees as the parameter for size. An increase of the number of employees by 10 percent leads to a reduction of relative compliance costs by 6.24 percent. Besides the Cost-Income-Ratio, the measure for efficiency, in Model 1 and Outsourcing in Model 2, there are no other significant effects on relative compliance costs. With regard to robustness, these results hold true when analyzing absolute compliance costs as dependent variables.

Altogether, the calculations of the regulatory costs support the statement that the principle of proportionality does not find sufficient consideration in the four analyzed measurements.

Table 3: Results

Variable	M_1 ln rel. C_{BS}	M_2 ln rel. C_P
ln BS	-0.6094***	
	(0.4143)	
ln P		-0.6242***
		(0.0400)
Central	-0.0262	-0.0118
	(0.0826)	(0.0839)
Decentral w/ Coord.	0.1157	0.1129
	(0.1078)	(0.1022)
Risk Controlling	-0.03114	-0.0358
	(0.9738)	(0.0971)
Outsourcing	-0.1086	-0.1303*
	(0.0682)	(0.0681)
CIR	0.0126***	0.0040
	(0.0047)	(0.0050)
Rural	-0.0627	-0.1520
	(0.1933)	(0.2264)
Urban	0.1478	0.1183
	(0.2120)	(0.2427)
Provincial	-0.1419	-0.2324
	(0.2084)	(0.2381)
RWGV	-0.3778	0.0268
	(0.0864)	(0.0848)
Weser-Ems	-0.0668	-0.0737
	(0.1271)	(0.1323)
Bayern	0.1346	0.1291
	(0.0911)	(0.0912)
BaWu	-0.0830	-0.1492
	(0.1943)	(0.2258)
Constant	-5.2720***	2.9798***
	(0.4606)	(0.4356)
R^2	0.66	0.63
n	260	264
* $p < 0.1$	** $p < 0.05$	*** $p < 0.01$

Limitations

For the interpretation of the results of this study, some limitations have to be considered.

First, research on regulatory costs is always confronted with the problem of hidden costs. Especially with regard to the quantification and monetarization of compliance costs, some method-dependent restrictions occur. The data in this study is based on a survey and the banks self-report their respective regulatory costs. Thus, there might be the problem of strategic response behavior, which can not be fully excluded. The calculated costs might be slightly inflated.

Second, this study only covers the compliance costs of German cooperative banks and moreover, only analyses the cost of the aforementioned four specific regulations.

6 Discussions

The calculation of the direct regulatory costs for the compliance requirements shows that regulatory requirements lead to substantial expenditures in the areas under investigation, but the percentage of administrative expenses is very different, depending on the size of the bank. As outlined above, the principle of proportionality in the context of banking regulation should consider the differences between banks, especially regarding size, complexity, systemicness and risk exposure. However, the descriptive analysis of the survey data shows that small cooperative banks have to spend a greater proportion of their administrative expenses on the implementation and ongoing compliance with the analyzed requirements than large cooperative banks. The regression analysis also provides evidence for the significant correlation between bank size and relative regulatory costs. It can be assumed that both the complexity of the business model and the risk exposure of German cooperative banks are sufficiently homogeneous. Thus, size is the is the decisive parameter. The results show that the proportionality principle is not respected with regard to bank size. Thus, regulatory induced economies of scale lead to competitive disadvantages for small and medium-sized banks.

Particularly for small cooperative banks, which are categorized in the present study as banks with a balance sheet total of less than EUR 220 million, regulatory scale effects are a major challenge. This is because the reduction in relative compliance costs from small to medium banks is the strongest. Moreover, the present study only analyzes four regulations with minimum requirements, but small cooperative banks have to use over 6 percent of their administrative expenses to comply with those regulations. If these results hold true for other, maybe more significant regulations, the competitiveness of small banks could be severely damaged.

However, disproportionality will probably decrease slightly over time when experience increases and best-practice cases generally become more available. Moreover, an improved supervisory consideration of regional banks in the field of compliance regulation can be enabled, if supervisory agencies make use of their discretionary scope of action. However, a full compensation is not likely, especially with the background of ongoing amendments to the requirements.

7 Conclusion

In conclusion, the present study finds evidence that the principle of proportionality is not sufficiently considered in regard to risk management regulation, compliance function regulation, anti-money maundering and combating the financing of terrorism rules as well as information security policy regulations.

Small cooperative banks, in case they want remain independent banks, should use all efficiency potentials to a maximum extend. More cooperation, especially outsourcing might be a veritable option to raise economies of scale. However, whether this is sufficient to operate a small bank profitably in connection with the future income problems due to the low interest rate remains questionable.

Beyond the area of compliance it becomes clear that the concept of level playing field is insufficient. As HAGGART (2012) points out, it draws the picture of two contestants facing each other on the field, regulated by neutral referees by means of a fixed system of rules. The success of the contestants in this picture is merely based on their inherent skills. In the practical organization of the regulation of financial markets it is constituted that various legal guidelines lead to different cost impacts and competitiveness of the financial institutions is not compromised evenhandedly. For that sake the consideration of small and mid-size banks rather demands regulation in the sense of a competitive balance. This approach requires less focus on adequate comparability of the underlying regulatory rules but more on uniform regulatory impacts. Through a graduated regulation, like it is discussed under the term of small banking box, the competitiveness of smaller, less complex and less risky banks can be preserved, so that these will not become *to small to survive*.

Bibliography

Armstrong / Overton (1977): Estimating Nonresponse Bias in Mail Surveys, in: Journal of Marketing Research, Vol. 14, pp. 396402.

Charite et al. (2010): Das Standard-Kostenmodell, Konzept zur Definition und Quantifizierung des Verwaltungsaufwandes fr Unternehmen durch staatliche Regulierung, in: Rttgen, N. (Hg.): Brokratiekostenabbau in Deutschland, Entstehung, Praxis und Perspektiven, Baden-Baden, pp. 85135.

Cosma et al. (2013): Too Small to Be Compliant?, Size and Scale Economies in the Compliance Cost Structure of Italian Banks, in: Carretta; Mattarcocci: Financial Systems in Troubled Waters, Information, Strategies, and Governance to Enhance Performances in Risky Times, Routledge international studies in money and banking, Hoboken, pp. 219240.

EBA (2015): Opinion of the European Banking Authority on the application of the principle of proportionality to the remuneration provisions in Directive 2013/36/EU, EBA/Op/2015/25, London.

Elliehausen (1998): The Cost of Bank Regulation, A Review of the Evidence, in: Federal Reserve Banks Staff Studies of the Board of Governors of the Federal Reserve System, No. 171.

Elliehausen / Lowrey (2000): The Cost of Implementing Regulatory Changes: The Truth in Savings Act, in: Journal of Financial Services Research, Vol. 17, No. 2, pp. 165179.

Elliehausen / Kurtz (1988): Scale Economies in Compliance Costs for Federal Consumer Credit Regulations, in: Journal of Financial Services Research, Vol. 1, pp. 147159.

Feldman et al. (2013): Quantifying the Costs of Additional Regulation on Community Banks, in: Federal Reserve Bank of Minneapolis Economic Policy Paper, No. 3.

Ferri / Kalmi (2014): Only Up: Regulatory Burden and Its Effects on Credit Unions, Filene Research Institute, Madison, Wisconsin.

Hackethal / Inderst (2015): Auswirkungen der Regulatorik auf kleinere und mittlere Banken am Beispiel der deutschen Genossenschaftsbanken, Gutachten im Auftrag des Bundesverbandes der Deutschen Volksbanken und Raiffeisenbanken - BVR.

Haggart (2012): Keeping an Eye on the Ball: Credit Unions, the Level Playing Field, and Competitive Balance, Filene Research Institute, Madison, Wisconsin.

Hofmann (2014): Regulierung: Too small to survive?, Bericht von der 70. Bankwirtschaftlichen Tagung, in: Zeitschrift fr das gesamte Kreditwesen.

Hoskins / Labonte (2015): An Analysis of the Regulatory Burden on Small Banks, Congressional Research Service.

Llewellyn (2016): Proportionality in Bank Regulation, in: JACKSON, P.: Banking Reform, SUERF Conference Proceedings 2016/2, Vienna, pp. 5972.

Nijsen (2009): Origin and Functionalities of Regulation, in: Nijsen, A. (Hg.): Business regulation and public policy, The costs and benefits of compliance, Band 101, New York, pp. 2741

Renda et al. (2013): Assessing the Costs and Benefits of Regulation, Study for the European Commission, Secretariat General, Centre for European Policy Studies (CEPS) and Economisti Associati, Brussels.

Theurl (2013): Gesellschaftliche Verantwortung von Genossenschaften durch MemberValue-Strategien, in: Zeitschrift fr das gesamte Genossenschaftswesen, Vol. 63, No. 2, pp. 8194.

Wheelock /Wilson (2011): Are Credit Unions too small?, in: The Review of Economics and Statistics, Vol. 93, No. 4, pp. 13431359.

Wolberg (2014): Compliance im Bankensektor, Anforderungen und Herausforderungen fr die genossenschaftliche Bankengruppe, Conference presentation at the University of Mnster, Germany on the 26th of May 2014.

Wundenberg (2012): Compliance und die prinzipiengeleitete Aufsicht ber Bankengruppen, Hamburg.