

Research Article

# The Trade-off Between Banking Risk and Profitability Under Basel III Capital Regulation in Lebanese Banks

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## Abstract

This research examined the trade-off between risk and profitability under Basel III capital regulation (BCR) using a sample of 30 commercial banks in Lebanon. The main question of this research is: What is the trade-off between risk and profitability under Basel III capital regulation (BCR)? To answer this question, the authors considered a qualitative approach in the study. The authors used semi-structured interviews with the chief risk officer (CRO) for the sample. In order to examine the impact of Basel III capital regulation (BCR) on risk and profitability, the authors asked Banks' CFOs to rate risk and profitability based on 5 scale metrics before and after the application Of Basel III in Lebanon. To analyze the data, the authors used ATLAS. Ti version 8.3 software. The results showed that after the application of the Basel III accord in Lebanon risk and profitability decreased in banks. The authors also noticed this effect is much greater in small and high-risk banks. This result aligns with Klomp and de Haan's findings that the Basel III accord has more effect on small and high-risk banks and with Tran, Lin, and Nguyen's findings that the relationship between capital regulation and bank performance is not linear and depends on the level of capitalization of banks.

## Keywords

Basel III Capital Regulation (BCR), Banking Risk, Banking Profitability, ATLAS. Ti Version 8.3 Software

## 1. Introduction

The Basel III capital regulation, implemented in response to the 2008 financial crisis, was designed to strengthen the regulation, supervision, and risk management of the banking sector. It introduced stringent capital requirements aimed at reducing banking risk and enhancing financial stability. However, this increased focus on risk management often results in reduced profitability, leading to a trade-off between risk and profitability for banks. This literature review examines recent research addressing the impact of Basel III on banking risk and profitability.

### 1.1. Overview of Basel III and Banking Risk

Basel III introduced several reforms to mitigate banking risks, such as higher capital ratios, liquidity coverage ratios, and leverage ratios. These regulations aimed to protect banks against systemic risks and ensure their ability to absorb financial shocks. Many studies highlight that Basel III has indeed reduced overall banking risk. For instance, Kumar and Sen [1] demonstrated that banks with higher capital reserves were less susceptible to market volatility, aligning with Basel III's objectives. Similarly, Lee and Hsieh [2] found that banks adhering to Basel III's risk-weighted asset guidelines experienced a significant reduc-

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tion in credit risk.

## 1.2. The Profitability Trade-Off

Although Basel III enhances financial stability, it often imposes constraints on profitability. For example, Adeosun and Khemraj [3] argue that stricter capital requirements reduce the amount of leverage banks can use to generate profits, thereby negatively impacting return on equity (ROE). Bitar et al. [4] found that banks in emerging markets faced a notable decline in profitability after adopting Basel III regulations. Additionally, Roulet and Lozano-Vivas [5] suggest that the cost of compliance with Basel III, such as maintaining high liquidity ratios, leads to reduced lending capacity and lower profit margins.

## 1.3. Impact on Small and High-Risk Banks

Smaller and high-risk banks tend to experience a disproportionate impact from Basel III regulations. As Tran et al. [6] discovered, the effect of Basel III on bank performance is not linear; smaller banks face greater pressure due to their limited access to capital. Klomp and de Haan [7] reinforced this, noting that high-risk banks experienced a sharper decline in profitability following the introduction of the regulation. These banks often find it challenging to meet the capital adequacy requirements, which exacerbates their vulnerabilities.

## 1.4. Risk-Return Dynamics in Basel III

The relationship between risk and return has been a focal point in Basel III literature. According to Nguyen and Nguyen [9], banks face a fundamental challenge in balancing risk and return under the Basel III framework, especially when constrained by high capital buffers. Gualandri et al. [10] examined how capital buffers serve as a double-edged sword, reducing risk while also limiting banks' ability to take on profitable, higher-risk investments.

## 1.5. Capital Requirements and Profitability in Developed and Emerging Markets

The literature also discusses the differentiated impact of Basel III across developed and emerging markets. In developed economies, banks typically have more resources to comply with capital requirements, and thus the profitability trade-off is less pronounced. In contrast, banks in emerging economies often experience more substantial profitability declines. A study by Igan and Koetter [8] shows that banks in emerging markets saw their net interest margins shrink post-Basel III. Similarly, Rodriguez and Sanchez [11] found that while Basel III reduced risk in Latin American banks, it also led to significantly lower profitability.

## 1.6. Long-Term Effects on Banking Performance

Several studies address the long-term implications of Basel III on banking performance. For instance, Bikker and Mettenheim [13] argue that while profitability is reduced in the short term, banks may benefit in the long run from enhanced financial stability and reduced risk of default. This is echoed by Nguyen et al. [9], who suggest that banks adopting Basel III are likely to see improved market confidence, which can offset initial profitability declines. Moreover, Rahman and Thakor [14] found that banks that actively manage their capital structure in line with Basel III tend to outperform those that do not over a longer horizon.

## 1.7. Balancing Regulation and Innovation

Recent literature also examines the role of financial innovation in mitigating the profitability challenges posed by Basel III. As Pritchard and Wang [15] highlight, banks that leverage fintech solutions and digital banking innovations are better positioned to maintain profitability under Basel III regulations. They argue that technological advancements can help banks streamline operations and reduce the cost of compliance, which is particularly beneficial for small banks.

## 1.8. Critiques of Basel III

Despite its advantages, Basel III is not without criticism. Some researchers argue that the regulation may have unintended consequences. For instance, Cornett et al. [12] raised concerns about regulatory arbitrage, where banks shift their activities to less regulated areas of the financial sector to maintain profitability.

In this article, the authors try to fill the gap by studying the trade-off between risk and profitability under Basel III capital regulation (BCR) using a sample of 30 commercial banks in Lebanon. The main question of this research is: What is the trade-off between risk and profitability under Basel III capital regulation (BCR)?

To answer this question, the authors considered a qualitative approach in the study. The authors used semi-structured interviews with the chief risk officer (CRO) for the sample. In order to examine the impact of Basel III capital regulation (BCR) on risk and profitability, the authors asked Banks' CFOs to rate risk and profitability based on 5 scale metrics before and after the application Of Basel III in Lebanon. To analyze the data, the authors used ATLAS. Ti version 8.3 software. The results showed that after the application of the Basel III accord in Lebanon risk and profitability decreased in banks. The authors also noticed this effect is much greater in small and high-risk banks. This result aligns with Klomp and de Haan's [16] findings that the Basel III accord has more effect on small and high-risk banks and with Tran et al. [17] findings that the relationship between capital regulation and bank performance is not linear and depends on the level of capitalization of banks.

The rest of this article is organized as follows: Section 2 describes the theoretical model to analyze the data. Section 3 presents the empirical model and the results. Section 4 is the discussion. Section 5, displays the references.

## 2. Theoretical Model

### 2.1. Methodology

The source of information of this study is taken from semi-structured interviews with the chief risk officer (CRO) of 30 (Lebanese and commercial) banks in Lebanon. “Figure 1. Lebanese Banking Categories”

BANKDATA Division of Lebanese Banks

	Size
Alpha	> \$2B in Customer Deposits
Beta	\$500M < Customer Deposits < \$2B
Gamma	\$200M < Customer Deposits < \$500M
Delta	Customer Deposits < \$200M

Source: BANKDATA

**Figure 1.** Categories of Lebanese banks. Source: <https://blog.blominvestbank.com/wp-content/uploads/2018/09/2017-in-Review-the-Lebanese-Banking-Sector-Scrutinized.pdf>

The interview questions are divided into 3 main sections: 1- Risk Management and Capital regulation 2- Profitability, Sustainability, and Regulatory Capital 3-The Trade-off between Risk and Profitability. The authors classified the interview based on bank size which is the control variable in the study. In Lebanon, there are 4 categories of bank size: Alpha-Beta-Gamma-Delta. Figure 1 shows the categories of Lebanese banks according to customer deposits.

The central Bank of Lebanon has adopted Basel III capital regulation according to 2 circulars: Basic Circular No. 119<sup>1</sup> And intermediate Circular No 358.<sup>2</sup> The Basic Circular No 119 was published in 2008 and set a timetable for Lebanese banks to adjust their capital structure up to the year 2015, the intermediate Circular No 358 was published in March 2014 and set a timetable for Lebanese banks to adjust their capital up to the year 2018.

In order to examine the impact of Basel III capital regulation (BCR) on risk and profitability, the authors asked Banks' CFOs to rate risk and profitability based on 5 scale metrics before and after the application of the 2 circulars related to Basel III. Finally, to analyze the data, the authors used ATLAS.Ti version 8.3 software.

The 5-scale metrics are:

1. Very Low

2. Low
3. Medium
4. High
5. Very High

### 2.2. Sampling

According to the Association of Banks in Lebanon, “there are 65 operational banks in Lebanon. In terms of activity, out of the total 65 operational banks, 12 are investment banks and 53 are commercial banks of which 33 are Lebanese and 20 are foreign and mixed”. The Islamic banks are excluded from the application of Basel III. As for investment and commercial banks, there is a difference in the implementation of Basel III Minimum capital for banks as follows:

1. “LBP 10 billion for the head office of a commercial bank and LBP 500 million for each additional branch.
2. LBP 30 billion for establishing an investment/specialized bank

Every study of the impact of Basel III capital regulation (BCR) in Lebanon should take into consideration the difference in the implementation of Basel III between commercial, investment, and Islamic banks.

Based on the mentioned above the authors choose to study banks that are Lebanese and commercial. These banks implement Basel 3 capital regulation in the same protocol and they represent the majority of the operational banks in Lebanon. (Commercial banks represent: 81.53% of the operational banks in Lebanon and Lebanese banks represent 62.26% of the commercial banks). Therefore, the sample selected for this study was 33. Then, the authors excluded banks that are subsidiaries of other banking or insurance groups and banks for which a complete financial statement could not be found. Thus, this study ended up with a final sample of 30 banks. Figure A3.

## 3. Empirical Model

The aim of this section is to present the empirical specifications and analysis using ATLAS.Ti version 8.3 software. First, the authors define the codes and combinations in the study. Second, the authors begin with a general analysis followed by a more specific analysis regarding the effect of Basel 3 in Lebanon.

### 3.1. Empirical Specifications

Before the authors begin the analysis with ATLAS.ti software they need to define the code documents:

- A. Co-occurrence: Two codes are either coding the same quotation (i.e., equivalent to the AND Boolean operator) or they are coding quotations that are touching each other in some way (i.e., within, enclosing, and overlapping).
- B. The Co-Occurrence Table: allows Coded-Quotations to

<sup>1</sup> <http://www.bdl.gov.lb/circulars/index/5/33/0>

<sup>2</sup> <http://www.bdl.gov.lb/circulars/intermediary/5/37/0/Intermediate-Circulars.html>

be retrieved in a matrix of Codes by Codes.

C. The Code-Document Table: allows you to compare Code frequencies across documents, thereby making conclusions about each Document.

The complete source code documents of the analysis using ATLAS. Ti version 8.3 software is available upon request.

### 3.2. Empirical Analysis

#### 3.2.1. General Analysis (Question 3.1)

Table 1 represents a Co-Occurrence Table. It shows the frequency of occurrences of the two codes in the same quotations.

**Table 1.** Co-occurrence table risk vs profitability.

	Profitability-Very Low	Profitability-Low	Profitability-Medium	Profitability-High	Profitability-Very High
Risk-Very Low	0	0	12	0	0
Risk-Low	0	0	10	0	0
Risk-Medium	0	0	0	4	0
Risk-High	0	0	0	4	0
Risk-Very High	0	0	0	0	0

We can see that the answers came as follows:

1. 12 for the Combination: Risk=Very low and Profitability=Medium
2. 10 for the Combination: Risk=Low and Profitability=Medium
3. 4 for the Combination: Risk=Medium and Profitability=High
4. 10 for the Combination: Risk=High and Profitability=High

The most frequent combination of risk and profitability in our sample is (Risk=Very low and Profitability=Medium).

**Table 2.** Code-document table risk vs profitability.

	D 1: Alpha banks	D 2: Beta banks	D 3: Delta banks	D 4: Gamma banks	Totals
Risk-Very Low   Profitability-Medium	12	0	0	0	12
Risk-Low   Profitability-Medium	3	7	0	0	10
Risk-Medium   Profitability-High	0	0	0	4	4
Risk-High   Profitability-High	0	0	4	0	4
Totals	15	7	4	4	30

Table 2 represents a Code-Document table. It shows the number of occurrences of the combinations of Risk and Profitability in different Bank Types. It allows us to compare Risk Profitability Code frequencies across Bank Types.

This table shows that most of the answers (12 out of 15), for Alpha banks, came for the combination Risk=Very Low-Profitability=Medium. Moreover, the answers for other bank types came as follows:

1. Beta banks: Risk=Low-Profitability=Medium
2. Delta banks: Risk=High-Profitability=High
3. Gamma banks: Risk=Medium-Profitability=High

Figure 2. represents a Network. It shows the answers that

were retrieved regarding the Risk and Profitability combinations across bank types (Risk=Very Low-Profitability=Medium, Risk=Low-Profitability=Medium, Delta banks: Risk=High-Profitability=High, Medium-Profitability=High), with the corresponding document quotations. It shows also the associated Risk and Profitability in different scales separately.

The authors have 4 associations of risk and profitability in our sample.

1. Risk = Very Low – Profitability = Medium
2. Risk = Low – Profitability = Medium

3. Risk = Medium – Profitability = High

4. Risk = High – Profitability = High

For example, the association risk =very low and profitabil-

ity = Medium has 10 nodes which means that 10 answers in the sample contain this combination.

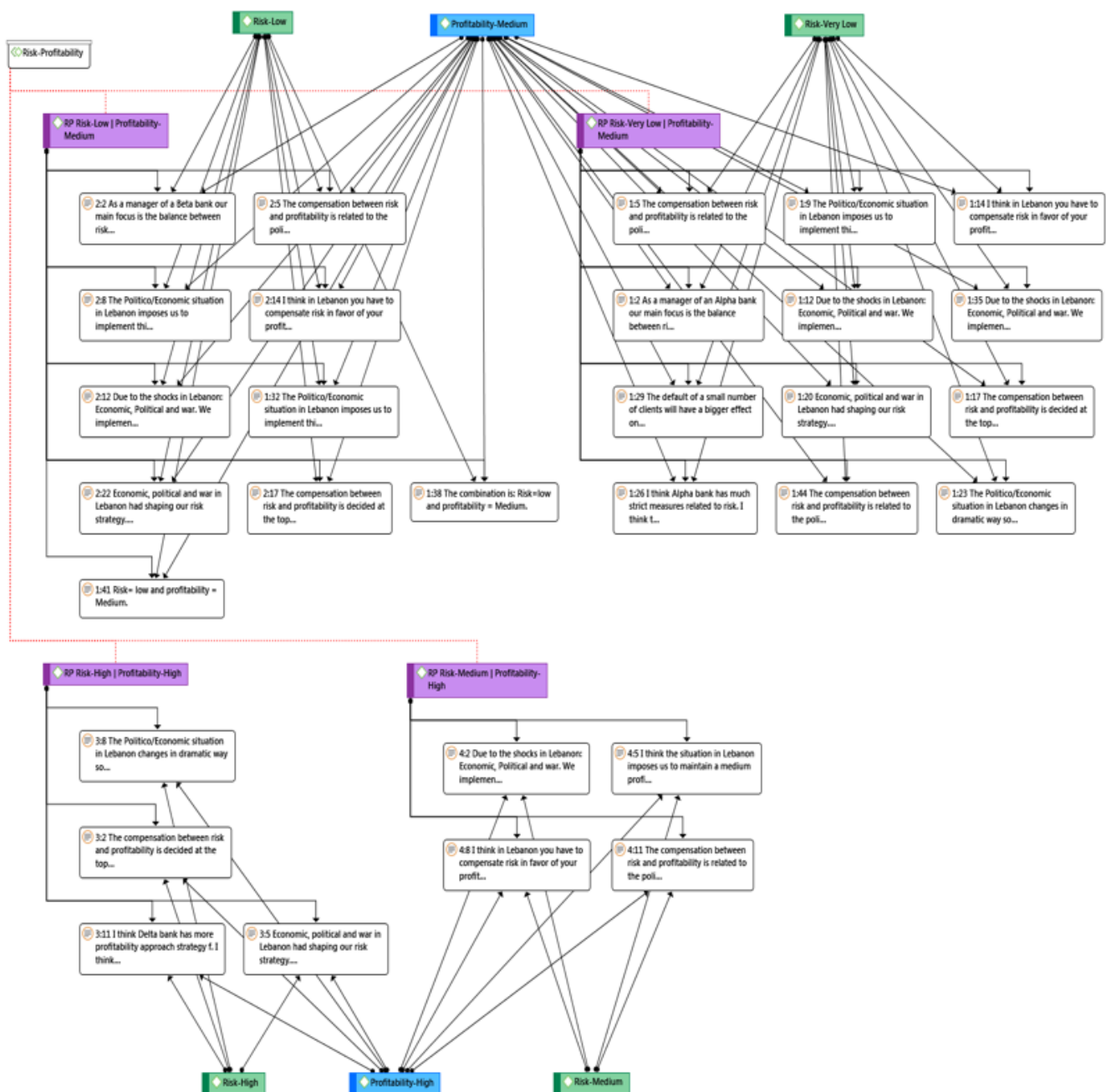


Figure 2. Network of the Risk and Profitability.





**Figure 3.** Word Count Graph.

The most common words used in our sample which are:

1. Profitability
2. Risk

3. Basel
4. Capital

### 3.2.2. Analysis Regarding the Effect of Basel 3 in Lebanon (Questions 3.2 and 3.3)

Table 3 compares the answers of the different Risk and Profitability scale combinations, in terms of the number of occurrences, before and after the Basic Circular No. 119, across Bank Types.

The results are the same before and after Basic Circular No. 119. This will lead to the conclusion that Circular No. 119 didn't affect the tradeoff between Risk and Profitability across Bank Types.

**Table 3.** Analysis regarding the effect of Basel 3 in Lebanon.

	Regular					Basic Circular No 119				
	D 1: Alpha banks	D 2: Beta banks	D 3: Delta banks	D 4: Gamma banks	Totals	D 1: Alpha banks	D 2: Beta banks	D 3: Delta banks	D 4: Gamma banks	Totals
Risk-Very Low   Profitability-Medium	12	0	0	0	12	12	0	0	0	12
Risk-Low   Profitability-Medium	3	7	0	0	10	3	7	0	0	10
Risk-Medium   Profitability-High	0	0	0	4	4	0	0	0	4	4
Risk-High   Profitability-High	0	0	4	0	4	0	0	4	0	4
Totals	15	7	4	4	30	15	7	4	4	30

**Table 4.** Comparison of the different risk and profitability scale combinations.

	Basic Circular No 119					Intermediate Circular No 358				
	D 1: Alpha banks	D 2: Beta banks	D 3: Delta banks	D 4: Gamma banks	Totals	D 1: Alpha banks	D 2: Beta banks	D 3: Delta banks	D 4: Gamma banks	Totals
Risk-Very Low   Profitability-Low	-	-	-	-	-	12	0	0	0	12
Risk-Very Low   Profitability-Medium	12	0	0	0	12	2	7	0	0	9
Risk-Low   Profitability-Medium	3	7	0	0	10	1	0	0	4	5
Risk-Medium   Profitability-Medium	-	-	-	-	-	0	0	4	0	4
Risk-Medium   Profitability-High	0	0	0	4	4	-	-	-	-	-
Risk-High   Profitability-High	0	0	4	0	4	-	-	-	-	-
Totals	15	7	4	4	30	15	7	4	4	30

Table 3 represents a Code-Document table. It shows the number of occurrences of the combinations of Risk and Profitability before and after the application of circular 119.

Table 4 compares the answers of the different Risk and Profitability scale combinations, in terms of the number of occurrences, between Basic Circular No 119 and Intermediate Circular No 358, across Bank Types.

It shows clearly that Intermediate Circular No 358 has af-

fected both risk and profitability in banks. After this circular bank has adopted a less risky and less profitable approach.

Table 4 represents a Code-Document table. It shows a comparison of the combinations of Risk and Profitability between circular 119 and intermediate circular 358.

Table 5 below summarizes the changes in Risk and Profitability scale combinations answers between Basic Circular No 119 and Intermediate Circular No 358, across Bank Types.

**Table 5.** Comparison Between Circular 119 and Circular 358.

	Basic Circular No 119	Intermediate Circular No 358
Alpha banks	Risk-Very Low   Profitability-Medium	Risk-Very Low   Profitability-Low
Beta banks	Risk-Low   Profitability-Medium	Risk-Very Low   Profitability-Medium
Delta banks	Risk-High   Profitability-High	Risk-Medium   Profitability-Medium
Gamma banks	Risk-Medium   Profitability-High	Risk-Low   Profitability-Medium

### 3.2.3. Management of the Portfolio of Risks (Question 1.1)

**Table 6.** Management of the portfolio of risks.

	D 1: Alpha banks	D 2: Beta banks	D 3: Delta banks	D 4: Gamma banks	Totals
Basel III Risk Model	0	7	0	4	11
Case by Case Risk Analysis	0	0	4	0	4
Internal Model	15	0	0	0	15
Totals	15	7	4	4	30

Table 6 represents the answer related to question 1.1.

The tables above showed Alpha banks are fully using the Internal Model. Besides, Beta and Gamma banks are fully using the Basel III Risk Model. However, the Case-by-Case Risk Analysis model is used fully for Delta banks.

Based on all mentioned above, table 2 and figure 3 showed that Alpha and Beta banks had relatively low risk and medium profitability. As for Delta and Gamma banks, they have medium/high risk and high profitability. After the introduction of Basel III capital regulation especially intermediate circular 358 (Table 5) small and high-risk banks (Beta and Gamma) became less risky and less profitable. The authors can conclude that Basel III capital regulation had a much greater effect on small and high-risk banks. This result aligns with Klomp and de Haan's [16] findings that the Basel III accord has more effect on small and high-risk banks and with Tran et al. [17] findings that the relationship between capital regulation and bank performance is not linear and depends on the level of capitalization of banks.

## 4. Discussion

This research examined the trade-off between risk and profitability under Basel III capital regulation (BCR) using a sample of 30 commercial banks in Lebanon. The main question of this research is: What is the trade-off between banking risk and profitability under Basel III capital regulation in Lebanese banks?

To answer this question, the authors considered a qualitative approach based on semi-structured interviews with the chief risk officer (CRO) of the sample. In order to examine the impact of Basel III capital regulation (BCR) on risk and profitability, the authors asked Banks' CFOs to rate risk and profitability based on 5 scale metrics before and after the application Of Basel III in Lebanon. The authors used ATLAS. Ti version 8.3 software to analyze the qualitative data. The results showed that after the introduction of Basel III capital regulation especially intermediate circular 358 small

and high-risk banks (Beta and Gamma) became less risky and less profitable.

Based on all mentioned above, the authors can finally say that after the application of the Basel III accord in Lebanon risk and profitability decreased in banks. The authors also noticed that this effect is much greater in small and high-risk banks. This result aligns with Klomp and de Haan's [16] findings that the Basel III accord has more effect on small and high-risk banks and with Tran et al. [17] findings that the relationship between capital regulation and bank performance is not linear and depends on the level of capitalization of banks.

## 5. Conclusion

This study examined the trade-off between risk and profitability in Lebanese commercial banks under Basel III capital regulation (BCR). Using qualitative data from semi-structured interviews with Chief Risk Officers (CROs) and analyzing the results with ATLAS.ti, the authors found that the implementation of Basel III, particularly intermediate circular 358, led to a decrease in both risk and profitability. This effect was more pronounced in smaller and higher-risk banks, identified as Beta and Gamma banks.

The author's findings confirm that Basel III regulations while enhancing stability, come with trade-offs, particularly in terms of profitability, which corroborates the work of Klomp and de Haan [16], who found that smaller, riskier banks are more sensitive to regulatory changes. Additionally, the study results align with Tran et al. [17] who demonstrated that the relationship between capital regulation and bank performance is non-linear, varying based on the level of capitalization.

While this research sheds light on the significant effects of Basel III on Lebanese banks, future research could explore the long-term implications of these regulatory changes on banking sector competitiveness, as well as their broader economic impact. Further quantitative analysis could also offer deeper insights into how different types of banks navigate these trade-offs over time.

## Abbreviations

BCR    Basel III Capital Regulation  
CRO    Chief Risk Officer

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## Author Contributions

**Nadim Alfouhaili:** Conceptualization, Formal Analysis, Methodology

**Thawra Alhilfi:** Data curation, Methodology

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This work is not supported by any external funding.

## Data Availability Statement

The data is available from the corresponding author upon reasonable request.

## Conflicts of Interest

The authors declare no conflicts of interest.

## Appendix

**Interview Guide**

<< The trade-off between Risk and Profitability in Lebanese Banks under Basel III accord >>

**A- Interviewer**

Hello, my name is NADIM ALFOUHAILI. I'm in my 3rd-year of Ph.D. in Finance at the University Paris 1 Panthéon-Sorbonne.

I would like to make an interview about the trade-off that a bank in Lebanon will make between risk and profitability.

The duration of this interview will not exceed 30 minutes. Dated as May 2020.

During the interview, I would like us to address the following themes: Risk Management and Capital Regulation, Profitability, Sustainability, and Regulatory Capital, The Trade-off Between Risk and Profitability

**B- Interviewee**

Bank Name:

Bank Size:

Interviewee post: chief risk officer (CRO)

*Figure A1. Interview Guide 1*



## Themes and Questions

## &lt;&lt;The trade-off between Risk and Profitability in Lebanese Banks&gt;&gt;

## 1- Risk Management and Capital regulation

1.1 How do you manage your portfolio of risk as a bank in Lebanon?

1.2 How Basel III Capital Regulation affect risk management in Lebanese banks?

## 2- Profitability, Sustainability, and Regulatory Capital

2.1 What is the relation between profitability and banking sustainability?

2.2 How Basel III Capital Regulation affect profitability in Lebanese banks?

## 3- The Trade-off Between Risk and Profitability

In these 3 questions we ask the CFO to rate risk and profitability based on 5 scale metrics: Very low-low-Medium-High-Very high

3.1 How managers can compensate between risk and profitability in Lebanese banks

BDL has adopted Basel III capital regulation according to 2 circulars: No 119 and intermediate circular No 358. No 119 is between (2012 and 2015), No 358 is between (2016-2018).

3.2 How Did you manage risk and profitability under circular No 119?

3.3 How Did you manage risk and profitability under intermediate circular No 358?

*Figure A2. Interview Guide 1*

Bank Name	Bank Size 2017
BLC bank Sal	Alpha
Bank Audi Sal	Alpha
Bank Of Beirut Sal	Alpha
Bank Med Sal	Alpha
Banque Libano-Francais Sal	Alpha
BBAC Sal	Alpha
BLOM Bank Sal	Alpha
Byblos Bank Sal	Alpha
Credit Libanais Sal	Alpha
Credit Bank Sal	Alpha
First National Bank Sal	Alpha
Fransabank Sal	Alpha
IBL Bank Sal	Alpha
Lebanon and Gulf Bank Sal	Alpha
Societe Generale de Banque au Liban Sal (SGBL)	Alpha
Banque Misr Liban Sal	Beta
BSL Bank Sal	Beta
Emirates Lebanon Bank Sal	Beta
Fenicia Bank Sal	Beta
Jammal Trust Bank Sal	Beta
Lebanese Swiss Bank Sal	Beta
MEAB Sal	Beta
National Bank of Kuwait (Lebanon ) Sal	Gamma
Al-Baraka Bank Sal	Gamma
Finance Bank SAL	Gamma
North Africa Commercial Bank Sal	Gamma
Banque de Credit National Sal	Delta
Saudi Lebanese Bank Sal	Delta
Syrian Lebanese Commercial Bank Sal	Delta
Arab Bank (Switzerland) Lebanon SAL	Delta

*Figure A3. List of Banks.*

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## Biography



**Nadim Alfouhaili** is a Doctor at the faculty of economics and business administration at the Lebanese university. Dr. NADIM has a Ph.D. in business administration from Sorbonne Business School-University of Paris I: Panthéon-Sorbonne. His thesis subject is “The Impact of Basel III Capital Regulation on Risk and Profitability in Banks”. Dr. NADIM has a wide range of experience as a Credit Analyst, Data Analyst, Business Analyst, and Internal Auditor. Dr. Nadim has published several academic articles in peer-reviewed journals and participated in several academic conferences. In those articles, he used sophisticated techniques based on Machine Learning to analyze the Impact of Basel III capital regulation on risk and profitability in the banking sector.



**Thawra Alhilfi** is a Ph.D. student at the University of Tunis El Manar, Faculty of Economic Sciences and Management, Tunis. Her thesis discusses the governance of banks in IRAQ. She is a member of the IRAQ Parlement in the state of Basrah. Thawra alhilfi has a wide range of professional experience as a Financial Advisor, Internal Auditor, and financial accountant.

## Research Field

**Nadim Alfouhaili:** Risk Modeling, Basel III Regulation, Banking Credit Risk, Machine Learning Applications, Bank Governance.

**Thawra alhilfi:** Banking Credit Risk, Bank Governance, Banking Regulation, Risk Analysis, Banking Profitability.