



**Załącznik: Recenzja rozprawy doktorskiej**

**Review of PhD thesis by**

mgr Muddassar Rasheed Malik

**on „*The impact of risk governance on the performance of OECD banks*”**

**Referees: prof. dr hab. Ewa Miklaszewska, Prof. dr hab. Jacek Osiewalski**

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Prof. UW dr hab. Małgorzata Olszak  
Katedra Systemów Finansowych Gospodarki  
Wydział Zarządzania  
Uniwersytet Warszawski  
email: [ma.olszak@uw.edu.pl](mailto:ma.olszak@uw.edu.pl)  
[molszak@wz.uw.edu.pl](mailto:molszak@wz.uw.edu.pl)  
tel: 600220333

## **1. Research problem and hypotheses**

The thesis focuses on research problem that is up-to-date and current, because especially after the Global Financial Crisis (henceforth as GFC), many countries around the world along with international standard setters have tried to find optimal regulatory (and supervisory) solutions to prevent frictions in the functioning of the economy and the intermediary function of banks. Most of these attempts have been directed to enhance the immunity of the banking sector by enhancing stability of financial system at the micro- and macro-prudential level. Governance risk is one of such mechanisms that affects activity of an individual bank and serves to achieve broader goals of financial stability.

Risk governance is an extensive issue that has been analyzed in the literature from various perspectives and in relation to various aspects of banks' activities. Scientific research most often takes into account the following aspects of risk governance:

- presence of a board-level risk committee;
- Chief risk officer (CRO) position and independence;
- educational background and independence of directors.

The research also shows that these specific aspects of the risk governance play a significant role in bank risk, bank performance, as well as bank regulatory adjustments. This research investigates individual countries as well as considers cross-country settings, considering single or multiple aspects of governance and their effects on bank activity. However, the empirical research on this topic has been fragmented and, as the dissertation rightly points out, there is a gap in the literature regarding the effects of various aspects of risk governance on bank-level activity analyzed from different perspectives. The thesis by using a sample of banks operating in one group, i.e. OECD countries, makes a successful attempt to test the role of the various aspects of risk governance on bank risk, financial performance and regulatory adjustments.

Therefore, the general problem defined by Muddassar Rasheed Malik and stated as: *"The overarching purpose of this dissertation is to delve into the intricate dynamics of risk governance and its consequential impact on the performance and regulatory landscape of commercial banks within the OECD"* is definitely up-to-date. In fact, the work focuses on three areas of the banking operations and aims to test whether the various aspects of risk governance affected:

- (1) the bank-risk taking;
- (2) the bank financial performance;
- (3) the bank regulatory adjustments.

Each of these research questions is associated with hypotheses, which are properly put forward as well as are adequately presented in the context of previous research.

With reference to the first question, the Author predicts that:

*H1: There is a positive relationship between risk governance characteristics and the Tier1 Capital ratio in public commercial banks of the OECD, implying that the effective risk governance is associated with a lower level of bank risk.*

As for the second research question the Author states that:

*H1: There is a significant positive relationship between risk governance characteristics and the financial performance as measured by the net income of public commercial banks in the OECD [...].*

Finally, to resolve the third research goal the Author puts forward the hypothesis that:

*H1: Risk governance is negatively associated with regulatory adjustments in public commercial banks of the OECD [...].*

The analysis conducted in the dissertation implies that:

- 1) the link between risk governance and Tier 1 capital ratio is positive, implying that banks with better governance structures exhibit decreased risk of insolvency, proxied with capital adequacy ratio (hypothesis H1);
- 2) the link between risk governance and financial performance is positive, suggesting that improvements in governance mechanisms in a bank contribute to bank financial outcomes (hypothesis H2);
- 3) the link between risk governance and regulatory adjustments is negative, showing that effective governance is associated with reductions in regulatory adjustments (hypothesis H3).

To sum up, the research problem, questions related to it as well as hypotheses presented in the dissertation are correct and do not raise major formal concerns. My

reservation, however, relates to expression of the objective of the thesis. The Author states that : "**The objective of this dissertation is to carry out empirical research on the impact of risk governance on bank risk, financial performance and regulatory adjustments of OECD banks**". Basically, it is not correct to indicate that the objective of the dissertation is to conduct research, because the process of analysis and research itself is undertaken to solve the research problem. Therefore, the formulation of the objective of the dissertation should be rephrased.

## **2. Research methodology, methods and data used in the thesis**

The resolve the research questions and test the hypotheses the Author applies several types of regression models, each defined in chapter 1 (subchapter 1.3.2). The models include variables that are defined and summarized in subchapter 1.3.2 and presented in Table 1 on page 32. I have reservations about the selection of the dependent variables and the explanatory variables (bank control variables and macroeconomics variables) chosen for hypotheses testing.

In relation to hypothesis H1, the author uses only the Tier1 capital ratio. However, in the literature on the subject, classic measures include the Z-score and indicators related to the quality of the loan portfolio, i.e. the NPL ratio, the LLP credit risk cost/average assets ratio, leverage ratios and liquidity risk ratios (e.g. Loans to deposits, LtD ratio). Has the author attempted to analyze risk using such indicators? Regarding this hypothesis, I would like to ask the Author to run additional models that apply Z-score and LTD ratio, as a bank risk measure.

As for the model testing hypothesis H2, the dissertation uses the bank's logarithm of net income in volumes (absolute level in EUR 1,000) as a measure of financial performance. This is a controversial approach to measuring performance in finance. Better indicators here would be, for example, ROA, ROE, Net interest income/average loans (NIM), Tobin's Q, as well as operating profit/average assets (OR). What is more, the use of loan

portfolio quality measures and credit risk costs (in the sensitivity analyses) as measures of financial performance also raises great doubts. Therefore, I would like to ask the Author to show reference to previous academic research, that uses: (1) net income as a financial performance indicator; (2) credit quality indicators to proxy financial performance. I would like to ask the Author to run additional regressions that apply ROA, ROE, OR and NIM in the model testing hypothesis H2.

In the study on the role of risk governance in shaping regulatory adjustments (hypothesis H3), Tier 1 capital ratio and Total Capital Ratio (TCR) were used as alternative measures in sensitivity tests. What raises my doubts is that the Tier 1 ratio was used as a risk measure when testing the H1 hypothesis. It would be more methodologically correct to use an annual change in the Tier 1 cap ratio or an annual change in the TCR. I also notice the lack of references to the relevant empirical literature that uses this indicator as a measure of regulatory adjustments. Thus, I would like to encourage the Author to run additional regressions that apply modified proxies for the regulatory adjustments.

Regarding the selection of additional control variables, my major concerns are as follows. In all models tested in this work, the selection of explanatory variables is insufficient. The only control variable used in this work is size. However, extensive literature on the subject uses other measures that significantly affect risk, financial performance and regulatory adjustments. In addition to banking variables, empirical research also uses macroeconomic variables (i.e. real GDP growth rate, unemployment rate and interest rate). Therefore, I would like to encourage the Author to run additional regressions that apply full set of control variables, covering bank-specific variables and macroeconomic variables (at least the real GDP growth rate). In the current version, all models suffer from an omitted variable bias. The use of these control variables would create results that are credible. In its current version, the research results presented in the dissertation raise doubts and may be questioned due to the lack of bank-level and macroeconomic control variables.

The work applies a variety of methods, which are correctly selected and justified to resolve the research problems, and they cover both qualitative analysis (e.g. analysis of previous theoretical and empirical research using a wide range of sources) and quantitative research. The Author presents sound review of literature on the risk governance in the banking sector. However, the work would benefit if it were supplemented with the sound review of literature on the banking control variables and macroeconomic variables that determine bank risk, bank financial performance and regulatory adjustments. Looking at the literature on risk governance the Author builds his hypotheses regarding expected links between bank activity and governance and selects correct quantitative research methods.

As for the quantitative methods the Author uses several techniques, i.e.: (1) simple descriptive statistics and correlation matrices; (2) estimation models for panel data; (3) causality tests; (4) bootstrapping, and (5) principal components analysis.

The thesis applies several data sources, e.g: Bankscope and OrbisFocus (bank level data), and BoardEx database (to analyze the risk governance). The work applies several samples. In the analysis of bank risk, the sample is relatively small and covers 1783 observations, as there are limitations in access to Tier 1 capital ratio data. The sample used to analyze the effects of governance on financial performance covers over 13000 observations on over 1000 banks. The sample on regulatory adjustments is relatively small, and looks at almost 3000 observations. I notice several shortcomings in the presentation of the data.

1. The presentation of the descriptive statistics in Tables 2, 8, and 14 should also show the number of banks analyzed.
2. The number of observations shown in each of the tables, and the descriptive statistics in the tables, should be presented for the countries and banks included in the regressions.

3. The presentation of the data on pages 21–22 does not inform about the time period analyzed in the study. On page 29 the work states that the time range covers 20 years, but it is not obvious what is the start date.
4. The Author explains that the outliers were not excluded from the study (on page 21). I agree with the statement, that outliers may be important. However, common approach in finance is to do the winsorizing. Thus, my question is what are the results if the sample is winsorized at 1%?
5. Each of the main dependent variables as well as risk governance indicators should be described to show the cross-country diversity and time-series dimension.

Considering the relatively long time dimension of the data, the choice of the fixed effects estimator for the analysis is justified.

### **3. Structure of the thesis and formal requirements**

The thesis has appropriate structure and consists of four chapters, introduction (denoted as Chapter 1), conclusions (denoted as Chapter 6), references, and the abbreviations. However, the work is missing the list of Figures, Tables and Formulas. The volume of the work is 143 pages.

The chapters are put in a logical sequence. Chapter 2 presents theoretical background. It covers detailed analysis of the literature on risk governance and risk.

Chapters 3 and 4 cover the analysis of literature and describe regulatory and supervisory approaches to risk governance in the banking industry.

Chapters 5 is targeted to resolve each of the research questions presented in the introduction of the work, by presenting empirical results. This chapter consists of three subchapters, each devoted to separate analysis of the hypotheses H1–H3. The general structure of these chapters is similar and covers: description of variables, principal

components analysis, regression analysis, sensitivity analysis, causality analysis as well as discussion and limitations. Within subchapters of these chapters we find topics directly related to research questions and hypotheses developed in the work.

The design of the structure of introduction and conclusions is also good. The introduction gives the reader the layout of the whole work, presenting goal(s) justification of the research. The conclusions section refers directly to this introduction and shows the most important inferences of the conducted research.

#### **4. The selection and use of references**

The Author has applied very resourceful and quite large number of references (293), which covers mainly research papers and working papers related to the research topic.

The selection of references is adequate and has been used appropriately in the work. The Author has effectively applied both classical (i.e. pre 1990-ties) studies as well as contemporary works, covering not only finance, but also more general economics.

The references and citations have been prepared following the APA style standards.

There are, however, some minor challenges here. With such a large number of cited studies (293), it is advisable to divide the references into research papers, books and regulatory and supervisory reports.

#### **5. Other comments**

My general assessment of the work is positive. The hypotheses, the methodology and methods as well as data used in the thesis give opportunity to resolve the research problems presented in the work. However, there are some issues which should be addressed



by the Author in his future research. For simplicity, I divide them into major issues and minor issues.

**As for the major issues:**

- 1) The Author should consider application of robustness checks, e.g. (1) applying alternate estimation methods for regression models used in the work. (2) supplementing the explanatory variables or including additional independent variables, following reservations presented in point 2 of the Review;
- 2) All regression models included in the thesis omit bank-control variables and macroeconomic variables used in the literature on the determinants of bank risk, bank financial performance and regulatory adjustments;
- 3) The choice of dependent variables, in particular, included in the sensitivity analysis is dubious. The main dependent variables in the models of risk and of bank financial performance should be redefined. As for risk, the Author could consider e.g.: the Z-score or the LtD. Regarding bank financial performance, the work would benefit if ROA, ROE or NIM were applied, instead of the net income in thousands of EURO.
- 4) The description of the data should be more detailed (also considering the time dimension and cross-country dimension) and focus on the samples used in the regressions.
- 5) What is the economic significance of results presented in the thesis. In particular, most of the interpretation of the estimated regression is presented in terms of „positive” or „negative” impact. The work should more precisely show what do the positive or negative regression coefficients on risk governance mean for the values of dependent variables, e.g. for the average value of dependent variable.

**As for the minor issues they relate to:**

- 1) The typos and other language mistakes should be corrected (the work should go through copy editing and language correction).



## 6. Concluding statement

The PhD thesis by Muddassar Rasheed Malik on „*The impact of risk governance on the performance of OECD banks*” fulfills provisions of legal acts with reference to the qualifications of PhD candidate in the area of social sciences, in the field of economics and finance. This work presents original solution of an academic research problem. The author has presented very good general theoretical knowledge in economics (the field of finance) and ability to conduct independent academic research.

Considering what has been stated above, I am requesting that the Economics and Finance Discipline Council admit Mr. M.A. by Muddassar Rasheed Malik to further stages of the doctoral procedure.

Małgorzata Olszak;  
Uniwersytet Warszawski

Elektronicznie  
podpisany przez  
Małgorzata Olszak;  
Uniwersytet  
Warszawski  
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