

MOULOUD MAMMERI UNIVERSITY OF TIZI-OUZOU
TAMDA II UNIVERSITY COMPUS
NATIONAL RECRUITMENT FIELD
DEPARTMENT OF FINANCE SCIENCE AND ACCOUNTANCY



Master's dissertation

With aim to obtaining a Master's degree in financial science and accounting

Option: Corporate finance

Subject:

***Risk Management in Islamic Financial
Institutions in Algeria: Exploratory Study***

Submitted by:

-FRENDI Asma

Presented before the jury composed of :

M. KARA Rabah
M. DAHAK Abdennour
M. GUELMINE, Mohamed Hichem

Professor in UMMTO
Professor in UMMTO
MCA in UMMTO

President
Supervisor
Examiner

Promotion : 2023 /2024



Bismillah

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In The Name of Allah



*Dedicated to My Parents and our Ummah (The nation of
Muhammad peace be upon him)*

Acknowledgements

First of All, Praise to Allah, the most Gracious, and the most Merciful, whose grace has made possible all the work accomplished.

I am very much obliged to my Ever Loving Parents, Father (FRENDI Yahia) and Mother (GAAD Fatima) for their endless love, support and prayers.

I am deeply obliged to my Director of Studies, prof.DAHAK, Abdennour for his support, interest and guidance throughout my dissertation research. His style of supervision, along with his important comments and suggestions for improvements, has encouraged me to pursue my ideas. His guidance, valuable advice and constructive comments have made this dissertation much better than it otherwise would have been.

I also want to thank all my family, friends and well-wishers for their continuous encouragement. I feel great pride and pleasure in the accomplishment of this dissertation. I owe all of you a great debt of appreciation.

Abstract

The purpose of this study is to compare risk management strategy between Islamic and conventional financial institutions and investigate the specificities of risk management disclosures in Islamic financial institutions among Algeria. This is an academic research-exploratory study- which has employed qualitative research method, and through this various of concepts related to risk management were addressed, the descriptive approach was followed because it is appropriate for presenting the concepts associated with risk management in IFIs, with the use of the multiple cases study, because we are going to examine the three cases which are Al-Baraka Bank, Al-Salam Bank, and CPA Islamic window by conducting a content analysis through annual report and legal text and a simulation document. The conclusion of this dissertation shows the lack on disclosures of risk management and the specificities sound less sufficient.

Keywords: risk, risk management, Islamic financial institutions, conventional banks, Algeria

Resumé

L'objectif de cette étude est de comparer la stratégie de management des risques entre les institutions financières islamiques et conventionnelles et d'étudier les spécificités des divulgations de gestion des risques dans les institutions financières islamiques en Algérie. Il s'agit d'une recherche académique -étude exploratoire- qui a employé la méthode de recherche qualitative, et à travers cela divers concepts liés à la gestion des risques ont été abordés, l'approche descriptive a été suivie car elle est appropriée pour présenter les concepts associés à la gestion des risques dans les IFI, avec l'utilisation de l'étude de cas multiples, car nous allons examiner les trois cas qui sont Al-Baraka Bank, Al-Salam Bank et guichet islamique de CPA en effectuant une analyse de contenu à travers le rapport annuel et le texte juridique et un document de simulation. La conclusion de cette thèse montre le manque de divulgations de gestion des risques et les spécificités semblent moins suffisantes.

Mots clés : risque, management des risques, institutions financières islamiques, banques conventionnelles, Algérie

ملخص

تهدف هذه الدراسة إلى مقارنة إستراتيجية إدارة المخاطر بين المؤسسات المالية الإسلامية والتقليدية ودراسة خصوصيات الإفصاح عن إدارة المخاطر في المؤسسات المالية الإسلامية في الجزائر. هذا بحث أكاديمي استخدم أسلوب البحث النوعي، ومن خلاله تم تناول العديد من المفاهيم المتعلقة بإدارة المخاطر، وتم اتباع المنهج الوصفي لأنه مناسب لعرض المفاهيم المرتبطة بإدارة المخاطر في المؤسسات المالية الإسلامية، مع استخدام دراسة الحالات المتعددة، لأننا سنفحص الحالات الثلاث وهي بنك البركة وبنك السلام ونافذا الانتظام الشعبي للجزائر الإسلامية من خلال إجراء تحليل للمحتوى من خلال التقرير السنوي والنص القانوني ووثيقة المحاكاة. ويوضح استنتاج هذه الأطروحة نقص الإفصاح عن إدارة المخاطر وأن الخصوصيات تبدو أقل كفاية.

الكلمات المفتاحية: المخاطر، إدارة المخاطر، المؤسسات المالية الإسلامية، البنوك التقليدية، الجزائر

List of Tables

<i>N°</i>	<i>Titled</i>	<i>Page</i>
1	Summary of comparison on risk from Latin and Arabic perspectives	21
2	Definitions of risk.	22
3	<i>Fiqhi</i> rules for Islamic transactions	23
4	Brief history of risk management	26
5	Summary of the most important features of ERM in comparison with the features of the traditional risk management	28
6	The three pillars of Basel II accord	32
7	Steps of Historical simulation for VaR	41
8	comparison of value at risk methodologies	42
9	Major types of derivatives products	48
10	Islamic banking history	53
11	Development of modern Islamic finance	54
12	Sources of <i>Shari'ah</i> (Islamic Law) and their characteristics.	57
13	characteristics of <i>Murabahah</i> instrument	62
14	Summary of Islamic finance instruments	65
15	Conventional institutions	66
16	Comparison between conventional banks (CBs) and Islamic banks (IBs)	67-68
17	Scholars which divided risks in Islamic financial institutions	69
18	Common risks in both Islamic and conventional banking	73
19	Unique risks of Islamic banking	75
20	Credit risk in Islamic banks	76
21	Major Guidelines for risk management according to IFSB	83
22	List of approved banks in Algeria until January 2021 and some data related to them	93-94
23	Islamic windows and <i>Shari'ah</i> -compliance certificates for products, located in conventional banks until August 2022.	96
24	Ordered Guarantees	102
25	Provisions to cover risks and burdens	102
26	Funds to cover general banking risks	102
27	Reserves	102
28	Burdens of exploitation	102
29	Shows the financings according to the economic operator	109
30	Shows the financings according to the financing form	109
31	Shows the total financings	109-10
32	Financing commitments granted	110
33	Financing obligations for the benefit of customers	110
34	Warranty obligations by order of customers	111
35	Guarantee obligations obtained from financial bodies	111
36	Other obtained obligation	112
37	Occupied real estate	112
38	Provisions to cover risks and burdens	112
39	Funds to cover general banking risks	113
40	Reserves	113
41	Burdens of exploitation	113
42	<i>Murabahah</i> simulation from CPA	118
43	Results of <i>Murabahah</i> simulation from CPA	119
44	Signs of violating <i>Shari'ah</i> rules	120
45	Comparison on risk management strategy practices in IFIs among Algeria	121

List of Figures

<i>N°</i>	<i>Titled</i>	<i>Page</i>
1	Three basic guidelines in Islam for risk management	27
2	Steps of risk management	34
3	Summary of major phase for Risk management process	35
4	Risk management process in finance	35
5	Techniques for risk management	37
6	Three dimensions of risk transfer	37
7	Overview of securitization process.	47
8	Dimensions of underlying asset	48
9	Islamic Banking and Finance instruments	60
10	Risk exposures of Islamic banking and finance	70
11	Risk management framework in Islamic banking.	77
12	AAOIFI's <i>Adl</i> and <i>Ihsan</i> equation	81
13	Timeline of Islamic banking and finance in Algeria	91
14	Major risks that face Al Baraka Bank	99
15	Funding	101
16	The organizational structure of risk management at Al Salam Bank Algeria	104
17	Major risks that face Al Salam Bank Algeria	104

Glossary

<i>Foreign term</i>	<i>Meaning</i>
<i>Riba</i>	Payment or receipt of interest
<i>Riba al nasi'ah</i>	Refers to the prohibition of unequal exchange in Islamic finance
<i>Riba al-fadl</i>	Is a term in Islamic finance that refers to the concept of interest or usury on loans
<i>Zakat</i>	Amount payable by a Muslim on his net worth as a part of his religious obligations to redeem the rights of others
<i>Maysir</i>	Gambling or any game of chance
<i>Gharar</i>	Literally, “deception, danger, risk, and excessive, unnecessary uncertainty(ambiguity).” Technically, it means exposing oneself to excessive risk and danger in a business transaction as a result of either having too little information or asymmetric information about price, quality and quantity of the counter - value, the date of delivery, the ability of either the buyer or the seller to fulfill their commitment, or ambiguity in the terms of the deal — thereby, exposing either of the two parties to unnecessary risks
<i>Qur'an</i>	Holy Book of Muslims, consisting of the revelations made by Allah (swt) to the Prophet Muhammad (P.B.U.H). Prescribes the rules of social and personal behaviour, compliance with which guarantees social solidarity, economic growth and development
<i>Sunnah</i>	The second - most important source of the Islamic faith after the Qur'an and refers to the Prophet's (P.B.U.H) operationalization and explication of the rules prescribed by Allah (swt) in the Qur'an in words and action
<i>Ijmaa</i>	To determine or agree to
<i>Qiyas</i>	Precedents
<i>Ijtihad</i>	Striving (to adapt to law)
<i>Surah</i>	Chapters in Quran (singular is surat)
<i>Wajib</i>	Obligatory act
<i>Haram</i>	Prohibited
<i>Mandub</i>	Commendable act
<i>Makruh</i>	Discouraged act
<i>Mubah</i>	Permissible act
<i>Shari'ah</i>	The corpus of Islamic law based on Divine guidance, as given by the Qur'an and the <i>sunnah</i> , and embodies all aspects of the Islamic faith, including beliefs and practices
<i>Fiqh</i>	Corpus of Islamic jurisprudence. In contrast to conventional law, <i>fiqh</i> covers all aspects of life — religious, political, social, commercial, and economic. <i>Fiqh</i> is based primarily on interpretations of the Qur'an and the <i>sunnah</i> and secondarily on <i>ijma'</i> and <i>ijtihad</i> by the <i>fuqaha'</i> . While the Qur'an and the <i>sunnah</i> are immutable, <i>fiqhi</i> verdicts may change in line with changing circumstances
<i>Al-ghounmu bil al-ghourm</i>	Is an Arabic phrase that roughly translates to “Risk accompanies profit” it's a principle in business and investment that suggests that with the potential for profit or gain comes an inherent level of risk.
<i>Al- kharaju bi Daman</i>	Is an Arabic phrase that translates to “profit comes with risk” or “gain involves risk.” It's a principle similar to “no pain, no gain” in English, emphasizing that achieving success or benefit often requires taking risks or facing challenges.
<i>Maqasid al-Shari'ah</i>	Basic objectives of the <i>Shari'ah</i> : the protection of faith, life, progeny, property, and reason

List of Abbreviations

<i>ERM</i>	Enterprise Risk Management
<i>RM</i>	Risk Management
<i>VaR</i>	Value at Risk
<i>RAROC</i>	Risk Adjusted Return On Capital
<i>ROC</i>	Return On Capital
<i>ROE</i>	Return On Equity
<i>SPV</i>	Special Purpose Vehicle
<i>CaR</i>	Capital at Risk
<i>ABS</i>	Asset Backed Securities
<i>IFIs</i>	Islamic Financial Institutions
<i>CFIs</i>	Conventional Financial Institutions
<i>IBF</i>	Islamic Banking and Finance
<i>PLS</i>	Profit and Loss Sharing (Principe de 3P)
<i>IBs</i>	Islamic Banks
<i>CBs</i>	Conventional Banks
<i>PS</i>	Profit Sharing
<i>AAOIFI</i>	Accounting and Auditing Organization for Islamic Financial Institutions
<i>IFSB</i>	Islamic Financial Services Board
<i>SSB</i>	<i>Shari'ah</i> Supervisory Board
<i>MPO</i>	<i>Murabahah</i> for Purchase Orderer
<i>IIFS</i>	International Islamic Financial Services

Summary

Summary

General Introduction	13
Chapter 1: Theoretical framework of Risk Management.....	19
1-1-The understanding of risk and Risk Management	20
1-2-Strategy and Process of Risk Management	31
1-3-Tools of Risk Management.....	40
Chapter 2: Nature of Risks and their Management in Islamic Financial Institutions	51
2-1-Salient Features of Islamic Finance.....	52
2-2-Key Risks faced by Islamic Financial Institutions.....	66
2-3-Risk Management adopted by Islamic Financial Institutions.....	77
Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window	89
3-1-Growth and prospects of Islamic banking in Algeria: a state of places.....	90
3-2-Risk Management practices in Algerian Banks: Al Baraka Bank and Al Salam Bank	99
3-3-Risk Management practices in Islamic Banking windows in Algeria: Case of CPA.....	115
General Conclusion	123

General
Introduction

General Introduction

“Islamic finance promotes the sharing of risk and reward between contracting parties”

Bala Shanmugam and Zaha Rina Zahari

Islam propounds the guiding principles, and prescribes a set of rules, for all aspects of human life, including the economic aspect¹. Over the last few decades, the Muslims have been trying to restructure their lives on the basis of Islamic principles. They strongly feel that the political and economic dominance of the West, during past centuries, has deprived them of the divine guidance, especially in the socio-economic fields. Therefore, after acquiring political freedom, the masses are striving for the revival of their Islamic identity to organise their collective life in accordance with the Islamic teachings. In the economic field, it was the biggest challenge for such Muslims to reform their financial institutions to bring them in harmony with the dictates of *Shari'ah*².

Risk management is getting increased attention after the financial crisis globally, the subprime crisis affected several countries around the world, caused essentially by the interest rate (*Riba*) which showed the failure of the ideology and practice of a global financial system. For our purpose, a simple definition of *Riba* could be “the practice of charging financial interest or a premium in excess of the principal amount of a loan”. Hence, it was a formidable task to structure the financial institutions on an interest (*Riba*)-free basis in an environment where the entire financial system was based on interest (*Riba*).

Risk is simply defined as a probability of a loss or gain, risk management is a field that considered important and used to be carried out in financial institutions rather than any other part of the economy, it consists of the activities that aim to minimize adverse effects or damage. Undoubtedly, nowadays all financing institutions are facing a large number of risks such as credit risk, liquidity risk, operational risk, market risk, political risk and legal risk which may cause failure of a financial system. It was considered after the financial crisis that the failure of many financial institutions was due to inadequate risk management practices, shortcomings in the risk models, measuring and mitigation techniques. Therefore, efficient risk management is absolutely obligatory for the survival and success of the financial institutions.

Islamic finance is one of the fastest growing segments in the financial industry, which has shown an incredible growth in terms of assets and number of financial institutions. Islamic finance is mainly based on the absence of *Riba* (interest) in the transaction and the reason behind the prohibition of *Riba* that it permits to generate money on money (like a commodity), avoidance of *Gharar* (uncertainty) in contractual terms, payment of *Zakat* (almsgiving) for the needy and poor, and avoidance of *Haram* (forbidden) activities such as gambling-like features (*Maysir*). Due to the prohibition of interest, Islamic Financial Institutions (including Islamic banks or conventional banks with windows for Islamic products) cannot have fixed interest debt instruments. The Islamic financial system instead proposes equity participation and risk sharing (PLS) on the part of the entrepreneur (*Mudarib*) who contributes his business expertise and investors (*Rabbul-Mal*) who bring in money. This requirement must be clearly defined at the onset, and serves as an additional in-built mechanism that promotes the

¹IQBAL, Zamir and MIRAKHOR, Abbas. *An introduction to Islamic finance: theory and practice*. Second edition. Asia: John & Sons, 2011, p.1.

² USMANI, Muhammad Taqi. *An introduction to Islamic finance*. Kluwer Law International, P.O.Box 8589, 2508 CN The Hague, The Netherlands, 2002, p.6.

adoption of sound risk management practices by IFIs. In particular, these features demand the exercise of appropriate due diligence and higher standards of disclosure and transparency to be observed by the IFIs, which in turn enforces market discipline and minimises informational asymmetries.

In Algeria, Islamic activity appeared with the creation of the first Islamic bank in 1991 called *Al BARAKA BANK*, then, many years later, a new player came to the Islamic banking sector by establishing *Al SALAM BANK*, the second Islamic bank to enter the Algerian market in 2008. Algeria embraced Islamic finance by issuing Regulation No. 20-02 defining banking operations relating to Islamic finance and the conditions for their exercise by banks and financial establishments which are starting the birth of the Islamic finance project under the supervision of Algerian conventional banks, namely Islamic banking windows, “*these Islamic windows also contributed to enhancing the spread of banking across the national territory, and made it possible to quickly raise the level of economy banking, as public banks alone, by August 2022, had launched 294 Islamic windows out of the total of 361 windows*” as Mr. KEDDI Abdelmajid states in his conference¹.

In this work, we cannot take all the Islamic financial institutions in the country, so we will restrict ourselves to a more manageable space, we have chosen the two Islamic banks of Algeria, namely Al Baraka Bank and Al Salam Bank, and Islamic banking window of Credit Popular Algeria (CPA), in order to draw out the specificities of risk management carried out in such financial institutions among Algeria.

Problematic of research

The aim of this dissertation is to explore the theory and practice of risk management in the context of Islamic Financial institutions, which is a fast growing segment of the financial system.

What are the specificities of risk management in Islamic financial institutions among Algeria?

This is the core issue on which this work is based. The answer to this question necessarily involves knowledge of the risk management process as a whole, thus, the functioning of Islamic financial institutions and their risks then dropped it on the Algeria's case.

From this problematic a sub-questions will due which we will try to answer throughout this research, namely:

- Do risk management practices in Islamic financial institutions differ from conventional institutions; do they face the same risks?
- What are the risk management disclosures practices in Islamic financial institutions among Algeria?
- Do Islamic financial institutions in Algeria rely on the same risk management strategy?

Specific objectives of the research

The intent of this research lies in the fact that risk management in Islamic financial institutions aims to meet the requirements of *Shari'ah* and strengthen their reputation among citizens, considered as a means to attract of the population who escape the banking circuit. So our interest in choosing this subject has its origins in a statement:

¹KEDDI, Abdelmajid. *The general context of the adoption of Islamic windows in conventional banks in Algeria*. In: Conference proceedings Islamic transactions windows in Algerian banks in light of international experiences, Algeria: Batna university 01, 2022, p.31-42. [In Arabic].

- To understand the etymology of the word risk, and identify the risk to which Islamic financial institutions are exposed.
- To compare and contrast risk management practices of Islamic and conventional financial institutions, and investigate risk mitigation technique used by these institutions.
- To understand how Islamic financial institutions among Algeria deal with the risks, and give out the specificities of their risk management disclosures.

Motivation to the research

We chose to process this topic for the following reasons:

- First, it is a current topic, to make known the progress of risk management at the level of Islamic financial institutions, more particularly in the Al Baraka Bank, Al Salam bank Algeria and Islamic banking window of Credit Popular Algeria (CPA).
- It is a subject that concerns our religion in the economic aspect; hence, it is directly linked to our speciality, namely corporate finance.
- Fill the gap in the studies on risk management in Islamic financial institutions among Algeria.

Methodology of the research

In order to approve the objectives already mentioned, we have used the techniques (set of means and procedures which allow gathering data and information on the subject treated) and the methods (set of steps followed to discover and demonstrate the truth, in order to achieve the objectives targeted). Our study is mainly based on the multiple case study method as stipulated by Dahak and Kara “*a case study method can also incorporate multiple cases. The reason why we use multiple cases is to know if the conclusions of the first case occur in the other cases or not*”¹, and this is a qualitative research method, when we have subject to content analysis method in the analysis of empirical data, with the following research aims:

- A descriptive aim: it serves to describe the theoretical foundations of Risk Management and Islamic finance based on documentary research.
- A classifying aim: it allows comparing between the principles of the conventional banking system and the Islamic banking system, especially their risk management techniques.
- A comprehensive aim: it allows studying a multiples case to give out conclusions and have a comparison table.

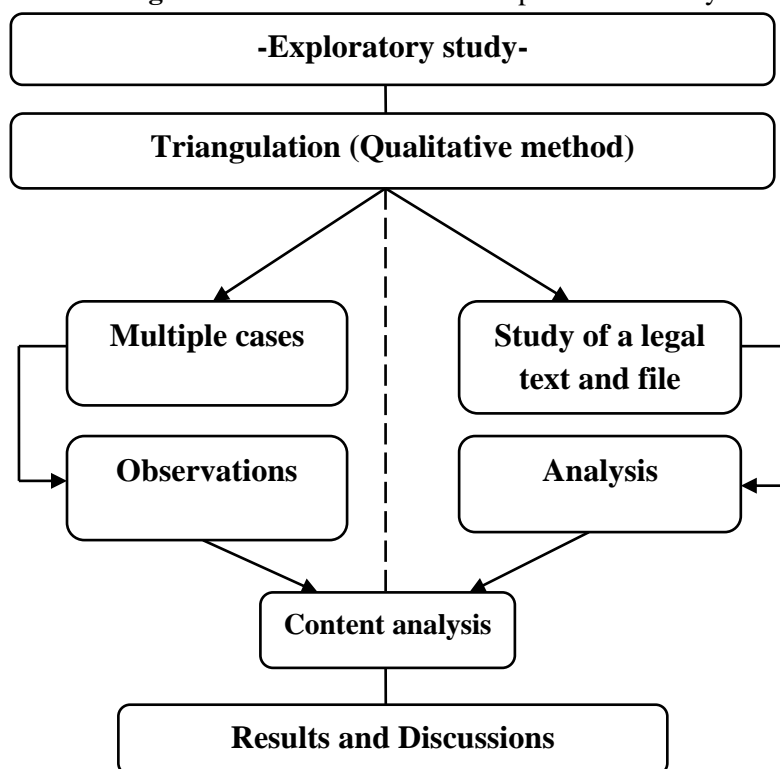
In our qualitative study we have base for the collection of empirical data on:

- Activity and annuals reports
- Website and specialized studies
- Official documents such as: decrees, laws, regulations, ordinances...

And the figure below illustrates the research methodology chosen for our study.

¹ DAHAK, Abdennour., KARA, Rabah. *The Master's Thesis: from the choice of subject to the presentation*. 2nd edition, Tizi-Ouzou: Edition El Amel. 2022, p.110. [In French].

Figure: The research method adopted in this study



Source:Adapted from KARA, Rabah, “Analysis of the financial development of Algeria (1962-2015): Historical institutional approach”. Doctoral thesis. Tizi-Ouzou: MOULOUD MAMMERI University, 2017, p. 86. [in French].

Summary of this research

Based on the questions and objectives put forward this dissertation is divided into three chapters: following two chapters of theoretical framework and chapter three is based on an empirical framework.

We start with risk management because it is the dependent variable of our subject, so we had to know the theoretical framework first and then see its application to Islamic financial institutions. Secondly we have reviewed the Islamic finance in whole as it is the independent variable of the subject. At last we have studied the case of Algeria by the help of previous variables.

Chapter one titled “**Theoretical framework of risk management**” subdivided into three sections. In the first section we will briefly discuss the concept of risk and risk management concept, their history and development, definitions and objectives. In the second section we will talk about the known strategy of risk management especially on banking context and explain the process of risk management, by giving an explanation of its phases, finally we will discuss the techniques of risk transfer. The third section is deliberated to give an understanding of advanced tools of risk management.

Chapter two titled “**Nature of risks and their management in Islamic financial institutions**” subdivided into three section. In the first sections we will give the salient features of Islamic finance, its history and definitions, principles and instruments. The second will be devoted to discuss the risks faces Islamic financial institutions and compare it to conventional institutions. The third one is

deliberated to discuss the risk management adapted by Islamic financial institutions, and this by giving a brief of previous studies, and studying the prudential principals of Islamic finance, finally give an understanding of risk management techniques in Islamic banking and finance.

Chapter three titled “**Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window**” subdivided into three section. In the first section we will give a scope to Islamic banking and finance prospects among Algeria. The second will be devoted to show the disclosures of risk management among the two Islamic bank of Algeria. The third one is deliberated to analyse a legal text made for Islamic banking windows among Algeria, and s study of *Murabahah* simulation of Credit Popular Algeria (CPA). At the end it is a matter to give a comparison on specificities of risk management practices among the dropped cases.

*Chapter 1: Theoretical
framework of Risk
Management*

Introduction to chapter 1

All firms are subject to risk from variety of sources: changes in consumer tastes and demand for their products, fluctuations in the cost of raw materials, employee turnover, the entry of new competitors, and countless other uncertainties. Entrepreneurs and corporate managers willingly take on these risks in the pursuit of high returns and accept them as part of the cost of doing business. But as with any other cost, firms should manage risk to minimize the effect on the value of the firm.

This chapter aims to give an understanding of the risk and risk management, by exploring the origin and meaning of these two concepts, which needed to be explained in the questioned topic, in section 1. Thus, section 2 will give a brief about strategies for managing risks and explain the process of risk management as well. After that, it will be a matter to give an examination of the advanced tools used for managing risk in the financial system, in section 3.

Rizq corresponds to "the share of goods that Allah attributes to each man, [...] Hence a fortuitous event, then a risk."

Laurent Magne

1-1-The understanding of risk and Risk Management

In the following section, the concept of risk and risk management will be deliberated briefly.

1-1-1-The concept of risk

The concept of risk has naturally evolved over time, being present in developed societies, a basic principle in decision-making by politicians, managers, entrepreneurs in crisis management programs. This concept is now associated with a new paradigm, in which the technological, economic, social, legal, ethical and communicational gain prominence and justify be considered¹.

1-1-1-1-Risk term evolution

The history of the word "risk" is very complex. The term also seems to have had uneven fortune and seems unknown in certain languages or at certain times. His linguistic adventure deserves attention insofar as it reveals a conception of the world². Indeed, if the etymological root of the word "risk" is obscure, it may also be quite simply because we have focused on the search for a Latin or continental European source, whereas it could well be that the root in question is simply Arabic³.

A-In Latin perspective

The origin of the word "risk" is also argued in the literature. The 1660s saw that the word "risk" appeared in different languages such as *risque* (French), *risco* (Italian), *riesgo* (Spanish), *risiko* (German), and *risiko* (Malay). In the beginning, philosophical creation of risks in its modern sense started by redefining a Latin word "*probabilis*." By this time, the European etymologies for the word "risk" were common parlance among numerous researchers. They also claimed the Latin word *riscum* where Latin-derived terms are *risco*, *risicare*, and *rischiare*. However, there is a healthy disagreement as to the true origin of its modern meaning⁴.

The Chambers Dictionary confirms the Latin origin of the term meaning "the challenge posed to a sailor by a reef barrier". Repeatedly attested, this root designates first that which cuts (from the Latin "*resicare*", to cut), then the reef threatening the ship, finally the shipwreck or any danger to which the navigators and the goods are exposed⁵.

B-In Arabic perspective

Another meaning consists of attributing the origin of the word "risk" to the Arabic "*risq*" or "*rizq*" in the sense of risk of profit, of favourable consequence (granted by Allah), and not of risk of accident

¹VAUGHAN,Emmet J and Therese M. *Fundamentals of Risk And insurance*. 10th édition. In united states of America :John Wiley & Sons, Inc, 2008, p.3.

²KERMISCH,Celine.*The concept of risk: From epistemology to ethics* [online]. Paris: 11, street Lavoisier Tic & Doc edition, 2011, p.3. [published in French].

³DAHAK,Abdenmour., KARA,Rabah.Risk management within Islamic finance windows in Algeria: a state of play.*Marketing and Business Research Review*, December 2021, vol.2, No.2, p.61-75. [Published in Arabic].

⁴NURURL SYAZWANI,Mohd Noor and al. Shariah Risk: Its Origin, Definition, and Application in Islamic Finance. *Journal.sagepub.com/home/sgo*, April 2018, p.1-12.

⁵KERMISCH,Celine.*Op.cit*, p.4.

as the suggests of Latin origin. The term "*rizikon*" in Byzantine Greek would derive from it and means "balance earned by luck by a soldier of fortune", or "chance", without positive or negative connotation. This etymology, however, seems less justifiable from a phonetic and semantic point of view¹.

By doing some more research on the meaning of the word rizq in Arabic (رزق), Magne discovers that this is a word taken up by Islam and its meaning; it seems, quite clear in the Quran. However, given that the founding of Islam dates back to the VII century and that the current texts of the Quran date roughly (according to modern historical research) from the IX century, spotting the use of the word *rizq* in these texts could help us shed light on this potential origin and on the original meaning of the word "risk" (assuming that it is unique)².

We're about to show a summary of comparison on risk from Latin and Arabic perspectives in the table below.

Table 1.1: Summary of comparison on risk from Latin and Arabic perspectives

Latin perspectives	Arabic perspectives
-Fate coming from Allah. -Risk means danger. -Based on luck (chance).	-Originally from Allah's fate. -No risk no <i>rizq</i> . -Based on faith.

Source: Established by ourselves From References cited above

1-1-1-2-Definitions of risk

Risk has been studied in the last years, and it is one of the concepts that do not have a universal definition. Every author has a different approach to risk. The word risk indicates a great difference between what was expected and what actually occurred. We can define risk as not knowing what will happen in the future, the difference between ideal performance and actual performance as a result of unexpected interventions outside the will of the institution or person³.

Risk in Arabic language called as *mukhatir* (bold) or *mukhatarah* (hazard) or *khatr* (risk). *Khatr* (risk) according to the views of scholar, from the grammar definition stated that risk is prone to damages and peril or close to perish. But according to the majority of scholars, *khatr* (risk) has various meaning such as gambling (*maysir*), uncertainty (*gharar*) or compensation⁴.

Definitions of risk can be found from many sources, and some key definitions are set out in Table below.

¹KERMISCH, Celine. *Op.cit.*, p.5.

²DAHAK, Abdennour and KARA, Rabah. Risk management within Islamic finance windows in Algeria: a state of play. *Marketing and Business Research Review*, December 2021, vol.2, No.2, p.61-75. [Published in Arabic]. *Op.cit.*

³ABUZARQA, Rawan. Banking risk management according to the requirements of the Basel agreements. *SEA-Practical Application of Science*. June 2019, Vol.7, No.19, p.29-38.

⁴AHMED DAHLAN, Salleh and al. Contractual Risk Transfer in Islamic Home Financing: Analysis in Bank Malaysia. *International journal of Academic Research in Economics & Management Sciences*, Vol.11, No.3, p.405-417.

Table 1.2: Definitions of risk.

Organization	Definition of risk
ISO Guide 73 ISO 31000	Effect of uncertainty on objectives. Note that an effect may be positive, negative, or a deviation from the expected. Also, risk is often described by an event, a change in circumstances or a consequence.
Institute of Risk Management (IRM)	Risk is the combination of the probability of an event and its consequence. Consequences can range from positive to negative.
Orange Book from HM Treasury	Uncertainty of outcome, within a range of exposure, arising from a combination of the impact and the probability of potential events.
Institute of Internal Auditors	The uncertainty of an event occurring that could have an impact on the achievement of the objectives. Risk is measured in terms of consequences and likelihood.

Source: HOPKIN, Peter. *Fundamentals of risk management: Understanding, evaluating and implementing effective risk management*. 4th edition. Great Britain and the United States: KoganPage Limited, 2017, p.16.

Through these definitions we can say that the word risk is often used in connection with the term uncertainty. Also from Arabic perspective the word risk is viewed as gambling, uncertainty and compensation.

1-1-1-2-1-Risk in financial literature

In finance, “risk” is defined as “the probability that an actual return on an investment is lower than the expected return”. Risk is present in all acts undertaken by human beings; but it acquires special significance when the study is of risk as an ingredient of the process of arriving at financial decisions. The ability of assets to yield expected returns is something not guaranteed¹.

We can say that risk in finance is generally characterized by volatility. That means we judge that an asset is risky if we know that it has a certain number of chances of being in decline as well as of recovery in the future. Also we can say that risk in finance is a condition in which there is a possibility of an adverse deviation from a desired outcome that is expected or hoped for.

A-Risk classification

Risk in finance is classified into two categories²:

a-The systematic risk: Also called market-wide risks, this risk arises when the failure of a single entity or cluster of entities can cause a cascading failure, due to the size and the interconnectedness of institutions, which could potentially bankrupt or bring down the entire financial system. This risk cannot be diversified and expresses the covariance of the deviations with the changes in the broad economic development.

a-The unsystematic risk: Also called firm-specific risk is the risk that affects a very small number of assets. Specific risk, as its name would imply, relates to risks that are very specific to a company or small group of companies. This type of risk would be the opposite of an overall market risk or systematic risk. Specific risk can be eliminated through diversification.

¹ALI ELGARCI, Mohamed. Credit Risk in Islamic Banking and Finance. *Islamic Economics Studies*. March 2003, Vol.10, No.2, p.1-25.

²PASHCHENKO, Svetlana and al. Financial Risk Management. *Advances in Economics, Business and Management Research*. 2017, Vol.38, No.38, p.512-517.

B-Asymmetric information

Asymmetric information is a phenomenon that had been studied since decades in financial events, thus it is considered a major risk on financial system. It can be defined as a situation when one party has more information about a good or service than another in economic exchange¹. And where about to mention two risk than may rise from this phenomenon as follow below²:

a-Adverse selection: which occurs when the better-informed party uses the asymmetric balance of information to take advantage of another party before an exchange or agreement has taken place.

b-Moral Hazard: which occurs after a deal has been made between two parties with asymmetric information and the party changes their behaviour as a result.

1-1-1-2-2-Risk in Islamic economics

The concept of risk according to Muslim jurists is almost similar to what is defined by conventional economists. However, some might argue that there is a distinction between the concept of risk as *khatar* and the concept of *gharar*. The response to that from Islamic finance perspective is that the first notion refers to a tolerated level of *gharar* which exist in every commercial transaction. While *gharar* as that element of uncertainty in exchange transactions in case spotted in a contract make it void from *Shari'ah* point of view is the excessive type to which hedging does not apply. Risk is an essential component of all Islamic transaction as no one can claim any compensation without bearing risk. Indeed, under the rules of *shari'ah*, return is directly linked to the exposure of an ex ante investment risks according to the *fiqhi* rule “*al-ghounmu bil al-ghourm*”. Also, returns assume liability “*Al-kharaju bi Daman*” meaning that any profit occurs after a liability³.

In the below table we're about to explain these two *fiqhi* rules briefly.

Table 1.3: *Fiqhi* rules for Islamic transactions

<i>Al-kharaju bi Daman</i> (benefit goes with liability)	<i>Al-ghounmu bil al-ghourm</i> (liability accompanies gain)
Linguistically in the Arabic language, <i>kharaj</i> means yield and return and <i>Daman</i> refers to liability and responsibility with different other meaning in Islamic <i>fiqh</i> . However, in this case, its meaning is the liability of the asset in case it is damage or destroyed. As liability comes always with risk, mitigating it is an important element based on this maxim. Additionally, Islamic law links return and liability which falls into most of commercial transaction as no one can claim any compensation without taking any risk.	This maxim can be considered as an inverse or extension of the cited maxim (<i>Al-kharajou bi dhaman</i>). The general meaning of this maxim is that the owner should bear all risks and costs that attend ownership of the asset since he is entitled to enjoy any benefit resulting from it.

Source: Established by ourselves from reference cited above.

From these rules, we conclude the solidity and validity of Islamic jurisprudence (*fiqh*), which seeks to preserve the rights and benefits of the merchant in his transactions. Also this shows how our religion (*Islam*) protects us even in our trade transactions.

¹BACK, Kerry. Asymmetric information and option. *The review of financial studies*, 1993, Vol.7, No.3, p.434-472.

²KLEIN, Tobias and al. Market transparency, adverse selection and moral hazard. *Journal of political economy*, Vol.124, No.6, p.1677-1713.

³OUBDI, Lahsen and RAGHIBI, Abdessamad. An Overview on the Practice and Issues of Hedging in Islamic Finance. *International Journal of Contemporary Research and Review*, October 2017, Vol.8, No.10, p.1-11.

More than 670 years ago, Ibn Taymiah (728H-1328G) wrote: Risk falls into two categories: commercial risk, where one would buy a commodity in order to sell it for profit, and rely on Allah for that. This risk is necessary for merchants, and although one might occasionally lose, but this is the nature of commerce. The other type of risk is that of gambling, which implies eating wealth for nothing (بالباطل للمأكل), this is what Allah and his Messenger (peace be upon him) have prohibited, which shows that Muslim scholars were aware of the dual forms of risk. Although there might be cases where it is difficult to distinguish between the two, the overall framework nonetheless is clear. The above statement shows that there are two types of risk¹. We can say that from this statement there are two types of risk as follow below:

-First, Risk associated with normal economic transactions. Value-adding and wealth-creating activities.

-Second, Risk associated with “eating wealth for nothing”, or zero-sum activities, where no net additional wealth is created.

1-1-1-2-3-Risk in banking context

The Basel Committee also knows identified the risks as: "the probability of the Bank being exposed to unexpected and unplanned losses or the fluctuation of the expected return on a particular investment, resulting in a negative effect, which has the potential to affect the achievement of the desired objectives of the Bank and to implement its strategy successfully"².

Risk in a banking context arises from any transaction or business decision that contains uncertainty concerning the result. Because virtually every bank transaction is associated with some level of uncertainty, nearly every transaction contributes to the overall risk of a bank. In general, event risk (e.g., an earthquake, a fire, etc.) has a much larger impact on a firm's cash flows and value than continuous risk (e.g., interest and foreign exchange rates)³.

1-1-1-3-Uncertainty and its relationship to risk

Because the term uncertainty is often used in connection with the term risk (sometimes even interchangeably), it seems appropriate to explain the relationship between the two terms. The most widely held meaning of uncertainty refers to a state of mind characterized by doubt, based on a lack of knowledge about what will or will not happen in the future. It is the opposite of certainty, which is a conviction or certitude about a particular situation. The existence of risk is when a condition or combination of circumstances in which there is a possibility of loss creates uncertainty on the part of individuals when that risk is recognized⁴.

We can say that risk is the possibility of something that is not certain to happen. As for certainty events there is no risk, and the presence of risk generates uncertainty. For example exposure to loss in trade is a risk (that means there is uncertainty), but if it occurs, it is no longer a risk, but rather becomes a certainty.

¹Al-SUWAILEM,Sami . Islamic Approach to Risk. *Chair for Ethics and Financial Norms, University Paris 1 Panthéon-Sorbonne in collaboration with King Abdulaziz University*. Presentation: 3rd Seminar held on September 4th, p.461-487.

²ALI IDHBIA,Omar. The Difference between Risk in Islamic Banks and Commercial Banks. *International Journal of Scientific and Research Publications*, May 2018, vol.8, N.5, p.692-703.

³ SCHROECK, Gerhard. *Risk Management and Value Creation in Financial Institutions*. In Canada: Editions John Wiley & Sons, Inc, 2002, p.25.

⁴VAUGHAN,Emmet J and Therese M. *Op.cit*, p.3.

1-1-1-4-Risk culture

Establishing a risk culture is a necessary organizational condition for effective risk management. If the organization exists today, this is because of its “risk culture”, whatever its form, it is adapted. Risk culture could be defined as the organization's willingness to take risks, as perceived by its leaders. It is this perception that creates culture more than any other tangible decision taken by the actors of the organization. This is because it is perceptions that provide the signs of acceptable behaviour. One of the conclusions that could be drawn from this definition is the idea that a culture of risk-taking is positively linked to the willingness of hierarchical superiors to place their trust in their colleagues¹.

According to Darsa (2016) the culture of risk management must therefore integrate a conscious capacity of its actors to agree to take risks and seize the opportunities that arise, without adopting by default a restrictive vision of risk and its potential impacts².

We can say that at this level of the organization it is a matter to maintain the risk appetite, while this risk can be defined as the amount and type of risk that an organisation is prepared to seek, accept or tolerate.

1-1-2-Risk management concept

The concept of risk management has a variety of origins and is practised by a wide range of professionals. Risk management evolved from the field of corporate insurance buying and is now recognized as a distinct and important function for all businesses and organizations³.

1-1-2-1-Origins of risk management

We notice that the history of risk management is long and complex, spanning thousands of years. Here's a look at how risk management has evolved over time:

1-1-2-1-1-Evolution of risk management over history

The evolution of risk management has seen significant changes over the decades due to technological advancements, regulatory pressures, global financial crises and new emerging threats. The most significant milestones (shown in table 1.4) as follow below⁴:

a-In Antiquity: In ancient times, civilizations such as the Romans and Greeks were concerned with risk prevention, particularly in terms of construction and safety. For example, the Romans developed construction techniques to minimize the risks of earthquakes.

b-In the middle Ages: During the Middle Ages, merchant guilds began to emerge in Europe. These organizations served as platforms to manage business risks. They have helped to establish quality standards, provide mutual assurance and promote the safety of goods. (Guild: Mutual aid association between merchants, artisans, bourgeois).

¹ALAMI, Safae and ACHABA ,Allal. HR Risk Management : literature review.*International Journal of Management Sciences*, October 2020, Vol.3, No.4, p.290 - 301. [Published in French].

²*Ibid.*

³SCHROECK, Gerhard. *Op.cit*, p.10.

⁴KOLMAN,H.Felix.A Brief History of Risk Management. In: FRASER,J and J.SIMKINS,Betty. *Enterprise Risk Management: Today's leading research and best practices for tomorrow's executives*. Hoboken: John Wiley & Sons. 2010, p.19-29.

c-In the XVIIth and XVIIIth centuries: Marine insurance was born. Merchants and ship-owners began to subscribe insurance policies to protect their cargoes and ships against the risk of shipwreck and of piracy.

d-In the XXth century: Industrialization and globalization have led to increased risks in businesses. Companies have begun to establish dedicated enterprise risk management departments to manage financial, operational and strategic risks.

e-In the 1970s-1980s: Before the 1970s, risk management was often informal and based on the experience and judgment of managers. There were no standardized methodologies to assess or mitigate risks.

In the 1970s and 1980s, financial risk management was revolutionized by the use of mathematical models and quantitative tools to assess financial risks and it became more common. Models such as the Black & Scholes model for the valuation of options have been developed (These authors were the first to propose an explicit formula for pricing a derivative product, i.e. an option). This marked the beginning of the extensive use of quantitative tools in financial risk management.

f-In the 1990s: The 1990s saw the rise of regulations aimed at strengthening risk management in the financial sector. Standards such as the Basel Accords have been developed to improve banking risk management. Companies have begun to adopt more systematic approaches to risk management, incorporating methodologies such as risk portfolio management (RPM) and operational risk management.

g-In the 2000s: In the early 2000s, companies began to adopt a more integrated approach to risk management. Regulatory compliance has become a major concern after financial scandals and crisis (such as the 2008 subprime crisis) have shed light on gaps in risk management. Hence the management of operational risks, the credit risks and market risk management have become priorities.

Table 1.4: Brief history of risk management

Period	Its development
In Antiquity	Risk prevention.
In the middle age	Merchant's guild.
In the XVII and XVIII centuries	Maritime insurance.
In the XX century	Emergence of Enterprise Risk Management (ERM).
In the 1970s-1980s	Mathematical modelling and creation of financial risk management models.
In the 1990s	Development of standards and regulations for management of risks.
In the 2000s	Integrated risk management, strengthened regulatory compliance and financial crisis.

Source: Established by ourselves from reference cited above.

To summary, the history of risk management illustrates how this discipline has evolved to meet the changing needs of businesses and societies over time. Risk management is now an essential component of decision-making and strategic planning in many organizations around the world. Risk management has become an essential function to help organizations anticipate, mitigate and manage threats that could affect their business.

1-1-2-1-2-Risk management in Islam from *Maqasid al-Shari'ah* Perspective

Chapra (2008) quotes from Al-Ghazali in defining *maqasid al-Shari'ah* as: "promotion of the well-being of the people, which lies in safeguarding their faith (*din*), their self (*nafs*), their intellect (*'aql*), their lineage (*nasl*) and their wealth (*mal*)". Islam provides detailed instructions to manage various

types of risks in a broader sense amongst others are criminal assault risk, illness risk, investment risk, business risk and etc. Interestingly, Islam also commands the adherents to manage spiritual types of risks such as to avoid fornication, idolatry, apostasy and other types of sins¹.

According to Abdul Kader Malim (2015), Risk management is permissible in Islam. Its concept is acceptable to contemporary Islamic scholars based on the *Qur'anic* verse (*Al-Baqarah: 282*/ see Appendix 01) which requires Muslims to record debt or provide witnesses, and the supporting *Hadith* (*Sunan al-Tirmidhi: 2517*) which requires *Bedouin* to tie the camel before leaving its fate to Allah (*tawakkal*). Therefore, the management must be parallel with *Shari'ah* principles because it involves the process of protecting individuals or their properties from facing the probability of loss. It considers the protection of wealth (*hifz al-mal*) as a value which is emphasized in Islam. From the Islamic perspective, risk is allowed and it differs from *gharar* which is prohibited².

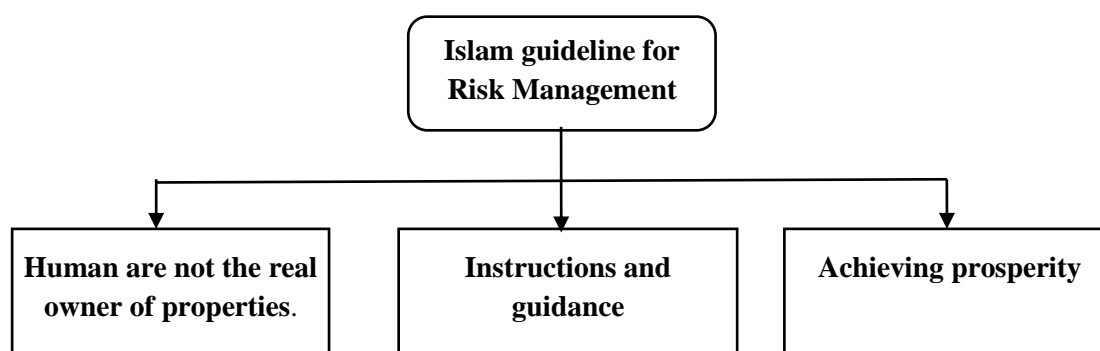
There are many *Qur'anic* verses that guide mankind to have risk management in wealth and financial affairs. Those verses precisely show the significance of strategic planning to control and mitigate anticipated risks. It is stated in *Surah Yusuf*³:

[Joseph] said, “You will plant for seven years consecutively; and what you harvest leave in its spikes, except a little from which you will eat. Then will come after that seven difficult [years], which will consume what you saved for them, except a little from which you will store. Then will come after that a year in which the people will be given rain and in which they will press [olives and grapes]” (*Qur'an*, 12:47-49) [See Appendix 1].

In this *Surah*, it is narrated, how the Prophet Yusuf interpreted the dreams of the king of Egypt, where Egypt would face a 7-year drought after 7 years full of prosperity. Based on that interpretation, the Prophet Yusuf a.s. then proposed a plan for dealing with those critical years. The plan is that the Egyptians needed to grow food during the 7 years of prosperity and keep most of it. This should be carried out so that they would be ready when the drought struck for the next 7 years⁴.

We will summarize the three basic guidelines in Islam for risk management in the figure below:

Figure 1.1: Three basic guidelines in Islam for risk management



Source: Designed by ourselves from references cited above.

¹ULLAH AGHA,Syed E and SABIRZYANOV,Ruslan. Risk Management In Islamic Finance: An Analysis From Objectives Of *Shari'ah* Perspective. *International Journal of Business, Economics and Law*, august, 2015, Vol.7, No.3, p.46-52.

²NURURL SYAZWANI,Mohd Noor and *al. Op.cit.*

³ULLAH AGHA,Syed Ehsan and SABIRZYANOV,Ruslan. *Op.cit.*

⁴ NURURL SYAZWANI,Mohd Noor and *al. Op.cit.*

1-1-2-1-3-Enterprise Risk Management (ERM)

The 1970s are considered the beginning of the risk management trend, currently known as traditional or silo. The traditional approach to risk management is characterized by perceiving risk only in a negative way and by disregarding its impact on the goals and strategy of an organization¹.

Significant changes in the approach towards risk management took place in the early 1990s when the new conception of Enterprise Risk Management (ERM) was born. It was proposed then that organizations should start managing risk by means of one comprehensive programme. ERM is a holistic approach that treats the system as an integrity, which embraces the need to consider all risks together as a risk portfolio².

The table below summarizes the most important characteristics of the ERM concept, comparing them with the features typical of the traditional approach to risk management:

Table 1.5: Summary of the most important features of ERM in comparison with the features of the traditional risk management

Characteristics of Enterprise Risk Management (ERM)	Characteristics of traditional risk management
Consistent and comprehensive management of all risks to which the organization is exposed, taking into account the links that may exist between them, joint management of the risk portfolio.	Individual risks are treated independently and analyzed separately, their management is only one of many functions occurring in the enterprise, and not all risks are taken into account.
Risk management is a continuous, repeatable and constantly improved process, implemented throughout the enterprise, an integral part of all processes occurring in the organization, fitted into the organizational structure of a given enterprise.	Risk management is a separate, single function; actions taken are often unstructured and uncoordinated.
An appropriate risk management culture, the involvement of all employees, and responsibility for risk at every workplace.	No risk management culture.
Well-developed risk management infrastructure (policy, procedures, risk indicators, reports, IT systems).	Poorly developed risk management infrastructure.
Clearly defined division of responsibilities, duties and competences, designated risk owners, risk manager position.	No risk manager.
Risk management is part of strategic planning and an integral part of management and decision making.	The impact of risk on the implementation of the strategy is not considered.
The goal is to optimize the level of risk.	The goal is to minimize risk exposure.

Source: Sylwia Przetacznik. *Op.cit.*

We can say that the above summary highlights some of the most important features that distinguish the ERM concept from the traditional approach towards risk management. It is worth emphasizing, however, that despite significant differences, both traditional risk management and an

¹PRZETACZNIK, Sylwia. The evolution of risk management, *The Malopolska School of Economics in Tarnów Research Papers Collection*, 2022, Vol.53, No.(1-2), P.95-107.

²*Ibid.*

integrated approach, due to the fact that they reduce the degree of uncertainty in the enterprise, have a positive impact on the functioning of the organization. However, in the case of the ERM approach, this impact is much stronger and more comprehensive.

1-1-2-2-Risk Management Meaning

As a relatively new discipline, risk management has been defined in a variety of ways by different writers and users of the term. Although they vary in detail, most definitions offered thus far stress two points: first, that risk management is concerned with risk and, second, that it is a process or function that involves managing those risks¹.

1-1-2-2-1-Management definition

According to Mintzberg management is a practice that has to blend a good deal of craft (experience) with a certain amount of art (insight) and some science (analysis). Mintzberg complains that “management became strategy, managing became decision making, and decision making became analysis”. The craft of management is a dynamic learning in a rich social environment that cannot be taught in the classroom².

According to George R. Terry and Leslie W. Rue management can be defined as follows: “Management is a distinct process, consisting of planning, organizing, actuating and controlling, performed to determine and accomplish stated goals by the use of human beings and other resources”³.

Through these definitions we can say that management is an effort to achieve a certain goal through a set of activities by the use of various resources such as human resources, and others (e.g. finance/funding, technology...).

1-1-2-2-2-Risk Management definition

According to Przetacznik Risk management is a continuous and repeatable process. It is a series of successive, cyclically repeated, interrelated activities, which usually include the following: identification of potential risks, analysis of the effects and probability of their occurrence, control and minimization of the effects of these risks, as well as their monitoring and communication⁴.

Risk management is the iterative process applied throughout a program and which brings together the activities of identifying, estimating and controlling risks. It is based on an analysis phase (procedural rationality) based on risk classes “coherent set of risks in terms of their nature and the responsibilities associated with their management” by phase, cause, origin, functionalities and by organizational and human risks. This makes it possible to distinguish minor risks from major, critical and catastrophic risks. Procedural rationality here takes the place of magical thinking, the application of these categories being a sort of all-risk insurance⁵.

1-1-2-2-3-The main objectives of risk management

¹VAUGHAN, Emmet J and Therese M. *Op.cit.*, p.16.

² FONTAINE, Ridhwan. Schools of management, Islamic management and science. *International Journal of Economics, Management and Accounting*, June 2023, Vol.31, No.1, p.1-22.

³GEORGE R. Terry., LESLIE W. Rue. *Principals of management*. Inc, Homewood, Illinois, 1982.

⁴PRZETACZNIK, Sylwia. *Op.cit.*

⁵YVON, Pesqueux. *Risk management: a question for experts? [online]*. foresight and strategies, 2012, No.2-3, p.243-264. [In French]

Although risk management methods and approaches vary from one financial institution to another, risk management objectives are almost the same for everyone¹:

A-Stability of profit or returns: Risk management contributes to reducing the income variances which result from risk-related losses to the lowest possible level. In addition, reducing income variability can help maximize tax deductions for losses and reduce taxes on profits.

B-Growth continuity: When growth is an essential organizational goal, risk prevention becomes one of the most critical objectives of risk management

C-Maximizing the value of the organization: Risk management decisions contribute to maximizing the market value of the organization. Maximizing the value is the ultimate objective of the organization and it is reasonable criterion for assessing institutional decisions.

1-1-2-2-4- Risk management impact on economic efficiency

Mechanisms that assist in risk management contribute to economic efficiency in two fundamental ways²:

-Risk management allows the reallocation of risks towards the people who are most ready to assume them;

-Then it promotes a reallocation of resources and consumption which takes into account the new distribution of risks.

¹ABUZARQA.Rawan.*Op.cit.*

²BODIE,Zvi and MERTON,Rober.*Finance*, 3rd edition. In: France by christophe thibierge préface de paul samulson, 2011, p. 304.

1-2-Strategy and process of risk management

The following section provides the meaning of strategy and explains the process of risk management.

1-2-1-Strategies for managing risk

According to etymology, strategy refers to the conduct of armies. Currently strategies are developed in various fields, for example in business, sports, economics, marketing, trade, management, and others. In the field of strategic management it is usually associated with activities and decisions that focus on long-term interactions between the organization and its environment¹.

1-2-1-1-Strategy meaning

Strategy is a guideline for determining future decisions and results in accordance with the direction in which the company will move. Strategy is different from tactics, if tactics have a narrower scope and shorter time, although in general the two words are often mixed up, then the strategy is a set of ways as a whole related to the implementation of ideas, a plan within a certain time. According to Griffin strategy is considered as a comprehensive plan to achieve organizational goals. The strategy is intended to maintain the continuity of the organization in the environment where the organization carries out its activities².

1-2-1-2-Strategies in general way for business field

Many of the losses could have been avoided if an effective risk management strategy had been practiced. It practically helps to protect the banks from financial losses such as credit risk from subprime mortgage crisis. Generally, banks and organizations use two approaches for risk management strategies³.

There are two main classes of strategies in banking risk management as follow below⁴:

- The first is to treat risks individually; this approach is similar to a decomposition of the global risk.
- The second aims to reduce global risk through diversification; we talk about risk aggregation.

To explain we can say that risk decomposition refers to a procedure where risks are handled one by one, while risk aggregation refers to a procedure where a portfolio is considered. Risk decomposition requires in-depth understanding of individual risks, while risk aggregation requires an understanding of the correlation between risks.

Banks practically use both approaches when managing market and credit risk. Both approaches are needed to sustain business growth and continued profitability of the banks where both conventional and Islamic financial institutions are required to possess strategies to manage risk⁵.

1-2-1-3-Strategies for financial risk management

¹ DUHAMEL, Henri. *Company Strategy and Direction*. Paris: CLET, December 1986, p.12. [in French]

²*Ibidem*.

³ NURURL SYAZWANI, Mohd Noor and *al. Op.cit.*

⁴ HULL, John and *al. Risk Management and financial institutions*. PEARSON Education, 2010, p.16. [in French]

⁵*Ibidem*.

Basel accords considered as a financial risk management strategy which is a list of agreements set by the Basel Committee on Bank Supervision (BCBS), which provides recommendations on banking regulations in regards to the management of capital risk, market risk and operational risk. The main purpose of this accord is to ensure that financial institutions have enough capital on account to meet obligations and absorb unexpected losses¹.

1-2-1-3-1-Basel I Accords

The first Basel Accord, popularly known as Basel I, was issued in 1988 which focuses on the capital adequacy of financial institutions. The capital adequacy risk indicates the risk that a financial institution will be getting due to some unexpected loss. It primarily focused on credit risk. It has divided the assets of financial institution into five categories i.e., 0%, 10%, 20%, 50% and 100%. It has mentioned that those banks which operate internationally are required to hold capital equal to 8% of the risk weighted assets².

1-2-1-3-2-Basel II Accords

Basel II accord is the second Basel Accords which was published in June 2004 with adopting certain improved laws and regulations relating to the financial risk management than Basel I accord. It considers different types of financial risk where the Basel I Accord dealt with credit risk. Basel II Accord aims to create an international standard about the amount of capital that a bank needs to hold against the financial risk in future. That international standard will help to protect the international financial system from different types of financial risks which may responsible for the collapse of the whole system. To meet with financial risk and capital management requirements, it has designed appropriate rules and regulations relating to the lending and investment practices of the institution. These rules indicate that the greater risk to which the institution is exposed, the greater the amount of capital it needs to hold to safeguard its solvency and overall economic stability³. This accords aims at establishing measures and criteria that enhance the stability and protect the solvency of the banking industry, it focuses on three pillars⁴:

-A minimum capital requirement that is adequate to stand up to the risks a bank is exposed to;

-A supervisory review process that assures capital adequacy;

-A market discipline that aims to complement the first two pillars by enhancing market assessment of a financial institution and its capital adequacy by piecing together key informational bits a financial statement is made required to disclose.

Table 3.1: The three pillars of Basel II accord

Pillar 1 Minimum capital requirements	Pillar 2 Supervisory review	Pillar 3 Market discipline
Calculation of capital charge is connected to credit risk, market risk, and operational risk, signifying higher charge for higher risk category.	Supervisors can review and revise the charge if they feel that the calculated charge does not adequately reflect and cover the risk.	The details of risk management are required to be made public by the bank improving the sharing of information within the industry.

¹ESCH,Louis and *al. Asset & Risk Management: rirk-oriented finance*.Paris: Boek & Larcier, 2003, p.14. [in French]

²BALTHAZAR, Laurent. *From Basel 1 to Basel 3*. In: *From Basel 1 to Basel 3: The integration of state-of-the-Art risk modelling*. London: palgrave macmillar UK, 2006, p.209-213.

³*Ibid.*

⁴ ESCH,Louis and *al. Op.cit*, p.16.

Source: Established by ourselves based of ESCH,Louis and *al.* Op.cit, p.16.

1-2-1-3-3-Basel III Accords

Basel III Accord is the third international regulatory standard on bank capital and liquidity announced by the Basel Committee on Bank Supervision (BCBS) in December 2010. It is developed in a response to the limitations in financial regulation revealed by the global financial crisis. It is both an opportunity as well as a challenge for the banks. It provides a solid foundation for the development of the banking sector by addressing the past uncertainties and introduces new way to address the management of risks and finance. It strengthens the capital requirement by introducing new regulatory requirements related to the process of liquidity and leverage. According to Basel III Accord, the banks should hold 4.5% of common equity and 6% of Tier I capital from the risk-weighted assets. This new regime gives more emphasis on greater integration of the finance and risk management functions¹.

1-2-1-4-Taking out guarantees

Guarantee defined as a mechanism to protect a creditor against pecuniary loss. When a bank wishes to cover, reduce, or eliminate the credit risks linked to its activity, it requires guarantees which can be either: personal or real. The guarantees generally taken during the financing agreement, they intervene in the case where the counterparty does not uphold its commitments when the debt matures. There are three types of guarantees: Personal guarantees, real guarantees and moral guarantees as follow below²:

a-Personal Guarantees

A personal guarantee is a provision in your loan contract. When you agree to it, you're taking personal responsibility for the loan if the business defaults and can't repay it. In other words, if your business goes under or gets behind on loan payments, you are required to use personal assets to satisfy the debt.

b-Reel Guarantees

It is the contract by which a debtor assigns property, movable or immovable, to guarantee the payment of his debt until the creditor is reimbursed. When the property is real estate, it is a mortgage. When the property is movable, it is a pledge.

c-Moral Guarantees

These guarantees are different from the two previous guarantees; they are rarely accepted by the debtor due to their specific characteristics. They are essentially linked to the morality and honesty of the guarantor.

1-2-2-Risk management process

Risk management is a complex process. The industry has continued in the research of risk management. The theory and practice are continuously developed. "ISO 31000: 2009, Risk Management Principles and Guidelines" (Correspondence domestic standard is GB/T24353), was

¹SETHI,Narayan and *al.* A survey of international financial risk management system. *Journal of Public Administration, Finance and Law*, 2013, Vol.18, No.4, p.186-203.

²LUC, Bernet-Rollande. *Banking principle and technique*. 23rd ed. Paris: Dunod, 2004, p.128. [In French].

released in November 2009. It is the first international universally recognized risk management standards, which provides the basic framework for risk management activities for industries¹.

Continuation of financial misfortunes pointed out the needs and significances of various reforms in risk management process (RMP). Recent financial distress has shaken the strong asset-backed institutions and created a buzz in the banking sector to reshape risk modelling in order to strictly manage a financial depression².

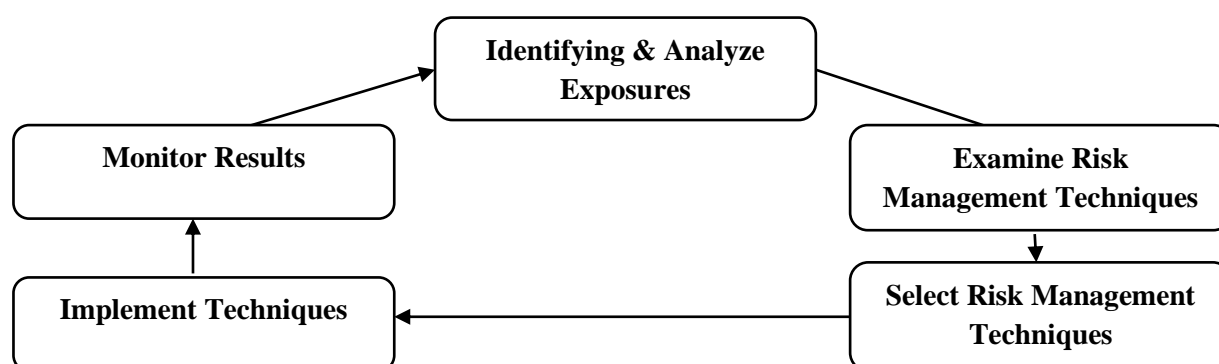
1-2-2-1-Understanding of risk management process

Risk management process is a comprehensive system that includes creating an appropriate risk management environment, maintaining and efficient risk measurement, mitigating and monitoring process, and establishing an adequate internal control arrangement³.

The risk management process has two steps, including; (1) identifying the nature and sources which have caused these risks to arise; (2) to plan out the technique to minimize risks through quantitative models in regard to understanding risk profile⁴.

Usually, risk management processes follow a common pathway for any type of risk, as presented in the figure below⁵.

Figure 2.1: steps of risk management



Source: Established by ourselves from reference cited above.

By doing more research and reading about the process of managing risk we would like to contribute and give a summary about this process as follow in figure below.

¹ LI,Zheng and *al.* Overview of Risk Management System of Commercial Bank Data Center. *International Journal of Security and Its Applications*, 2016, Vol. 10, No.3, p.245-258.

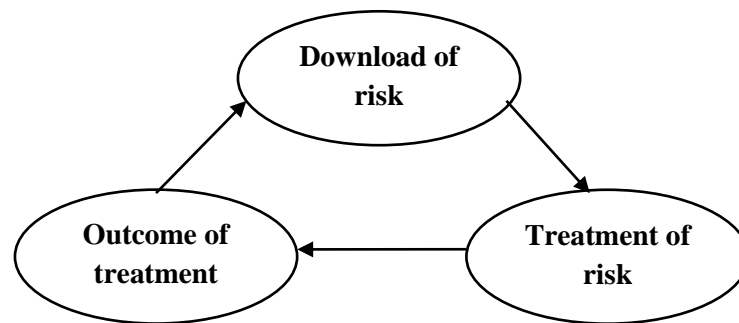
² RAZA BILAL,Ahmed and *al.* Remodeling of risk management in banking: evidence from the sub-continent and gulf. *The Journal of Risk Finance*, Vol.14, No.5, 2013, p. 468-489.

³TARIQUELLAH Khan. & HABIB Ahmed. Risk management: Analysis of certain aspects linked to the Islamic finance industry. *Islamic Development Bank*, Occasional Paper No. 5, Jeddah-Saudi Arabia, 2001, p.1-189.

⁴ABDUL RAHMAN,Asma. *A Comparative Study of Risk Management Practices between Islamic and Conventional Banks in Pakistan [online]*. Doctoral thesis, Cardiff Metropolitan university, January 2016, p.456.

⁵DAOU,Rym. *Risk Management and Bank Performance: Evidence from the MENA Region [online]*. Doctoral thesis. Faculty of business Administration and economics, Lebanon: Notre Dame University-Louaize, May 2020, p.148.

Figure 2.2: Summary of major phase for Risk management process



Source: Designed by ourselves

-First we download the risks, that means we analyze the organization's internal and external environment then we identify his various exposures , which lead then to classify the different risks faced by this organization;

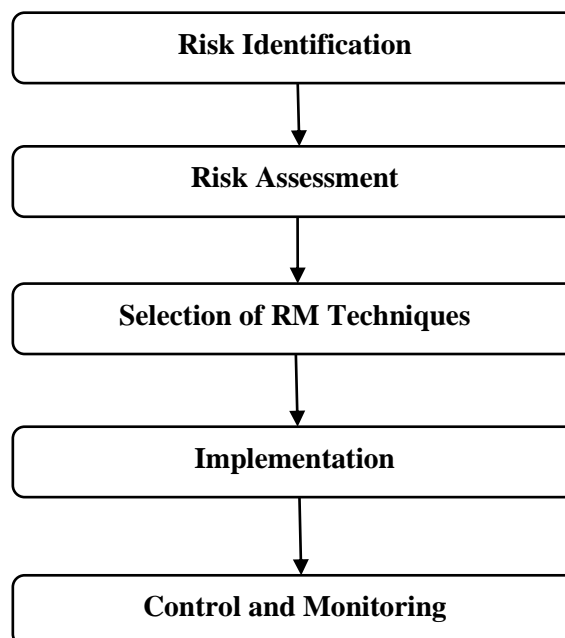
-Second, we proceed for the treatment of risks which was identified and classified by looking for the adequate technique for these risks, also we examine whether this risk brings opportunities or not;

-Finally, we publish our decision about these risks after carefully studying these risks, whether we take these risks or not. Thus, choose the best means namely the appropriate risk management technique.

1-2-2-2-Process of risk management in finance

According to Bodie and Merton in finance this process can be broken down into five steps as follow in the figure below¹:

Figure 2.5: Risk management process in finance



Source: Designed By ourselves based of BODIE,Zvi and MERTON,Robert.

¹BODIE,Zvi and MERTON,Robert. *Op.cit*, p.297.

A-Risk identification

This first stage involves identifying all potential risks that could affect an organization's objectives. This may include financial, operational, strategic compliance risks, etc. Sources of information may include historical data, market analyses, feedback; etc. To properly identify the risks, it is necessary to consider the asset to be analyzed in its entirety, and to identify all of the uncertainties which affect this asset. Risk identification aims to generate a comprehensive list of risks from different sources, the events, their causes and potential consequences, and the areas affected¹.

To explain more we are about to elaborate briefly the steps of identifying these risks:

- First, we must analyze the company internally including operational risk, errors, fraud;
- Afterwards, we go outside the company, we look to see if everything is okay on his external environment;
- In the end, we analyze the sector of activity of this company and this by studying the market.

B-Risk assessment

This step Involves quantifying the costs associated with the risks, which were identified in the first step. In the realm of risks on financial assets, households and businesses often need expert advice to assess their exposure to certain risks, and measure the costs and benefits of investment strategies in stocks, bonds, etc. There are investment advisors, investment firms and other intermediary companies that may provide this information.

C-Selection of risk management techniques

There are four basic techniques for mitigating risk as cited below, and designed in figure 2.4:

a-Risk avoidance: This can be achieved by voluntarily deciding not to take a certain risk.

Very serious and very probable risks (called intolerable risks) must be eliminated. For this, it is necessary to reorganize the business or disengage from a dangerous activity².

b-Risk prevention: This compasses actions to reduce the likelihood or amount of losses. We can act before losses occur, as they occur, or even after they have occurred.

Preventing a risk consists of preventing it from occurring or, more precisely, reducing its probability of occurrence.³

c-Risk Absorption: This consists of assuming the risk and paying for losses from one's own resources. This often happens by default, for example when one was unaware of a risk, or when one deliberately chose to ignore that risk. But it can also happen that we consciously choose to absorb a risk.

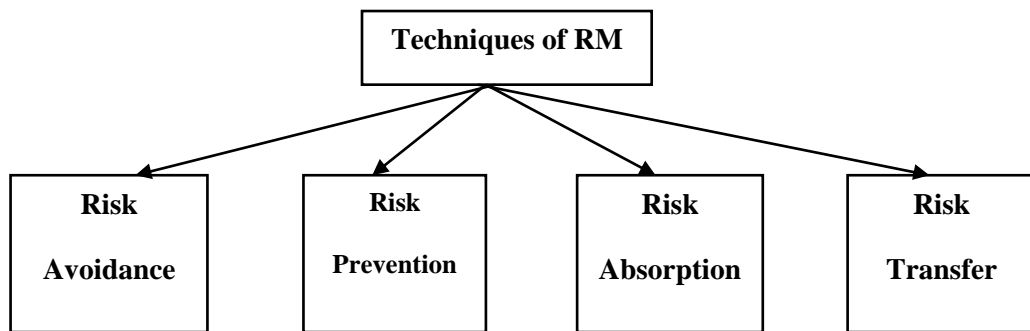
d-Risk transfer: Involves getting rid of the risk by shifting it to other parties. You can sell a risky asset to someone, for example, or take out an insurance contract. Or some people do not try to reduce risk and rely on others to compensate for their losses.

¹DE OLIVEIRA, Ualison R and al. The ISO 31000 standard in supply chain risk management. *Journal of Cleaner Production*, 2017, Vol. 151, p. 616-633.

²JOSIEN, Samuel and Landrieux-kartochian, Sophie. *Management of entreprises*. 3rd ed. Gualino, 2017, p.207. [In French].

³ *Ibid*, p.208.

Figure 2.4: Techniques for risk management



Source: Designed by ourselves based of BODIE, Zvi and MERTON, Robert.

D-Implementation

Once we have decided on the techniques to adopt, it is a matter of implementing them. The underlying principle of this step of the process is to minimize the costs of implementing the solution. So, if you decide to use a mutual insurance company, it is in your best interest to “do your shopping” by looking for the mutual insurance company that offers the most economical rates.

We’re about to explain this step, that means the company must compare fees, transactions costs, contracts, taxes in order to choose the least expensive technique.

E-Control and monitoring

Risk management requires regular monitoring to ensure that past decisions are still optimal. Over time, and depending on circumstances, new risk exposures may be defined, or become more easily accessible, it also become well.

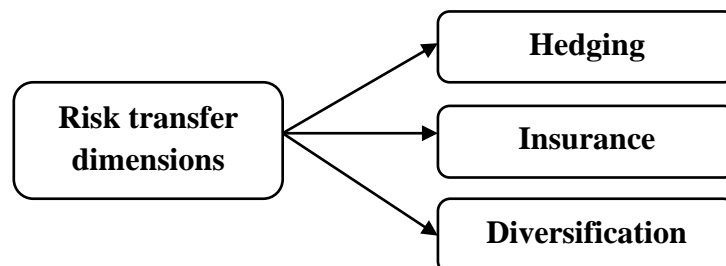
We’re about to explain how a company can control its risk below:

- He will compare his risk management technique with current circumstances;
- And then he looks to see if this technique is still valid for changes.

1-2-3-The three dimensions of risk transfer

Among the risk management techniques that we cited above, the transfer of all or part of the risk to other people is the technique where the financial market entertains the crucial role. The simplest method of transferring risk is simply to sell the asset that considered a source of risk. It is possible to manage the risk arising from holding the asset differently, and this through: hedging, insurance, diversification as mentioned in the figure below¹.

Figure 2.6: Three dimensions of risk transfer



Source: Designed by ourselves based of BODIE,Zvi and MERTON,Robert.

¹ BODIE,Zvi and MERTON,Robert .Op.cit, p.301.

1-2-3-1-Hedging technique

Generally, hedging is an act of protecting an asset or investment from the uncertain market, the individual engaged in the act of hedging is called the hedger. Hedger is a person who enters the market not for the purpose of gaining profits from the price change but rather to manage risks to the minimum¹. In the futures market for example, hedger could be farmers, manufacturers, importers or exporters. Hedger will buy or sell in the futures trade market in order to balance the risks that he has to shoulder due to price fluctuation in the cash market. This is a method that could help the hedger in minimising the risk of price changes².

In the field of finance hedging means the adoption of processes and arrangements and the selection of contractual formats that guarantee the reduction of risks to a minimum while maintaining good possibilities for return on investment³.

Hedging may be defined as the pursuit of an expected return from dealing in futures, in conjunction with an actual market position of opposite sign, subject to a risk constraint⁴.

We say that someone is hedging against a risk when the process of reducing one's exposure to a loss simultaneously implies for the individual to give up of a gain. That is to say with hedging we will eliminate the potential loss that comes from market fluctuations, but we also eliminate the potential gain⁵.

1-2-3-2-Insurance technique

Insurance is the most common method firms use to reduce risk. Many firms purchase property insurance to insure their asset against hazards such as a fire, storm damage, vandalism, earthquakes, and other natural and environmental risks. Other common types of insurance include⁶:

a-Business liability insurance, which covers the costs that result if some aspect of the business causes harm to a third party or someone else's property.

b-Business interruption insurance, which protects the firm against the loss of earnings if the business is interrupted due to fire, accident, or some other insured peril.

b-Key personal insurance, which compensates for the loss or unavoidable absence of crucial employees in the firm.

Taking out an insurance means to pay a premium (the price of the insurance contract) to avoid futures losses. By taking out an insurance contract, you replace a probability of loss (if you do not insure yourself) with a lower certainty of loss (you pay the premium to insure yourself).⁷

¹ MOHD RAZIF, Nor Fahimah and *al.* Permissibility of Hedging in Islamic Finance. *Middle-East Journal of Scientific Research*, 2012, Vol.12, No.2, p.155-159.

² JOHNSON, L. Leland. The Theory of Hedging and Speculation in Commodity Future. *The review of economics studies*, June 1960, Vol.27, No.3, p.139-151.

³ *Ibid.*

⁴ Goss, A Barry. Aspects of hedging theory. *Australian journal of agricultural economics*, December 1980, Vol.24, No.3, p.210-223.

⁵ BODIE, Zvi and MERTON, Robert. *Op.cit.*, p.301.

⁶ BERK, Jonathan and DEMARZO, Peter. *Corporate finance*. Pearson International Edition, p.926.

⁷ BODIE, Zvi and MERTON, Robert. *Op.cit.*, p.301.

The main difference between hedging and insurance can be summarized below¹:

-In hedging, you eliminate the risk of loss by giving up the possibility of gain;

-Unlike hedging, in insurance you pay a premium to eliminate the risk of loss, but you keep the potential for gain.

1-2-3-3-Diversification technique

The folk wisdom of “not putting all of your eggs in one basket” has been a dominant paradigm in the financial community in recent decades. Pioneered by the works of Markowitz (1952), Tobin (1958) and Samuelson (1967), analytic tools have been developed to quantify the benefits derived from increased risk diversification².

Diversification technique means holding equivalent amounts of multiple risky assets, rather than investing everything in a single asset. Diversification thus limits your risk exposure compared to the risk of a single asset³.

To reduce risk with diversification, the risks of different assets must not be perfectly correlated. When assets react differently to the same market conditions, the potential gains of some can offset the losses of others, thereby reducing the overall volatility of the portfolio. However, it is important to note that diversification does not guarantee total elimination of Risk⁴.

¹BODIE, Zvi and MERTON, Robert. *Op.cit.*, p.302.

²TASCA, Paolo and BATTISTON, Stefano. *Diversification and Financial Stability*. CCSS Working Paper No. 11-001, April 2011, p.1-27.

³BODIE, Zvi and MERTON, Robert. *Op.cit.*, p.302.

⁴*Ibidem.*

1-3-Tools of Risk management

The present section broadly examines the advanced tools for managing risks in the financial system.

1-3-1-Value at Risk (VaR)

The concept and use of VaR is relatively recent. VaR was first used by major financial firms in the late 1980s to measure the risks of their trading portfolios. Since then, the use of VAR has exploded. VAR is now widely used by other financial institutions, non-financial corporations and institutional investors. Even regulators have become interested in VaR¹.

1-3-1-1-VaR definition

Value at risk is a single, summary, statistical measure of possible portfolio losses. Specifically, value at risk is a measure of losses due to “normal” market movements. Losses greater than the value at risk are suffered only with a specified small probability. Subject to the simplifying assumptions used in its calculation, value at risk aggregates all of the risks in a portfolio into a single number suitable for use in the boardroom, reporting to regulators, or disclosure in an annual report. Once one crosses the hurdle of using a statistical measure, the concept of value at risk is straightforward to understand. It is simply a way to describe the magnitude of the likely losses on the portfolio².

According to Vernimmen VaR is a finer measure of market risk. It represents an investor’s maximum potential loss, on the value of an asset or a portfolio of financial assets and liabilities, based on the investment timeframe and a confidence interval. This potential loss is calculated on the basis of historical data or deduced from normal statistical laws³.

Two elements are essential to interpret a VaR figure⁴:

-The holding period which corresponds to the period over which the variation in value of the portfolio is measured.

-The confidence threshold α which corresponds to the probability of observing a loss less than or equal to the risk value.

1-3-1-2-VaR is for Managing as well as Measure Risk

VaR provides a common, consistent and integrated measure of risk across risk factors, instruments, and asset classes, leading to greater risk transparency and a consistent treatment of risks across the firm. VaR provides an aggregate measure of risk: a single number that is related to the maximum loss that might be incurred on a position at a given confidence level. VaR system allows a firm to assess the benefits from portfolio diversification within a line of activity, but also across businesses. It allows managers to assess the daily revenue volatility they might expect from any given trading area. VaR has become an internal and external reporting tool. VaR reports are produced daily for managers of

¹LINSMEIER,Thomas J and PEARSON,Neil.D. Risk management: An introduction to Value at Risk. *Financial Analysts Journal*, January 2019, Vol.56, No.2, p.47-67.

²*Ibid.*

³VERNIMMEN,Peter and *al.* *Corporate finance: theory and practice*. 2nd edition. 2009,p,971.

⁴RONCALLI,Thierry. *Financial risk management*. 2nd edition, 2009, p.58. [In French].

business lines and are then aggregated for senior management. VaR is also communicated to the regulators and has become basis for calculating regulatory capital¹.

1-3-1-3-Value at Risk methods

In general we have three main families of methods as presented below, and table 3.2 shows the differences of these methods²:

1-3-1-3-1-Historical simulation for VAR

Historical simulation is a simple, a theoretical approach that requires relatively few assumptions about the statistical distributions of the underlying market factors. It is based on data observed in a past period to define future variables of risk factors. It has an advantage because it is based on a history of product prices or risk factors on a portfolio; its implementation is easy enough. Historical simulation can be described in terms of five steps as mentioned in table below.

Table 3.1: Steps of Historical simulation for VaR

The five steps of Historical simulation
1- The first step is to identify the basic market factors, and obtain a formula expressing the mark-to-market value of the forward contract in terms of the market factors.
2- The next step is to obtain historical values of the market factors for the last N periods.
3- This is the key step. We subject the current portfolio to the changes in market rates and prices experienced on each of the most recent 100 business days, calculating the daily profits and losses that would occur if comparable daily changes in the market factors are experienced and the current portfolio is marked-to-market.
4- The next step is to order the mark-to-market profits and losses from the largest profit to the largest loss.
5-Finally, we select the loss which is equalled or exceeded 5 percent of the time.

Source: Established by ourselves based of reference cited above

1-3-1-3-2-Analytic (variance/covariance) method for VAR

The variance/covariance approach is based on the assumption that the underlying market factors have a multivariate Normal distribution. Using this assumption, it is possible to determine the distribution of mark-to-market portfolio profits and losses, which is also Normal. Once the distribution of possible portfolio profits and losses has been obtained, standard mathematical properties of the Normal distribution are used to determine the loss that will be equalled or exceeded (x) percent of the time, i.e. the value at risk. It is based on several hypotheses:

- The variation of risks following a normal law.
- The relationship between variations in portfolio values and variations in market values is linear.
- Derivatives are linear and bonds can be reduced to linear play-offs. The only exception to this condition is options.

¹SETHI, Narayan and *al.* A survey of international financial risk management system. *Journal of Public Administration, Finance and Law*, 2013, Vol.18, No.4, p.186-203.

²LINSMEIER, Thomas J and PEARSON, Neil.D. *Op.cit.*

1-3-1-3-3-Monte Carlo Simulation for VaR

The Monte Carlo simulation methodology has a number of similarities to historical simulation. The main difference is that rather than carrying out the simulation using the observed changes in the market factors over the last N periods to generate N hypothetical portfolio profits or losses, one chooses a statistical distribution that is believed to adequately capture or approximate the possible changes in the market factors. Then, a pseudo-random number generator is used to generate thousands or perhaps tens of thousands of hypothetical changes in the market factors. These are then used to construct thousands of hypothetical portfolio profits and losses on the current portfolio, and the distribution of possible portfolio profit or loss. Finally, the value at risk is then determined from this distribution.

Table 3.2: comparison of value at risk methodologies

	Historical simulation	Variance/covariance	Monte-Carlo simulation
Able to capture the risks of portfolios which include options?	Yes, regardless of the options content of the portfolio.	No, except when computed using a short holding period for portfolios with limited or moderate options content.	Yes, regardless of the options content of the portfolio.
Easy to implement?	Yes, for portfolios for which data on the past values of the market factors are available.	Yes, for portfolios restricted to instruments and currencies covered by available “off-the-shelf” software. Otherwise reasonably easy to moderately difficult to implement, depending upon the complexity of the instruments and availability of data.	Yes, for portfolios restricted to instruments and currencies covered by available “off-the-shelf” software. Otherwise moderately to extremely difficult to implement.
Computations performed quickly?	Yes.	Yes.	No, except for relatively small portfolios.
Easy to explain to senior management?	Yes.	No.	No.
Produces misleading value at risk estimates when recent past is atypical?	Yes.	Yes, except that alternative correlations/standard deviations may be used.	Yes, except that alternative estimates of parameters may be used.

Easy to perform “what-if” analyses to examine effect of alternative assumptions?	No.	Easily able to examine alternative assumptions about correlations/standard deviations. Unable to examine alternative assumptions about the distribution of the market factors, i.e. distributions other than the Normal.	Yes.
--	-----	--	------

Source: LINSMEIER, Thomas J and PEARSON, Neil.D. *Op.cit.*

1-3-2-Risk Adjusted Rate of Return (RAROC)

In the need of an efficient Risk Management and the ability to compare different business units new Risk Adjusted Performance Measures (RAPMs) have become popular in the banking business¹.

1-3-2-1-RAROC definition

According to Roncalli the RAROC expresses the rate of return on economic capital. It is therefore the ratio between the forecast net margin after deduction of expected average losses and the equity capital necessary to cover a percentage of exceptional losses².

Through this definition we can say that RAROC plays a central role in assessing the effectiveness of a company's risk management practices. It allows organizations to quantify the risks associated with their activities and determine whether the returns generated are proportional to the level of risk taken.

1-3-2-1-1-Types of RAROC

The different types of RAROC that exist differ mainly by the date and scope of the calculations³:

A-RAROC at origin

It is calculated when a loan is granted and takes into account all the elements until the end of the operation.

B-Residual RAROC

It takes into account changes in customer characteristics (rating), credits and guarantees. But it is characterized by its great volatility from one day to the next depending on events in the life of a credit (processing fees, amortization, etc.) Does not allow the adoption of a customer strategy.

C-Annual RAROC

It only takes into account the elements included in a calendar year. It corresponds to the budgetary year and gives the possibility of adopting a strategy, setting objectives and being able to measure the consequences at the end of the period.

¹PROKOPCZUK, Marcel and *al.* Quantifying Risk in the Electricity Business: A RAROC-based Approach. *Energy Economics journal*, September 2007, [Vol.29, No.5](#), P.1033-1049.

² RONCALLI, Thierry. *Op.cit.*, p.215

³*Ibidem.*

D-Complete RAROC

The calculation takes into account, on a given date, all elements of current commitments, from the original date to the expiry date of each competition. This type is more stable and more exhaustive (addition of margins excluding credits or side business: flows, services, advice, etc.), it allows you to adopt a strategy not only for the client, but also for a portfolio or an activity.

1-3-2-1-2-Mesures and applications of economic capital

Economic capital is an amount of equity (or “buffer”) making it possible to compensate for the gap between the average income expected from a given activity and an exceptionally low income, which generates unexpected losses (“unexpected losses”, UL).¹

The main activity indicators indexed to economic capital (RoC, RAROC) as presented below²:

-The RoE (return on equity) indicator, which makes it possible to evaluate the overall performance of the establishment by reporting a measure of financial profitability (net interest margin, net interest margin and commissions, net income, before or after taxes) to the bank's accounting equity, is insufficient for operational risk management.

$$\text{RoE} = \frac{\text{PROFITS}}{\text{ACCOUNTINGEQUITY}} \quad (1)$$

Indeed, RoE has two major inconvenients. The accounting measure of equity is an insufficient indicator of risk. In addition, RoE is defined at the institution level, since equity is not allocated to specific transactions or lines of business.

-To improve risk perception, it is possible to replace equity with a measure of economic capital allocated to a particular activity unit. Thus, the use of the RoC (return on capital) indicator provides an initial assessment of the return/risk trade-off by production units.

$$\text{RoC}_i = \frac{\text{profit}}{\text{economiccapital}_i} \quad (2)$$

The numerator of formula (2) takes the measure of profitability used in the calculation of RoE, but applies it to a given transaction or line of activity (indexed by “i”). As with RoE, this profitability measure is not harmonized; each establishment defines its own standard. The denominator of the RoC ratio represents the economic capital compared to the risk underlying this activity. The RoC thus evaluates the performance of each transaction or each line of activity, by replacing the measurement of accounting equity (aggregated) with a measurement of the economic capital intended to cover this activity. By individualizing the risk approach, the RoC therefore makes it possible to measure the contribution of each activity to the establishment's return/risk performance.

-The RAROC (risk adjusted return on capital) results directly from the calculation of the RoC. Usually, the RAROC is defined – for a given activity – as a RoC calculated on the basis of a profit adjusted for the average loss (EL, “expected loss”), associated with the loss distribution of the activity considered. (Indexed by “i”).

$$\text{RAROC}_i = \frac{\text{profit}_i - \text{EL}_i}{\text{economiccapital}_i}$$

¹TIESSET, Muriel and TROUSSARD, Philippe. Regulatory capital and economic capital. *France bank, financial stability review*, November 2005, No.7, p.63-79. [in French]

²*Ibid.*

RAROC is therefore a measure of risk-adjusted performance, and therefore constitutes a useful monitoring and management tool for managers.

1-3-2-2-The Importance of Risk Capital Allocation

When the need for capital allocation by banks is considered, however, capital does not usually refer to funding or regulatory or even economic capital, but rather to capital at risk (CaR).

CaR is the smallest amount of economic capital that a bank must set aside to try to prevent the net asset value or earnings of a business unit from falling below some “catastrophic loss” level. Because this economic capital is never actually invested, CaR is an imputed buffer against unexpected and intolerable losses.¹

Risk-adjusted return on capital (RAROC) can serve as the basis for risk capital allocation decisions at banks with virtually any CaR allocation style. More often than not, however, RAROC-based CaR allocation is used by (and tends to work better at) banks with centralized, top-down capital allocation processes RAROC is defined as the net income of a business line scaled by its economic capital at risk²:

$$\text{RAROC} = \frac{\text{Net income}}{\text{Capital at Risk}}$$

1-3-2-3- Advantages and Disadvantages of RAROC

As a measure of risk-adjusted return, RAROC is appealing because it can be consistently applied to and compared across business units, regardless of the nature of the businesses. RAROC provides a common yardstick, for example, to compare a derivatives desk with a lending unit or e-bank. RAROC also has some very intuitive interpretations as the basis for measuring shareholder value added³.

But this model has an advantages and disadvantages as follow below⁴:

1-3-2-3-1-Advantages of RAROC Model

- The ratio is the only performance measurement tool that accurately incorporates a financial institution’s risks through the use of economic capital;
- RAROC calculates economic profit of a schedule by including the opportunity cost of capital. This represents a significant improvement over traditional financial institutional measures of ROA and ROE that are used to determine the value contribution of a schedule or business unit;
- Practical and easy to implement and communicate; and
- RAROC eliminates the need to calculate a beta for each potential schedule a financial institution reviews.

1-3-2-3-2- Disadvantages of RAROC Model

- Takes static view of credit risk;

¹CULP.Christofer L. RAROC Revisited Ex Ante vs. Ex Post RAROC. *The Journal of Lending & Credit Risk Management*, March 2000, Vol.82, No.6, p.50-57.

²*Ibid.*

³CULP.Christofer L. *Op.cit.*

⁴PADGANEH,Yousef.Risk-Adjusted Return on Capital (RAROC). *Reports by the head of Entreprise Risk Management for commercial bank international in: Global Association of Risk Professionals (GARP)*, December 2014, p.1-20.

-RAROC does not adjust hurdle rates as schedule capital requirements increase; and

-RAROC assumes that economic capital is synonymous with cash equity provided by shareholders. As a result, financial institutions tend to over- or understate day-one schedule and business line RAROCs.

1-3-3-Securitization

Prior to the financial crisis of 2007-2008, securitization was a very large part of U.S. capital markets. It played a central role in the recent financial crisis. Yet it is largely unregulated and it is not well understood¹.

1-3-3-1-Securitization definition

Securitization means selling securities whose principal and interest payments are exclusively linked to a pool of legally segregated, specified, cash flows (promised loan payments) owned by a special purpose vehicle (SPV). The cash flows were originated (“underwritten”) by a financial intermediary, which sold the rights of the cash flows to the special purpose vehicle. The securities, called “asset-backed securities” (ABS), are rated and sold in the capital markets. Historically, the financial intermediary would have held the loans on-balance sheet until maturity. But, with securitization the loans can be financed off-balance sheet².

Cummins and Weiss, (2009) define securitization as the “repackaging and trading of cash flows that traditionally would have been held on the balance sheet”³.

According to Roncalli Securitization is a technique that transforms a portfolio of assets into tradable securities on the market (ABS). The asset portfolio can relate to loans, bonds, receivables or even future cash flows⁴.

¹GORTON,Gary and METRICK,Andrew. SECURITIZATION. *Working Paper 18611 in: NATIONAL BUREAU OF ECONOMIC RESEARCH 1050 Massachusetts Avenue Cambridge, MA 02138*, December 2012.

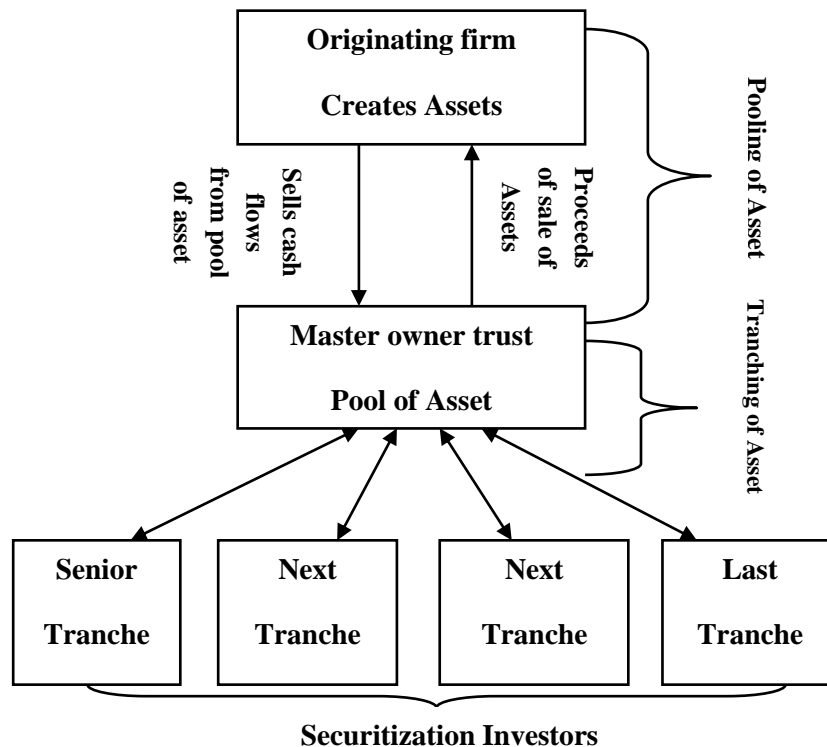
²*Ibid.*

³BUCHANAN, Bonnie G. Securitization: a financing vehicle for all seasons?, *Bank of Finland Research Discussion Papers*, No. 31/2016, p.1-50.

⁴RONCALLI,Thierry.*Op.cit.*,p.407.

In the figure below we will show a simplified overview of the securitization process.

Figure 3.1: Overview of securitization process.



Source: GORTON, Gary and METRICK, Andrew. Op.cit.

1-3-3-2-Understanding of the Asset-Backed Securities (ABS)

Cummins and Weiss, (2009) divide the securitization market into two segments. Asset-backed securities are usually backed by mortgages or corporate bonds, whereas non asset-backed securities are backed by futures and options. The parties that are regarded to be critical in the life of an asset backed security include: the issuer, the underwriter, the trustee, the ratings agency, servicer, third-party servicers as well as auditors and lawyers¹.

The negotiable securities (ABS) will be issued by a company created especially for the needs of this operation and called SPV. The ABS market is segmented according to the nature of the collateralized assets (the underlying)²:

- Credit cards;
- Car loans;
- Consumer loans;
- Residential Mortgage Backed-Security (RMBS);
- Commercial Mortgage Backed-Security (CMBS);
- Student Loans;

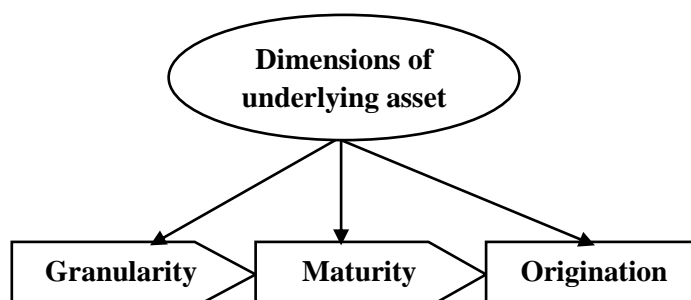
¹ BUCHANAN, Bonnie G. Op.cit.

² RONCALLI, Thierry. Op.cit, p.407.

-Etc.

The underlying has different dimensions to consider as shown in figure 3.2.

Figure 3.2: Dimensions of underlying asset



Source: Designed by ourselves based of RONCALLI,Thierry.

The dual objectives of transferring assets to investors and at the same time creating a capital market instrument can only be achieved by utilizing a transformational device known as an SPV. The legal entity is created for the single purpose of holding the assets sought to be transferred by the originator and the subsequent issuance of securities such that the securities are no different from a claim over those assets. Thus, investors do not have to acquire or hold the assets of the originator directly, but they do so indirectly through the SPV. The SPV, as an intermediary between the originator and the investors, sits with the assets as a sort of legalized facade for the multifarious and nebulous body, which are the investors¹.

And we're about to present the major derivatives products in the table below.

Tables 3.3: Major types of derivatives products.

Derivatives products	Definition
Forwards and futures contracts	Forward and futures contracts are usually discussed together as they share a similar feature: a forward or futures contract is an agreement to buy or sell a specified quantity of an asset at a specified price with delivery at a specified date in the future.
Options contracts	Options contracts can be either standardised or customised. There are two types of option: call and put options. Call option contracts give the purchaser the right to buy a specified quantity of a commodity or financial asset at a particular price (the exercise price) on or before a certain future date (the expiration date). Similarly, put option contracts give the buyer the right to sell a specified quantity of an asset at a particular price on a before a certain future date. These definitions are based on the so-called American-style option. And for a European style option, the contract can only be exercised on the expiration date.
Swaps	Swaps are agreements between two counterparties to exchange a series of cash payments for a stated period of time. The periodic payments can be charged on fixed or floating interest rates, depending on contract terms. The calculation of these payments is based on an agreed-upon amount, called the notional principal amount or simply the notional.

Source: Established by ourselves based of Vernimmen and *al.*

¹ FABOZZI, Frank J. and KOTHARI, Vinod, Securitization: The Tool of Financial Transformation. *Yale ICF Working Paper* No. 07-07, Available at SSRN: <https://ssrn.com/abstract=997079> (Accessed on 20/04/2024).

Conclusion to chapter 1

In the context of this chapter we've shed light on the framework of risk management and this by its definition, origin, process. And through this chapter we can conclude that risk culture and risk management should be clearly and unambiguously embedded in the process of developing and implementing the organization's strategy. So as to form a mindset in which the strategy and risk are integrated, it is both a challenge and an opportunity for an organization.

The strategies to manage risk include transformation of risk from the original risk bearer to another party without reducing the possibility of losses, reducing the possibility of the risk, avoiding the risk and accepting a portion or all the potential consequences of a particular risk.

Finally, financial institutions must follow certain management rules and standards to control and manage risks using different traditional and advanced management tools.

***Chapter 2: Nature of Risk
and their Management in
Islamic financial
institutions***

Introduction to chapter 2

Islamic Finance has been one of the fastest growing segments of the financial sector. At one time a common fallacy was Islamic Finance was less risky than conventional finance, due to its principals. In general, the financial industry provides efficient services to clients although most of these services are interest-based and interest (*Riba*)-bearing. However, financial services of this kind are prohibited under Islam due to the religion's original tenets and the ethical sensitivities of some sections of the wider Islamic community. Given that this is the case, many Muslims seek interest-free (without usury) financial transactions and an ethical approach to banking services. Faithful Muslims believe that clear regulations are revealed by Allah to the Prophet Muhammad (PBHU) in the Quran, according to which all business transactions should be free from *Riba* (interest).

The implementation of risk management mechanisms by IFIs must be carried out in accordance with *Shari'ah* law and in compliance with the legal framework established by the jurisdictions in which the IFIs operate, ensuring that this implementation is adapted to the size, complexity and nature of each IFI.

The remainder of this chapter is structured as follows: in Section 1, we begin with a theoretical background of Islamic finance, including its history, meaning, principles and sources. We present a brief overview of financial risks, along with a detailed risk profiling of Islamic financial, including its unique risks and a comparison between IBs and CBs is also offered, in Section 2. Thus, in section 3, the literature and the prudential principles in the area of risk management in IFIs are identified and considered.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Islamic financial institutions cannot simply replicate the established practices of conventional institutions

Al Rahahelah Naseem and al

2-1-Salient Features of Islamic finance

This section provides a succinct and accessible analysis of the definition, sources, principles and instruments of Islamic finance.

2-1-1-Historical development of Islamic finance

The history of Islamic finance and Islamic Financial Institutions (IFIs) is more than a thousand years old, and during much of that time there were no major financial crises in Muslim-ruled territories in Asia, Europe, and Africa¹.

The first period starts from the time of the Prophet Muhammad (peace be upon him) including the period of the Orthodox Caliphate, the noble companions and the succeeding generations up to including the Umayyad and Abbasid Eras. The second period, which encompasses modern-day of Islamic Banking and Finance (IBF), actually began during the nineteenth century. Given this history, we can divide the history of IBF into two phases: the early days of IFI transactions and modern-day experiments and developments².

2-1-1-1-The early days of Islamic finance transactions

Very often considered as a new finance, Islamic finance dates back to the advent of Islam. We're about to mention two phases as follow below³:

2-1-1-1-1-Finance in the Prophet era

At the time of the prophet Muhammad (peace be upon him), the only finance that existed was relatively public finance, split between the expenditures and resources of the Islamic State of that period. Public expenditure was in monetary form, but also in the form of food and clothing; this has led to a diversity of capital that the State spends to meet general needs and to build a solidarity society. In *Mecca*, the Muslim community had not constituted a public expenditure system and the need to create a *Bait al-mal* was not felt. Expenses were made either by the Prophet or by the Muslims voluntarily. After the emigration of the Prophet and his followers to Medina (*Higra*), the Muslims still did not have a budget or a public fund, but simply alms dispensed according to the most pressing needs, called "*zakat*" (even before it becomes an obligation).

2-1-1-1-2-Finance in the Caliphs era

¹AL RAHAHLEH Naseem and al. Developments in risk management in Islamic finance: A review. *Journal of Risk and Financial Management*, February 2019, Vol.12, No.1, p.1-22.

²*Ibid.*

³OUENDI, Lynda. *Analysis of the Islamic finance contribution in the financing of the economy: case of project financing*. Doctoral Thesist. Faculty of economics, commerce and management. Mouloud Mammeri University Of Tizi-ouzou: Department of economics, June 2019, p.1-204.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

At the time of Abu Bakr Assidiq, the *bait al-mal* did not exist yet, this one having led the Muslim community just over two years had exercised the same financial practices as those of the Prophet. It was only with the arrival of Omar Ibn Khatab time that the Muslim community attended a finance based on the establishment of the first accounting systems, and rigorous management of the State accounts was required with the territorial expansion of Islam. It was particularly to channel the collection of *zakat*, which was oriented to” *bait al-mal al-muslimin*” (or Treasury). Othman Ibn Affan was the first to mint coin (although it is claimed that Omar was the first to do so).

Table 1.1: Islamic banking history

570 C.E	Prophet Era	<ul style="list-style-type: none"> -<i>Musharakah</i> or <i>Shirkah</i> (partnership) based on PLS -<i>Ijarah</i> (leasing). -<i>Al-Qard al-hasan</i> (no interest-benevolent loan). - Trans-regional trade involved trade caravans from Makah to greater Syria and back. - <i>Sarf</i> (exchange of money), i.e. gold for gold and silver for silver at the same sitting. - <i>Zakat</i> (2.5% the obligatory giving of alms to the poor needy).
632 C.E	Caliphs	<ul style="list-style-type: none"> - Abu Baker Siddiq Established obligatory Zakat institution. - Ali ibn Abi Talib Strengthened the Prophet and former Caliphs economic and financial policies. - Umar ibn Al-Khattab Established <i>Bait al-mal</i> (The federal Treasury House). - Uthman Ibn Affan the introduction of the first Muslim coins.
661 C.E	Umayyad and Abbasid Eras	<ul style="list-style-type: none"> - Insurance of Islamic dirham and dinar coins. - Establishment of House of Wisdom (To innovate new business, promote science, engineering and finance). - Treasure house extension as central <i>Bait al-Mal</i>. - Establishment of the institution of <i>Ijtihad</i> to modernize <i>Shari'ah</i> regulations -The Treasury House became significant during the Abbasid era and the dinar and dirham were still being used as mediums of exchange

Source: Adopted from AL RAHAHLEH Naseem and *al. Op.cit.*

2-1-1-2- Modern-day experiments and developments

Following a few pioneering experiments, modern Islamic finance started in earnest in the 1970s. Largely driven by the oil boom, it was bound to be transformed by the collapse of oil in the 1980s, and more generally by changes in the global political and economic system. In the respect, it is useful to briefly point out some of the highlights of this evolution as follow¹:

-The Pakistani theologian Sayyid Abdul Ala Maududi, in the 1940s, was the first to formulate the theoretical principles of Islamic finance.

- It was not until 1957 that the first Islamic financial institution was created by Saudi-Arabia; it was “*Al-Rajhi Bank*” transformed, in 1978, into a holding company “*Al-Rajhi Trading and Exchange Corporation*”.

- In August 1962, the “Pilgrims Saving Corporation” was created and launched on September 30th 1963, in Malaysia. Six years later, in 1969, the company was merged with “The Pilgrims Affairs

¹WARDE,Ibrahim. *Islamic finance in the global economy*. 2nd Edition. Edinburgh University Press, 2012, p.70.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Office” (operating since 1951 in Penang), which gave birth to “The Pilgrims Management a Fund Board”.

- It was in 1963 that the first Muslim savings bank the “Mit Ghamr Saving Bank” was born in the Egyptian village of Mit Ghamr, which was founded by the economist Ahmed El-Naggar; but after four successful years, the bank’s activities ended for political reasons.

- In 1969, “*Dallah AlBaraka*” was founded in Riyadh (Saudi Arabia) by *Sheikh Saleh Kamel* as a small business, which has evolved over a period of forty years into a diversified international conglomerate in more than forty countries. *Dallah Albaraka* is head of *AlBaraka* Banking Group, *Altawfeeq* Financial Group and *Altawfeeq* Company for investment funds.

- It was at the crossroads of the rise of pan-Islamism and the oil boom in the 1970s that modern Islamic finance saw its true beginnings with the birth of many major Islamic financial institutions (such the Islamic Development Bank and Dubai Islamic Bank).

- From the year 1980 to 2000, Islamic financial institutions and the volume of their assets grow steadily and consolidate their deposit base and operators take advantage of financial innovations to expand their product offering. This acceleration is fuelled mainly by oil revenue and the focus is on finding concrete solutions that both respect the *shari’ah* and the remuneration of capital invested and the expertise of the bank.

The following table below shows the development of modern Islamic finance.

Table 1.2: Development of modern Islamic finance

Period	Its development on modern Islamic finance
1963s	Mit Ghamar: First Islamic savings bank established in Egypt.
1969s	Tabung Haji, a finance and investment company, established in Malaysia.
1972s	Mit Ghamr: project became part of Nasr social Bank in Egypt.
1975s	Islamic Development Bank (IDB) established to foster economic development among member countries.
1980s-2000s	Islamic financial institutions and the volume of their assets grow steadily and consolidate their deposit base and operators take advantage of financial innovations to expand their product offering.

Source: Established by ourselves from reference cited above.

2-1-2-Understanding Islamic Finance:

A large number of Islamic finance definitions are found in the literature, ranging from the relatively simple definitions for specific aspects (say, Islamic banking) to more complex definitions covering all financial operations¹.

2-1-2-1-Definition of Islamic finance

According to Gait and Worthington Islamic finance is defined as a financial service principally implemented to comply with the main tenets of *Shari’ah* (or Islamic law)².

¹ GAIT, Alsadek H and WORTHINGTON, Andrew C., A Primer on Islamic Finance: Definitions, Sources, Principles and Methods, *School of Accounting & Finance, University of Wollongong, Working Paper 5, 2007.*

²*Ibid.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Warde (2000) defines Islamic finance as follows: “Islamic financial institutions are those that are based, in their objectives and operations, on *Quran’s* principles (principles of the Muslims’s holy book)”¹.

Islamic finance is a financial system that is often claiming its specificity based on equity, solidarity and stability. Hassoun (2008) defines Islamic finance as a compartment of the so-called “ethical finance”, finance at the disposal and service of the real economy. In this sense, Guéranger (2009) says that Islamic finance is a compartment of ethical finance because it is characterized by a moral and socially responsible dimension, and could meet a need that goes beyond financing².

In order to understand the Islamic banking as a concept, it is significant to define it as a term. The Organization of Islamic Cooperation (OIC) have put a definition for the term as: “An Islamic bank is a financial institution whose statute, rules and procedures expressly state its commitment to the principle of *Shari’ah* (Islamic law) and to the banning of receipt and payment of interest on any of its operations”³.

The main elements of these definitions:

- Islamic financial firms are not just banks, but also other types of financial intermediaries that employ *Shari’ah* principles;
- It’s a financial system which is based on ethical foundations issued from Islamic teachings and rules;
- This unique finance is characterized by moral and socially responsible dimension.
- This financing system is fixed because it comes from revelation, and revelation doesn’t lie because it’s an absolute reality.
- The banning of receipt and payment of interest is the core principle of this unique finance.

2-1-2-2-Sources of Islamic finance

Islamic finance is defined as a financial service principally implemented to comply with the main tenets of *Shari’ah* (or Islamic law). In turn, the main sources of *Shari’ah* are the Holy Quran, *Hadith*, *Sunna*, *Ijma*, *Qiyas* and *Ijtihad*. The science from which derives the *Shari’ah* values is the “science of *fiqh*” or simply “*fiqh*”⁴.

According to Ibn Khaldun the *fiqh* is the knowledge of the divine rules relating to the acts and the behaviors of the people in order to determine what obligatory (*wajib*) is, prohibited and illicit (*haram*), advised and recommended (*mandub*), disapproved (*makrouh*) and what is authorized and lawful (*mubah*). The *fiqh* has been classified, by the majority of scholars, into four main categories: *Fiqh al-ibadat*; *Fiqh al-ahwal ashakhsiya*; *Fiqh al-muamalat*; *Fiqh al-uqubat* or *al-jinayat*. Islamic finance regulated by *fiqh al-muamalt*.⁵

¹WARDE,Ibrahim. *Op.cit*, P.7.

²OUENDI,Lynda. *Op.cit*, p.28.

³ HALIS,Mine and ABDSSALM ELTAWIL,Ahmed E. Risk Management in Islamic Banks: Findings from Libya. *The International Journal of Economic and Social Research*, 2017, Vol.13, No.2, p.97-118.

⁴GAIT, Alsadek H and WORTHINGTON, Andrew C. *Op.cit*.

⁵OUENDI,Lynda. *Op.cit*, P.18.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

The Islamic law (*Shari'ah*) consists of a set of sources dealing with how Muslims should conduct their lives in this world as follow below¹:

A-The *Quran*

The *Quran* is the primary source of Islamic law. It provides not only directives relating to personal conduct but also principles relating to all aspects of the economic, social, and cultural lives of Muslims. The *Quran* is the principal guidance for structuring Islamic banking products and services. It contains a number of divine injunctions forbidding *riba* (charged interest) and the inappropriate consumption of wealth. It also advocates that commercial engagements should be conducted through written contracts.

B-The *Sunnah*

Second, *Sunnah* is believed by Muslims to be the authentic sayings and reported actions of the Prophet Muhammad (whereas the Quran is considered to be the actual words of Allah). *Sunnah* is Arabic for “method” and explains the instructions of the Quran by making certain implicit *Quranic* injunctions explicit by providing essential elements and details to facilitate their practice.

C-Al-Ijma

Third, *ijma* is derived from the Arabic *ajma'a*, which means “to determine” and “to agree upon something.” It originally referred to the infallible consensus of qualified legal scholars in a certain time period over a particular religious matter. *Ijma* is needed to address the practical problems in the implementation of *Shari'ah*, and today, it denotes the consensus of scholars and the importance of delegated legislation to the Muslim community. It is considered sufficient evidence for legal action because, as stated in the *Sunnah*, the Prophet Muhammad said, “My community will never agree in error”. Thus, the agreement of the scholars of Islam on any religious matter is a source of law in Islam.

D-Al-Qiyas

Fourth, *qiyas* is a method that uses analogy (comparison) to derive Islamic legal rulings for new worldly developments. Qualified legal scholars use *qiyas*, or preceding rulings (precedents), to derive a new ruling for situations that are not addressed by the *Quran* or the *Sunnah*. Essentially, *qiyas* is the process of taking an established ruling from Islamic law and applying it to a new case that shares the same basic elements addressed by the original ruling. Scholars have developed detailed principles of *qiyas* in the books of Islamic jurisprudence.

E-AL-Ijtihad

Ijtihad literally means “striving” or “self-exertion.” It is the concept that allows Islamic law (*Shari'ah*) to adapt to situations or issues not addressed in the Quran or the *Sunnah* (or *hadith*, the oral traditions relating to the words and deeds of Muhammad peace be upon him). The propriety or justification of *ijtihad* is measured by its harmony with the *Quran* and the *Sunnah*.

We can say that these sources are intertwined and that the *Quran* is the main source, to explain we have to say that *Sunnah* depends on the *Quran*, and the other sources refers to *Quran* initially then *sunnah*. These sources and their characteristics are summarised in Table below.

¹ SHANMUGAM, Bala & ZAHARI, Zaha R. *A primer on Islamic finance*. The Research Foundations of CFA Institution Publishing, Virginia-USA, December 2009, p.14.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Table 1.3: Sources of *Shari'ah* (Islamic Law) and their characteristics.

Sources of <i>Shari'ah</i>	Its Characteristic
<i>Qur'an</i>	Is the primary source of Islamic law, is the book of revelation given to the Prophet Muhammad (peace be upon him);
<i>Sunnah</i>	Refers to the habitual practice and behaviour of Muhammad (peace be upon him) during his lifetime;
<i>Ijma</i>	Is the consensus among religion scholars about specific issues not envisaged in either the Holy <i>Quran</i> or the <i>Sunnah</i> ;
<i>Qiyas</i>	Is the use of deduction by analogy to provide an opinion on a case not referred to in the <i>Quran</i> or the <i>Sunnah</i> in comparison with another case referred to in the <i>Quran</i> and the <i>Sunnah</i> ;
<i>Ijtihad</i>	Represents a jurists' independent reasoning relating to the applicability of certain <i>Shari'ah</i> rules on cases not mentioned in either the <i>Quran</i> or the <i>Sunnah</i> .

Source: Established by ourselves

We can say that for the Islamic financing, you will not practice it in parallel to *Shari'ah* until you really believe in the revelation (*Quran* and *Sunnah*).

2-1-2-3-Principles of Islamic finance

Islamic finance is based on the themes of community banking, ethical banking, and socially responsible investing. Its goal is to be an ethical, indigenous, and equitable mode of finance. The five key principles that govern Islamic finance are as follows¹:

2-1-2-3-1-Freedom from *Riba*

Literally, *Riba* is Arabic for “growth” or “increase” and denotes the payment or receipt of interest for the use of money.

A-Prohibition of *riba*

The prohibition of *Riba* appears in the Quran in four different revelations (See Appendix 1) as follow below²:

- The first of these (Ar-Rum, 39), in Makah, emphasised that while interest deprived wealth of Allah's blessings, charity raised it manifold.
- The second (An-Nisa, 161), in the early Medina period, severely condemned it, in line with its prohibition in the previous scriptures. It placed those who wrongfully appropriated other people's property and threatened both with severe punishment from Allah.
- The third revelation (Al-Imran, 130), around the second or Third year after *Hijra*, enjoined Muslims to keep away from *Riba* if they desired their own welfare (in the Comprehensive Islamic sense).

¹SHANMUGAM, Bala & ZAHARI, Zaha R. *Op.cit*, p.8.

²CHAPRA, Muhammed U. *Towards a just monetary system*. 223 London Road Leicester, UK, the Islamic foundation, 1995, p.56.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

- The fourth revelation (Al-Baqarah, 275), near the completion of the prophet's mission, severely censured those who take *riba*, established a clear distinction between trade and *riba*, and required Muslims to annul all outstanding *riba*, instructing them to take only the principal amount, and forego even in case of the borrower's hardship.

- The prophet, also condemned, in the most unambiguous words not only those who take *Riba*, but also those who give *Riba* and those who record the transaction or act as witnesses to it (*Hadith* A.1). He even equated the taking of *Riba* to committing adultery thirty-six times or being guilty of incest with one's own mother (*Ahadith* A.3 and A.5).

B-Meaning of *Riba*

After knowing this severe verdict of the *Quran* and the *Sunnah* against *Riba*, it is necessary to determine what it really stands for. In the *Shari'ah*, *Riba* technically refers to the "premium" that must be paid by the borrower to the lender along with the principal amount as a condition for the loan or for an extension in its maturity. In this sense, *Riba* has the same meaning and import as interest in accordance with the consensus of all the *fuqaha*; (Jurists) without any exception¹.

From the meaning of *riba* we can say that the lender will receive his fraction of interest without any effort and without assuming any risk (because in the end he will be repaid regardless of the borrower's situation), in this case he receives ill-gotten money, because he eats the wealth of the borrower for nothing.

C-Types of *Riba*

The term *Riba* is, however, used in the *Shari'ah* in two senses. The first is *Ribaal-nasi'ah* and the second is *Ribaal-fadl* as follow²:

a-Riba al-nasi'ah: The term *nasi'ah* comes from the root *nasa'ah* (نَسَا) which means to postpone, defer, or wait, refers to the time that is allowed for the borrower to repay the loan in return for the "addition" or the "premium". Hence *Riba* al-nasi'ah refers to the interest on loans.

b-Riba al-fadl: This consists of a change in which *riba* has been used and which is encountered in hand-to-hand purchase and sale of commodities.

C-The wisdom behind the prohibition of *Riba*

Baqir al-sadr state that we usually read traditional capitalist writers who try to give heroic features to risk, and make it a justification for obtaining gains at the level of this heroism. There are several phenomena in *Shari'ah* law that demonstrate its negative stance on risk, and its failure to recognize its positive role in justifying gain. For example, usurious interest (*Riba*) is used to justify and explain the element of risk involved in the loan. Islam did not approve of this type of thinking, and did not find in the alleged risk a justification for the benefit that the owner of the money obtains from the debtor, and for this reason it strictly prohibited it. Baqir al-sadr state that justifying interest by the element of risk is fundamentally wrong in the eyes of Islam, because Islam does not consider risk a legitimate basis for earning, but rather links earning to direct and stored work³.

¹CHAPRA, Muhammed U. *Op.cit*, p.56.

²*Ibid*, p.57.

³BAQIR AL-SADR, Mohammad. *Our Economics (Iqtusaduna)*. Bairut-Lebanon: Dar Al-Ta'arif for publications, 1987, p.574. [In Arabic]

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

That Islam tolerates zero level of interest rate deserves special commendations from world economists. So it is a matter to discuss the wisdom of the *Qur'anic* prohibition of interest. These include¹:

- It amounts to appropriation of another person's property without giving him anything in exchange;
- It prevents people from working to earn money, as it reduces the value of work. The rich will have no interest in investing his money on a business or risking his money in trade or industry. This therefore paralyzes commerce, trade and industry. This is why in Islam money cannot generate money on money;
- It discourages benevolent acts which are the core of brotherhood. It also weakens the feeling of goodwill and friendliness toward the lender by the borrower.
- It allows exploitation of the poor by the rich and this makes the lender wealthier and the borrower poorer.

2-1-2-3-2-Profit and Loss Sharing (PLS)

Shari'ah prohibits Muslims from earning income by charging interest but permits income generation through the sharing of risks and rewards between the parties to a transaction. This profit sharing mechanism is believed to encourage people to become partners and work together rather than to enter into a creditor-debtor relationship. Partnership promotes mutual responsibility for the outcome of the financed project, which is believed to increase the likelihood of success of the venture. A tangential aim of the partnership approach is that such increases in successful projects also provide stimulus to the economy.

We can say that most of scholar considers Profit and Loss Sharing (PLS) as the cornerstone of Islamic finance. So it is a matter to give some reasons to substantiate this assertion, these include:

- Profit-and-loss sharing is just and equitable;
- It is conducive to a dynamic economy in which the benefits of growth are shared by the community at large;
- It is compatible with the changing financial environment as well as the norms and principles of the global economy.

2-1-2-3-3-Shari'ah-Approved Activities

Islamic banks may engage in or finance only activities that do not violate the rules of *Shari'ah* and are permitted by Islam. To ensure that all products and services offered are *Shari'ah* compliant, each Islamic bank has an independent *Shari'ah* supervisory board.

2-1-2-3-4-Sanctity of Contract

Islam views contractual obligations and the related full disclosure of information as a sacred duty. Full disclosure is intended to reduce financial speculation (*gharar*), which is strictly prohibited by Islam, by providing as much information as possible for investors to make accurate assessments about the risks and rewards of an investment. The conditions that are necessary for a contract to be valid

¹HASSAN, M. Kabir. Ethical principles of Islamic financial institutions. *Journal of Economic Cooperation and Development*, 2013, Vol. 34, No.1, p. 63-90.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

include a competent understanding of the underlying asset(s) and the profit-sharing ratio, as well as the presence of a willing buyer and seller. Contracts must also not offend Islamic religious and moral principles; if they do, they will be deemed illegal and unenforceable.

2-1-2-3-5-Avoidance of *Gharar*

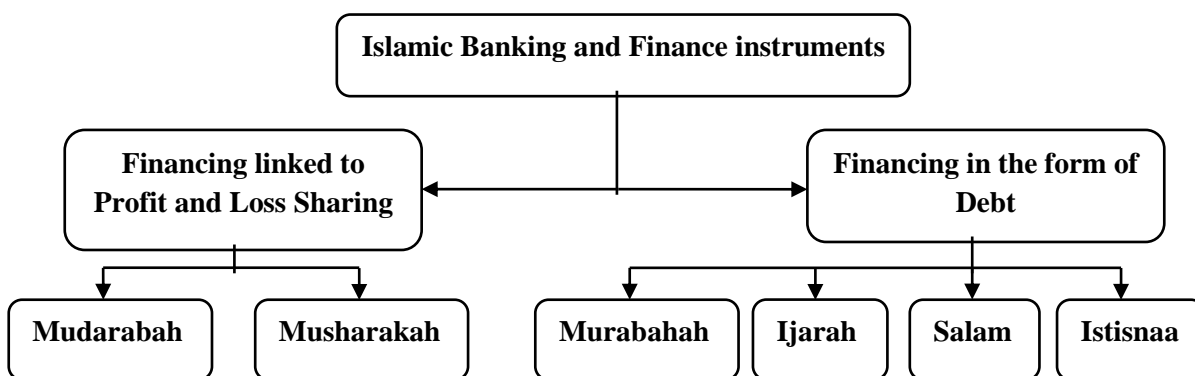
Shari'ah prohibits financial transactions that involve *gharar*, which is often translated as “deception,” “excessive risk,” or “excessive uncertainty.” To minimize *gharar*, contracts must carefully state the terms of the agreement, particularly by giving a thorough description of the asset that is the subject of the contract and the asset’s transaction price. In a sale, if the asset being sold and its price are not clearly defined or specified, the sale contract would be considered to have excessive *gharar*.

2-1-3-Instruments of Islamic finance

Like conventional financial institutions, IFIs also offer a range of financial services and products. These are consumer financing, trade related financing and investment type of modes of financing¹.

On this study we have shed light to the following instruments: *Mudharabah*; *Musharakah* (Financing linked to profit and loss sharing), and *Murabahah*; *salam* and *istisna*; *Ijarah* (financing in the form of debt), which is showed in figure below.

Figure 1.1: Islamic Banking and Finance instruments



Source: Designed by ourselves

2-1-3-1-*Murabahah* instrument (trade financing)

According to Usmani most of the Islamic banks and financial institutions are using *Murabahah* as an Islamic mode of financing, and most of their financing operations are based on *Murabahah*. That is why this term has been taken in the economic circles today as a method of banking operations, while the original concept of *Murabahah* is different from this assumption².

2-1-3-1-1-Understanding *Murabahah*

“*Murabahah*” is, in fact, a term of Islamic *Fiqh* and it refers to a particular kind of sale having nothing to do with financing in its original sense. If a seller agrees with his purchaser to provide him a specific commodity on a certain profit added to his cost, it is called a *Murabahah* transaction. The

¹ABDUL RAHMAN, Rashidah and *al.* Instruments and risks in Islamic financial institutions. *Malaysian Accounting Review, Special Issue*, 2010, Vol.9, No.2, p.11-21.

² USMANI, Muhammad Taqi. *Op.cit.*, p.27.

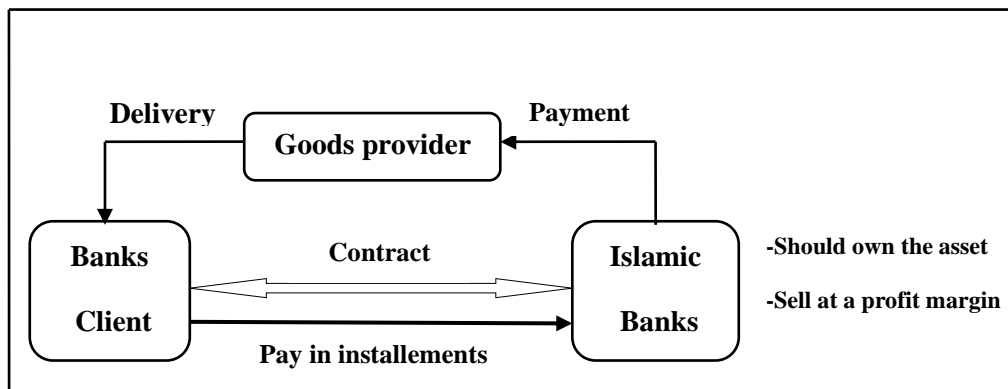
Chapter 2 Nature of Risk and their Management in Islamic financial institutions

payment in the case of *Murabahah* may be at spot, and may be on a subsequent date agreed upon by the parties¹.

2-1-3-1-2-*Murabahah* contract

Under *Murabahah* contract Islamic financial institution provides trade financing. *Murabahah* is accompanied by a contract of sale of goods between the bank and its client at an agreed price. The bank buys the goods (raw materials, component parts, etc.) on behalf of the client, and then resells the goods to him, profiting from the sale of the goods, and also extra charge for services rendered. After signing the contract, the bank agrees to provide to the customer the goods, and the date and place of receipt of goods specified in advance. Before the goods are received by customer, the Islamic financial institution bears all risks of spoilage or damage². The *Murabahah* scheme is presented in the Figure below.

Figure 1.2: The scheme of *Murabahah* transaction (trade financing)



Source: Designed by ourselves

2-1-3-1-3-*Murabahah* sale characteristics

Murabahah, in its original Islamic connotation, is simply a sale. The only feature distinguishing it from other kinds of sale is that the seller in *Murabahah* expressly tells the purchaser how much cost he has incurred and how much profit he is going to charge in addition to the cost. And this instrument has characteristics as follow in the table below³.

¹USMANI, Muhammad Taqi. *Op.cit*, p.27

²NIKONOVA, Tatiana and *al*. Principles and instruments of Islamic financial institutions. *Procedia Economics and Finance* 24, 2015, p.479 – 484. *International Conference on Applied Economics*, ICOAE 2015, 2-4 July 2015, Kazan, Russia.

³USMANI, Muhammad Taqi. *Op.cit*, p.41.

Table 1.4: Characteristics of *Murabahah* instrument

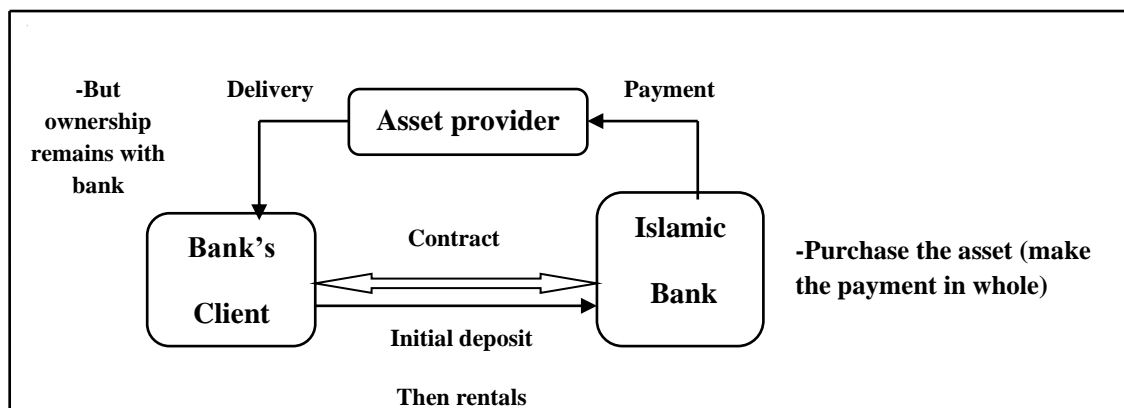
Characteristics of <i>Murabahah</i> instrument
1-Murabahah is not a loan given on interest. It is the sale of a commodity for a deferred price which includes an agreed profit added to the cost.
2-Being a sale, and not a loan, the <i>murabahah</i> should fulfil all the conditions necessary for a valid sale.
3-Murabahah cannot be used as a mode of financing except where the client needs funds to actually purchase some commodities.
4-The financier must have owned the commodity before he sells it to his client.
5-The commodity must come into the possession of the financier, whether physical or constructive, in the sense that the commodity must be in his risk, though for a short period.

Source: Established by ourselves based of USMANI, Muhammad Taqi. *Op.cit*, p.42.

2-1-3-2-*Ijarah* instrument (Leasing)

Ijarah is defined as “a contract between two parties, the lessor and lessee where the lessee enjoys or reaps a specific service or benefit against a specified consideration or rent from the asset owned by the lessor”¹. The scheme of *ijarah* is presented in the Figure below.

Figure 1.3: The scheme of *Ijarah* transaction (leasing)



Source: Designed by ourselves

The acceptability of this type of contract depends on certain conditions which include²:

- The lawfulness of the object and purpose of the contract;
- The termination of the leasing contract with the failure of asset to give the service for which it was rented;
- The ownership of the asset by the lessor throughout the lease period so that it can be maintained by him in case of harm or loss caused by factors beyond the control of the lessee;
- The specification of the period and the service that the asset is supposed to provide and for which it is being rented should be clearly stated and known to the parties involved.

2-1-3-3-*Salam* and *Istisnah* instruments

¹HASSAN, M. Kabir. *Op.cit*.

²HASSAN, M. Kabir. *Op.cit*.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

We will briefly explain these two instruments and give difference between it as follow below:

2-1-3-3-1-Bai-Salam (Advanced purchase)

Opposite of *Murabahah*, *Bai-Salam* is a purchase contract with deferred delivery of goods for full forward payment. The seller undertakes to supply some specific goods to the buyer at a future date in exchange for an advanced price fully paid at the time of contract. It is necessary that the quality of the commodity intended to be purchased is fully specified leaving no ambiguity that could lead to a dispute. The object of this sale is goods and cannot be gold, silver, or currencies based on these metals¹.

2-1-3-3-2-*Al-Istisnaa* (Commissioned manufacturer)

In *Istisna*, one party buys the goods and the other party undertakes to manufacture them, according to agreed specifications. This undertaking of production includes any process of manufacturing, construction, assembling and packaging. It is also an instrument of pre-shipment financing and it is a contract where the deal can be referred to something not in existence at the time of concluding the contract².

Keeping in view this nature of “*istisnaa*” there are several points of difference between *istisna* and *salam* which are summarized below³:

- The subject of *istisna* is always a thing which needs manufacturing, while *salam* can be effected on anything, no matter whether it needs manufacturing or not.
- It is necessary for *salam* that the price is paid in full in advance, while it is not necessary in *istisnaa*.
- The contract of *salam*, once effected, cannot be cancelled unilaterally, while the contract of *istisnaa* can be cancelled before the manufacturer starts the work.
- The time of delivery is an essential part of the sale in *salam* while it is not necessary in *istisnaa* that the time of delivery is fixed.

2-1-3-4-Mudarabah and Musharakah instrument

Mudarabah is a form of partnership in which the investor (*Rabbul-mal*) provides 100 percent of the capital required for a project, while the entrepreneur (*Mudarib*) manages the investment by using his/her expertise. Profits from the investment are distributed based on pre-agreed profit sharing ratio, but losses are borne by the provider of the funds with the exception of genuine cases of negligence by the *Mudarib*⁴. The *Mudarabah* scheme is presented in the Figure below.

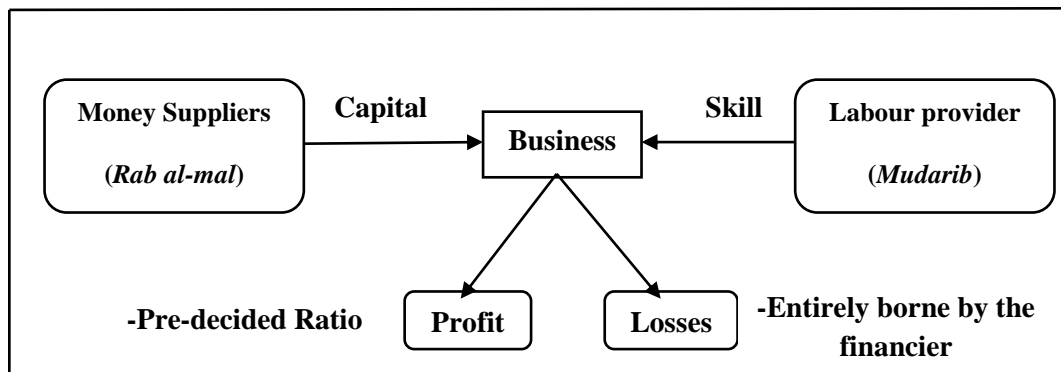
¹ABDUL RAHMAN,Rashidah and *al.Op.cit.*

²*Ibid.*

³ USMANI, Muhammad Taqi. *Op.cit.*, p.89.

⁴ABDUL RAHMAN,Rashidah and *al.Op.cit.*

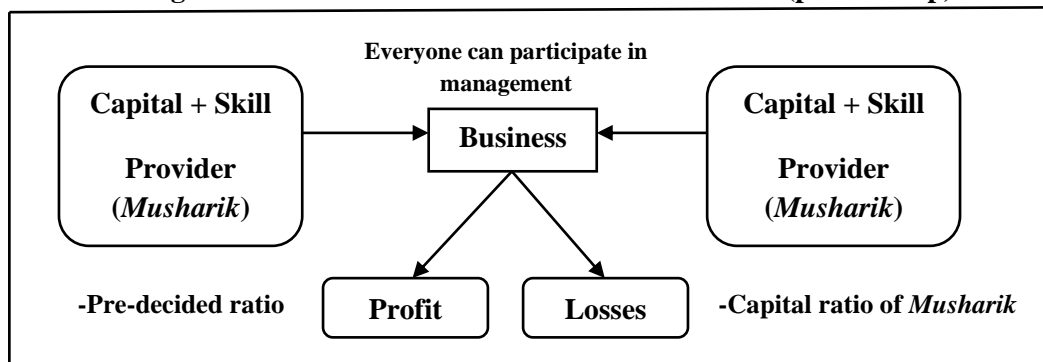
Figure 1.4: The Scheme of *Mudarabah* instrument (trust)



Source: Designed by ourselves

Musharakah is similar to the *Mudarabah* contract, but it is different in that all parties involved in a partnership contribute some of their own equity capital towards the investment. Profits are shared between partners on a pre-agreed ratio, but losses are shared in the exact proportion to the capital invested by the party¹. The scheme of *Musharakah* is presented in Figure 1.5.

Figure 1.5: The scheme of *Musharakah* instrument (partnership)



Source: Designed by ourselves.

We will give a brief summary of differences between *Mudharabah* and *Musharakah* as follow below:

- In *mudharabah* there are only two parties while in *musharakah* there are more than two parties.
- About management: in *mudharabah* only one can participate in it who is the *Mudarib*, but in *musharakah* everyone can participate.
- About losses: in *mudharabah* loss is borne by one party who is commonly *Rab al-mal*, but in *musharakah* loss is shared by a capital ratio of all parties (*Musharikin*).

¹ABDUL RAHMAN,Rashidah and *al.Op.cit.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

We are about to present a summary of these *Shari'ah* compliant instrument in table the table below.

Table 1.6: Summary of Islamic finance instruments

Islamic instruments	The meaning of these instruments
<i>Murabahah</i>	A <i>murabahah</i> transaction is a deferred payment sale or an instalment credit sale and is mostly used for the purchase of goods for immediate delivery on deferred payment basis.
<i>Ijarah</i>	An <i>ijarah</i> transaction is the Islamic equivalent of a lease where one party lessor (<i>mu'jir</i>) allows another party lessee (<i>musta'jir</i>) to use their asset against the payment of a rental fee.
<i>Salam</i>	Salam is a sale whereby the seller undertakes to supply some specific goods to the buyer at a future date in exchange of an advanced price fully paid at spot.
<i>Istisna</i>	As <i>salam</i> , <i>Istisna</i> is the second kind of sale where a commodity is transacted before it comes into existence.
<i>Mudharabah</i>	It is a partnership transaction where one party supplies the money; the other provides management expertise, in order to undertake a specific trade.
<i>Musharakah</i>	It is a joint enterprise or partnership-structure, where at least two parties or more bring capital and skills.

Source: Established by ourselves.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

2-2-Key Risks Faced By Islamic Financial Institutions

This section explores the fundamental features of risks associated with Islamic banks (IBs) as compared to those associated with conventional banks (CBs).

2-2-1-Understanding Islamic Financial Institutions

There are at least five types of IFIs, of which IBs constitute the first and most established Islamic institutions operating according to *Shari'ah* principles. In certain countries, various products and services are offered through an Islamic window established at CBs that are non-fully-fledged IBs¹.

2-2-1-1-Conventional institutions

Financial intermediaries are broadly classified as depositary institutions, investment intermediaries, and contractual intermediaries². We're about to explain mainly conventional institutions in Table 1.1.

Table 1.1: Conventional institutions

Conventional Institutions	Meaning
Depositary institutions	Commercial banks, forming bulk of the depositary institutions, specialize in intermediation obtaining most of its loanable funds from deposits of the public.
Investment intermediaries	- Offer liquid securities to the public for long-term investment; - are <i>mutuals</i> , with customers being the owners who receive income in form of dividends and capital gains; - Typically invest in secondary markets and, as such, avail investors opportunities to hold securities of private and public institutions.
Contractual Intermediaries	Constitute insurance firms and pension funds.

Source: Established by ourselves from reference cited above

2-1-2-Islamic Banks

There are various definitions of IFI and IBF in the literature, for example³:

-Khir and al. (2008) define IBF as financial institutions in which the objective is to implement the economic and financial principles of Islam.

-Akkizidis and Khandelwal (2008) have considered IB to be an alternative to the CB system as practiced in Western countries.

-Archer and Karim (2009) argue that an IB is a company that acts as a financial intermediary between depositors and borrowers in order to connect the supply and demand of funds. IBs also provide other banking services similar to those provided by CBs.

2-2-1-2-1-Models of Islamic Banks

¹AL RAHAHLEH Naseem and *al.Op.cit.*

²TARIQUELLAH Khan. & HABIB Ahmed. *Op.cit.*

³*Ibid.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Iqbal and *al.* (1998) distinguish two models of Islamic banks based on the structure of the assets as follow¹:

A-Two-Tier *Mudarabah* Model:

This model replaces interest by profit-sharing (PS) modes on both liability and asset sides of the bank. In particular, in this model all assets are financed by PS modes of financing (*Mudarabah*). This model of Islamic banking will also take up the role of an investment intermediary, rather than being a commercial bank only.

B-One-tier-*Mudarabah* Model:

The second model of Islamic banking is the one-tier *Mudarabah* with multiple investment tools. This model evolved because Islamic banks faced practical and operational problems in using profit-sharing modes of financing on the asset side. As a result, they opted for fixed-income modes of financing. As mentioned earlier, fixed-income instruments include *Murabahah* (cost-plus or mark-up sale), instalment sale (medium/long-term *Murabahah*), *Istisna' Salam* (object deferred sale or pre-paid sale) and *Ijarah*.

2-2-1-2-2-Comparison between Islamic bank and conventional bank

We will compare Islamic banking system to the conventional one using a table.

Table 1.2: Comparison between conventional banks (CBs) and Islamic banks (IBs)

Characteristic	Islamic banking system	Conventional banking system
Business framework	Functions and operating modes are based on <i>Sharia'ah</i> , and Islamic banks must ensure that all business activities are in compliance with <i>Sharia'ah</i> requirements.	Functions and operating modes are based on secular principles, not religious laws or guidelines.
Interest charging	Financing is not interest (<i>Riba</i>) oriented and should be based on risk-and-profit sharing.	Financing is interest oriented, and a fixed or variable interest rate is charged for the use of money.
Interest on deposit	Account holders do not receive interest (<i>Riba</i>) but may share risk and profits of investments made by the Islamic bank.	Depositors receive interest and a guarantee of principal repayment.
Risk sharing in equity financing	Islamic banks offer equity financing with risk sharing for a project or venture. Losses are shared on the basis of the equity participation, whereas profit is shared on the basis of a pre-agreed ratio.	Risk sharing is not generally offered but is available through venture capital firms and investment banks, which may also participate in management
Restrictions	Islamic banks are allowed to participate only in economic activities that are <i>Sharia'ah</i> compliant. For example, banks cannot finance a business that involves selling pork or alcohol.	Conventional banks may finance any lawful product or service.
Zakat (religious tax)	One of the functions of the Islamic banks is to collect and distribute <i>zakat</i>	Conventional banks do not collect any religious tax.

¹TARIQUELLAH Khan. & HABIB Ahmed. *Op.cit.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Penalty on default	Islamic banks are not allowed to charge penalties for their enrichment. They may, however, allow imposition of default or late- payment penalties on the grounds that these penalties discourage late payments or defaults, which impose administrative costs on banks for processing and collecting the amount owed. Penalties may be donated to a charity or used to offset collection cost.	Conventional banks normally charge additional money (compound interest) in case of late payments or defaults.
Avoidance of <i>gharar</i>	Transactions with elements of gambling or speculation are discouraged or forbidden.	Speculative investments are allowed.
Customer relationships	The status of an Islamic bank in relation to its clients is that of partner and investor.	The status of a conventional bank in relation to its clients is one of creditor and debtor.
<i>Sharia'ah</i> supervisory board	Each Islamic bank must have a supervisory board to ensure that all its business activities are in line with <i>Sharia'ah</i> requirements.	Conventional banks have no such requirement.
Statutory requirements	An Islamic bank must be in compliance with the statutory requirements of the central bank of the country in which it operates and also with <i>Sharia'ah</i> guidelines	A conventional bank must be in compliance with the statutory requirements of the central bank of the country in which it operates and in some places, the banking laws of state or other localities

Source: RASHWAN, Mohamed H., A Comparison between Islamic and Traditional Banks: Pre and Post the 2008 Financial Crisis, December 2010.

We can say that modes of operations between Islamic banks and conventional banks are different. The conventional banking operates on pre-fixed interest whilst Islamic banks based on profit sharing. The modes of operations are different. Islamic banking refers to a system of banking or banking activity that is consistent with *Shari'ah* (Islamic law) principles and guided by Islamic economics. Also we notice that the relationship between Islamic bank and its customers are more ethical and true rather than conventional bank. And the principals of Islamic banking appear rational than the conventional bank principals.

2-2-1-3-Islamic banking window

This Islamic window located in a conventional bank is defined as a special arm operating within conventional banking groups. This arm is known as¹:

- The regulatory modules managed by traditional banks, it is specialized in providing Islamic finance services.
- Independent administrations in traditional banking enterprises have legislative bodies which achieve and control their products.
- Islamic modules in traditional sections or the main headquarters specialized in selling exclusive products and services.

¹BENZEKKOURA,Laounia. Islamic Windows experience in Algerian legislation..*Journal of Economics and Management*. December 2020, Vol.4, No.2, p.1-19.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

-The part or the space specialized in the traditional bank, provides products and services in accordance with the Islamic approach in addition to the traditional bank activities.

What to refer to is two terms in this area, we find Islamic windows as we find the term of the Islamic sections, the first one are services according to *Shari'ah* provided the traditional bank level. And the second one is larger in terms of provided transactions and services, and usually submitted outside the bank structure unlike the windows which are in the same bank.

2-2-2-Risks in Islamic financial institutions

Many scholars have accelerated academic interest in studying risk management in Islamic banks, as they have concluded that Islamic financial institutions face two types of risks as follow (See Appendix 02)¹:

- The first: risks that it shares with conventional banks, considering that Islamic banks are financial intermediaries, which are (credit, market, operational, liquidity risks), but their nature differs due to adherence to *Shari'ah* principles.

- Second: These are the risks that are unique to Islamic banks, given the distinct components of their assets and liabilities.

Khan and Ahmed (2001) also added that this new type of risk is a direct result of the extent of its compliance with the requirements of *Shari'ah* (moral law).

In the below table we're about to identify these scholars.

Table 1.3: Scholars which divided risks in Islamic financial institutions

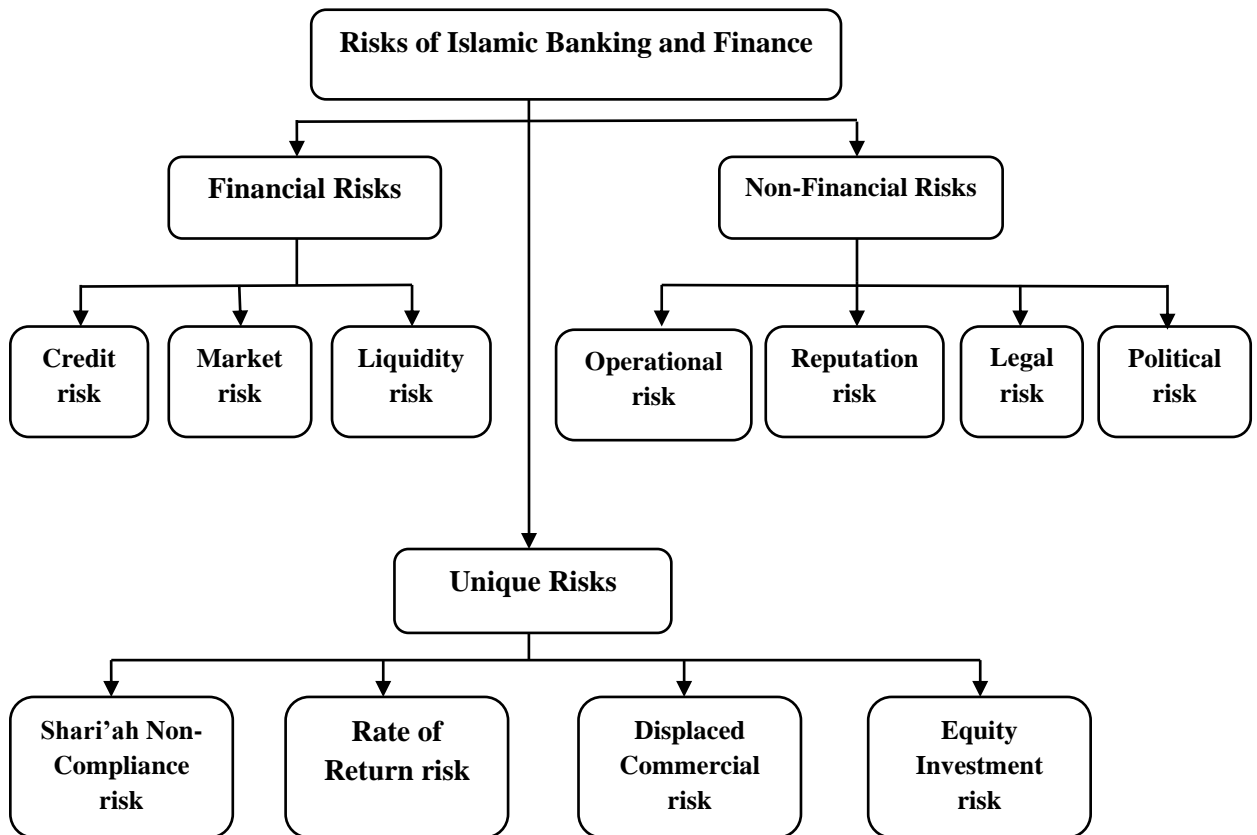
Scholars	Academic contribution for risk management in Islamic banks studies
Obaidullah,M and Wilson,R.J.A (1999)	Risk sharing and management in infrastructure financing: an Islamic evaluation
Khan, T. (1997)	An analysis of risk sharing in Islamic finance with special reference to Pakistan
Vogel, F.E. and Hayes, S.L.(1998)	Islamic Law and Finance: Regulation, Risk and Return.
Hassan, M.K. (2003)	VaR analysis of Islamic banks.
Khan, T. and Ahmad, H. (2001)	Risk management: an analysis of issues in Islamic financial industry.
Karim, A.A. (1999),	Optimal contract for Islamic banking: a survey of literature.
Hobson, S. (2006)	Project financing – risks underlying <i>Sukuk</i> structures.

Source: Established by ourselves from the reference cited above.

¹TAHRAOUI,Asma. *Risk management in Islamic banking - Econometric study*. Doctoral thesis. Faculty of economics, commerce and management. Tlemcen Algeria: University of Abi-Bakr-Belkaid, 2014, p.1-202. [in Arabic]

Also we are about to design the scheme of Islamic banking and finance risks exposures

Figure 2.1: Risk exposures of Islamic banking and finance



Source: Designed by ourselves

2-2-2-1-Shared Risks with conventional banks

The risks facing banks, both conventional and Islamic, are divided into two types¹:

2-2-2-1-1-Financial Risks

It includes all risks related to the management of assets and liabilities related to banks, and this type of risk requires continuous control and supervision by bank departments in accordance with the trend and movement of the market, prices, commissions, economic conditions, and the relationship with other relevant parties. The most important types of financial risks can be presented below²:

A-Credit Risk (Itiman)

The term “*Al-I’timan*” is correctly used by economists to denote the meaning of the banking term “credit”. *I’timan* is the confidence reposed by the bank in someone before it is prepared to grant a loan or provide a guarantee. Accordingly, loan is dependent on this confidence and is a result of it. Guarantee is part of what is termed credit in banking jargon and is based on the same “confidence.” In

¹BOUNGAB, Mokhtar. *The role of financial engineering in managing the risks of Islamic financing formulas*. Doctoral thesis. Ouargla: University of Kasdi-Merbah-Ouargla, 2017, p.1-171. [in Arabic]

²*Ibid.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

some banking dictionaries, it has been defined as “the ability to raise loans and purchase goods in return for a promise to pay in the future.” There are others who have defined it as “man’s confidence in man”¹.

Credit risk can be defined as: “the possibility of the bank’s borrowing clients failing to fulfil their obligations to the bank, when these obligations fall due, or after that. Or default to pay according to the agreed upon terms, that is, these risks are linked to the counterparty in the contract in terms of its ability to pay its obligations to the bank on the specified date”.

B-Market Risks

These are “the risks arising from changes in market conditions, and therefore their source is the instruments and assets that are traded in the market.” This includes, for example:

a-Foreign Exchange Rate Risk: represents losses resulting from fluctuations in foreign currency rates related to the bank’s assets and liabilities.

b-Commodity Price Risk: It arises from constant commodity price changes due to market fluctuations.

C-Liquidity Risks

This risk arises when the bank is unable to pay its short-term obligations on their due dates. A bank that is unable to fulfil its short-term obligations is the beginning of the phenomenon of deficit, which if it continues could lead to its bankruptcy, and liquidity risks may be great for banks specializing in electronic money activities if they are unable to ensure that the balances are sufficient to cover payment at any specific time, in addition, it may lead to reputational risks and impact on profitability. The bank’s liquidity can be measured through multiple means.

The main liquidity risks facing Islamic banks can be summarized as follows²:

- Weak liquidity planning in the bank leading to Incompatibility between Assets and liabilities in terms of the maturity period.
- The sudden shift of some occasional commitments into actual commitments.
- Poor distribution of assets into uses that is difficult to convert into liquid assets.
- Some external factors such as economic stagnation and crises in financial markets contribute to exposure to liquidity risk.
- In addition to lack of liquidity in the Islamic secondary market and the lack of short-term instruments to invest excess liquidity.
- Lack of special facilities for the last lender.
- Limited banking market potential among Islamic banks.
- The Legitimacy restrictions on the sale of debts, which represent a large part of the assets of Islamic banks.

2-2-2-1-2-Non-Financial Risks

¹ALI ELGARCI, Mohamed. *Op.cit.*

² ALI IDHBIA, Omar. *Op.cit.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Non-financial risks include: operational risks, political risks, and legal risks.

A-Operational Risks

Operational risk defined as “risks resulting from weaknesses in internal control, weaknesses in people and systems, or the occurrence of external conditions.” Therefore, they are all risks associated with human errors, inadequate procedures and inappropriate controls, fraudulent and criminal activities, in addition to the risks of systems failure and risks caused by technology, meaning all non-banking risks.

We can mention the reasons for these risks as follows:

- Internal and external fraud;
- Damage to physical assets;
- Cessation of activity.

Sundararajan (2005) asserted that operational risk arises in the Islamic banks due to following aspects, cancellation of *Murabahah* and *Istisnaa* contract, dilemmas in internal control system for managing problems in operational processes and back office functions, technology risks, potential risk related to the enforcement of Islamic contract in a big legal environment, the risk of non-compliance with *Shari'ah* rules and regulations, and potential cost for monitoring equity based contracts and legal risks associated with these contracts¹.

B-Reputational risk

Reputation risk or “headline risk” is the risk that the trust of the clients is damaged by irresponsible actions or behaviour on the part of the bank. Trust in banking practice, which is governed by the provisions of Islamic *Shari'ah*, is considered an important element of the success that has accompanied the Islamic the Islamic banking process from its beginning until the present time. The implications of this are wide - ranging in that the irresponsible behaviour of a single institution can taint the reputation of other Islamic banks. Negative publicity can have a significant impact on an institution's market share, profitability and liquidity. The Islamic financial services industry is a relatively young industry and a single failed institution can give a bad name to all others that may not be engaged in any such irresponsible behaviour².

C-Legal Risks

Legal risks arise as a result of the occurrence of unexpected obligations, or the loss of part of the value of an asset as a result of the lack of sound legal opinion, or insufficient documents confirming the bank's ownership of that asset. At the forefront of legal risks are the laws imposed by central banks, related to liquidity ratios; the legal reserve, the permitted credit ratios, and the controls that limit expansion and geographical spread. Also, the legal risks are related to not putting financial contracts into effect, that is, they are linked to the statute and legislation, the regulatory orders that govern compliance with contracts and transactions.

D-Political Risks

¹ALI IDHBIA,Omar. *Op.cit*.

²IQBAL,Zamir and MIRAKHOR,Abbas. *Op.cit*, p.294.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Political events affect and cause risks to the banking business, including globalization, boycotts, political unrest, nationalization, etc.

In the below table we will clarify common types of risks and a definition of each type:

Table 1.4: Common risks in Both Islamic and conventional banking

Types of Common risks	Both Islamic and conventional banking
Credit risk	The potential that counterparty fails to meet its obligations in accordance with agreed terms and conditions of a credit-related contract.
Market risk	The potential impact of adverse price movements such as benchmark rates, foreign exchange rates, equity prices on the economic value of an asset.
Liquidity risk	The potential loss arising from the Bank's inability either to meet its obligations or to fund increases in assets as they fall due without incurring unacceptable costs or losses.
Operational risk	The potential loss resulting from inadequate or failed internal processes, people and system or external events.

Source: Established by ourselves.

2-2-2-2-Unique Risk in Islamic financial institutions

In this topic we're about to identify unique risks to Islamic banking. However, Islamic banking faces some special kinds of risks given their nature of activities.

2-2-2-2-1-Shariah Non-Compliance Risk

Shari'ah non-compliance risk refers to the risk of legal or regulatory sanctions, financial loss or non-financial consequences, inclusive of damages to reputations; Islamic banking institutions may experience such circumstances from the inability to adhere to the rulings of the *Shari'ah* Advisory Council (SAC). The impact of *Shari'ah* non-compliance risk includes non-financial impact, which are affecting the image of IFIs and not getting blessings from Allah as *Shari'ah* Advisory council's (SAC) rulings are based on the sources of *Fiqh-Muamala*. Several definitions relate to the *Shari'ah* non-compliance risk as follow¹:

-Archer and Haron (2007) defined the risk of *Shari'ah* non-compliance as "the risk of non-compliances resulting from a failure of an Islamic bank's internal systems and personnel".

-Ginena (2014) asserted that *Shari'ah* non-compliance risk is a type of operational risk which may include the risk of financial losses that an Islamic banking institution may face in activities recognized by relevant authorities in the appropriate jurisdiction resultant of non-compliance with *Shari'ah* principles.

We can say that this type of risk can be potentially raised if the operations and business activities of IFIs do not adhere to *Shari'ah* principals.

2-2-2-2-2-Rate of Return Risk

The rate of return risk arises due to uncertainty in returns on the investments of the Islamic banks. Rate of return is different in respect with the interest rate risk. Iqbal and Mirakhor stated that Islamic

¹MOHD ARRIFIN, Noraini. *Shari'ah risk management practices in Malaysian Islamic banks. International Journal of Economics, Management and Accounting*, 2022, Vol.30, No.1, p.101-123.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

banking is dissimilar to non-Islamic banking as these banks deal with a fixed interest rate on securities so they face less risk in rate of return on securities. Whereas, the case is different in Islamic banking, this deals in securities whose result of return is disclosed at the end of the holding-term period. These results of investment cannot be exactly pre-determined. So, the Islamic bank has to wait for the result to determine the rate of return for depositors. This uncertainty can cause variance in the return which is expected by depositors on their investment. The larger the variance the bigger the rate of return risk for the banks¹.

An Islamic bank could be exposed to the risk of withdrawals by its depositors as a result of offering a lower rate of return than its competitors. If an Islamic bank is run inefficiently and keeps producing lower returns, this will lead to withdrawals, which could eventually erode the franchise value of the bank².

2-2-2-2-3-Displaced Commercial Risk

Iqbal and Mirakhor has described displaced commercial risk as the risk that arises when an Islamic bank is under pressure to pay investors and depositors a higher return than would be paid under "real" terms of the investment contract. This can happen when a bank has underperformed for a period and remains incapable to generate enough profits for distribution to account holders³.

2-2-2-2-4-Equity Investment Risk

Iqbal and Mirakhor asserted that this risk is unique to IFIs because conventional commercial banks do not invest on the basis of equity - based assets. Equity investments can lead to volatility in the financial institution's earnings arising from liquidity, credit, and market risks associated with equity holdings. Although there is credit risk in equity - based assets as discussed earlier, there is also considerable financial risk of losing capital invested as a result of business losses⁴.

Van Greuning and Iqbal asserted that Islamic banks are also involved in equity investment in the following: shares of stock market, private equity funds, contribution in specific projects etc. These equities are also exposed to liquidity, credit and market risks. In case of these risks, bank will face the instability in the financial earnings and may also lead to loss of the capital invested in that equity⁵.

¹ ABDUL REHMAN, Asma. *Op.cit.*

² IQBAL, Zamir and MIRAKHOR, Abbas. *Op.cit*, p.287.

³ *Ibid*, p.285.

⁴ *Ibid*, p.283.

⁵ ABDUL REHMAN, Asma. *Op.cit.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

In the table below we will clarify unique risks of Islamic banks.

Table 1.5: Unique risks of Islamic banking

Types of unique risks	Islamic banking only
<i>Shari'ah non-compliance risk</i>	Risk arises from the failure to comply with the <i>Shari'ah</i> rules and principles.
Rate of Return Risk	The potential impact on the returns caused by unexpected change in the rate of returns
Displaced Commercial Risk	The risk that the bank may confront commercial pressure to pay returns that exceed the rate that has been earned on its assets financed by investment account holders. The bank foregoes part or its entire share of profit in order to retain its fund providers and dissuade them from withdrawing their funds.
Equity Investment Risk	The risk arising from entering into a partnership for the purpose of undertaking or participating in a particular financing or general business activity as described in the contract, and in which the provider of finance shares in the business risk.

Source: Established by ourselves

2-2-2-3-Risks linked to Islamic finance instruments

Credit risk is deemed to be the most important type of risk faced by a bank in its relationship with the owners of wealth. Islamic banks face this form of risk in most of the modes of financing that they use as follow below¹:

-It is well known that *Murabahah*, *Istisna*, and instalment sale are sales with delayed payment thus generating debts in the accounts of the banks. The fundamental form of risk in all these contracts is credit risk;

-*Salam* gives rise to a commodity debt rather than a cash debt, but it also involves credit risk;

-*Mudarabah* and *Musharakah*, on the other hand, are contracts of participation, and the funds given by the bank to entrepreneurs are not liabilities. Yet, these two also bear a credit risk in two ways. First, in the case of tort or negligence, the entrepreneur is liable to guarantee the capital which means a debt liability. Second, when the capital of *Mudarabah* or *Musharakah* are employed in a deferred sale, which is what takes place in most *Mudarabah*, the owner of capital (*rabb al-mal*), the bank in this case, bears an indirect credit risk.

¹ALI ELGARCI, Mohamed. *Op.cit.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

In the table below we will show the credit risks linked to Islamic finance instruments.

Table 1.6: Credit risk in Islamic banks

Type of Products	Credit risk
<i>Murabahah</i>	Default/delay in payment by the buyer of the good financed by the Islamic bank. Late payment penalties cannot be applied. Cancellation of the contract by the ordering client: one of the conditions of validity of <i>Murabaha</i> is based on the fact that the bank must purchase the good and then transfer the right of ownership to the client. The order from the customer does not constitute a sales contract but a simple promise to purchase. The customer can renounce the promise of sale. This is the most significant counterparty risk emanating from the <i>Murabahah</i> contract. Non-delivery of the goods by the supplier, resulting in no payment obligation on the part of the ordering customer.
<i>Salam</i>	Delay/default to deliver the goods on the agreed date according to the quality and quantity specified in the contract. When the Salam is backed by a parallel Salam, the default or delay in delivery by the seller is likely to incur the liability of the bank towards the second buyer. So the bank must reimburse the price and compensate the 2nd buyer or buy a similar good to uphold the second contract. Delivery of the good without respecting the terms specified in the contract (quality, quantity) Failure to pay by the customer. In the case of an agricultural contract, the counterparty risk may be due to climatic factors, for example, which are beyond the control of the counterparty.
<i>Istisnaa</i>	Delay in delivery of the asset manufactured/constructed by the company responsible for the work. The Islamic bank is exposed to the risk of non-completion of the construction/manufacturing of the asset in the parallel <i>Istisnaa</i> contract, especially since the bank pays in advance and the company (the <i>Sanii</i>) does not complete the construction within the agreed deadlines. Late delivery may generate additional costs. Carrying out the work without respecting the technical requirements and terms specified in the contract. Default/delay in payment by the purchasing client who cannot uphold his commitments although the construction of the property is progressing.
<i>Ijarah</i>	Default or delay in payment of rent by the tenant. The Islamic bank, as the owner of the good, can seize the rented good if the tenant does not uphold his commitments.
<i>Mudharabah and Musharakah</i>	Loss of invested capital.

Source : DAHAK, Abdennour., KARA, Rabah. Risk management within Islamic finance windows in Algeria: a state of play. *Marketing and Business Research Review*, December 2021, vol.2, No.2, p.61-75. [Published in Arabic]. *Op.cit.*

2-3-Risk Management adapted by Islamic financial institutions

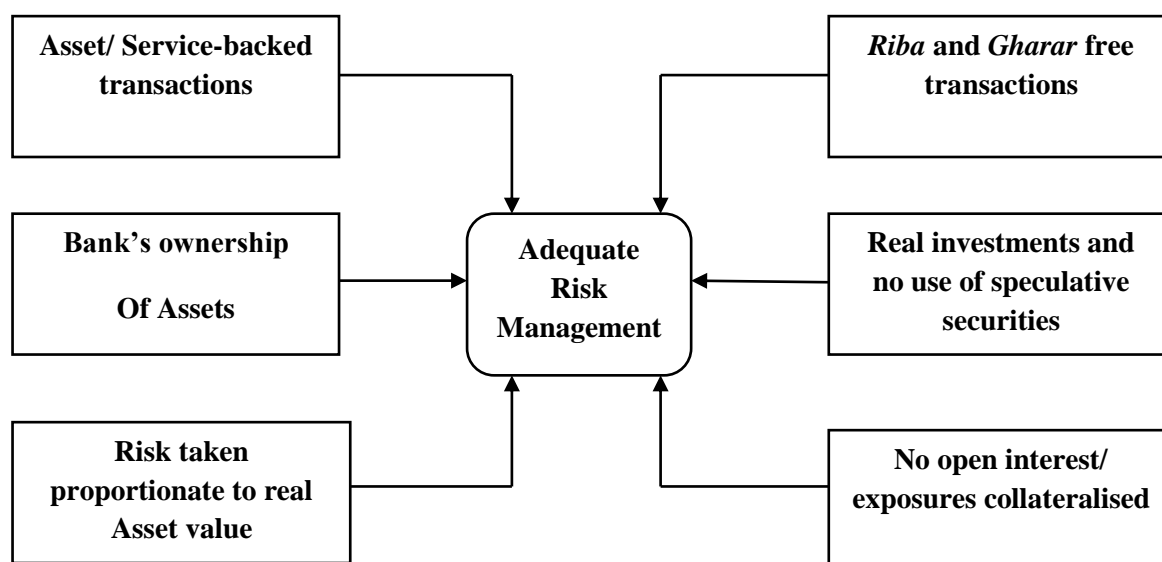
The present section is about to review the literature and the prudential principles in the area of risk management in Islamic financial institutions (IFIs), also providing issues and challenges faced by these institutions.

2-3-1-Risk Management in Islamic financial institutions: A review of Literature

Having a robust risk management framework can also help Islamic banks reduce their exposure to risks, and enhance their ability to compete in the market. A reduction in each institution's exposure will reduce the overall systemic risk. Therefore, it is necessary that IFIs have a comprehensive risk management and reporting process to identify, measure, monitor, manage, report and control different categories of risks. This process should also pay special attention to compliance with *Shari'ah* rules and principles¹.

In the figure below we have shown the adequate risk management for Islamic banking.

Figure 3.1: Risk management framework in Islamic banking.



Source:Usmani, Muhammad I.A.Examining the prudence of Islamic banks: A risk management perspective. Pakistan bank report.

2-3-1-1-Theoretical Background

On the theoretical side of risk management many authors has a contribution as follow²:

-Sundararajan and Errico (2002): explained the special risks surrounding Islamic banking both in profit-and-loss-sharing (PLS) and non-profit-and-loss-sharing (non-PLS).

-Akkizidis and Khandelwal (2007): has made a comprehensive explanation of risk management in the Islamic banking that covered the aspect of risk management issues in Islamic financial contracts, Basel II and the IFSB for Islamic financial risk.

¹QBAL,Zamir and MIRAKHOR,Abbas. *Op.cit*, p.276.

²ROSMAN,Romzie and ABDUL RAHMAN,Abdul Rahim. The practice of IFSB guiding principles of risk management by Islamic banks International evidence.*Journal of Islamic Accounting and Business Research*, 2015, Vol.6, No.2, p.150-172.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

-Iqbal and Mirakhor (2007): explained risk management in the context of Islamic banks with respect to the need for risk measurement, management and controls in Islamic banks and examined the comprehensive risk management framework for each unique risk with reference to the IFSB standards.

-Archer and Haron (2007): showed that the Islamic banks are exposed to a number of operational risks that are different from the operational risks that conventional banks face. They argued that the complexities of a number of their products, as well as their relative novelty in the contemporary financial services market, and the fiduciary obligations of an Islamic bank when it acts as a *mudarib*, imply that the operational risk is a very important type of risk for the Islamic banks.

That is to say that risk management and, subsequently, risk mitigation is one of the main aspects to be taken into account in Islamic finance. Being involved in the intermediation process, risk management is also important for Islamic financial institutions than for conventional financial institutions¹.

To explain we're about to say that Islamic financing faces a unique risk, and by this particularity needs a specific and a very solid risk management framework that should be equal to *Shari'ah* rules. That's why it is needed to reinforce the *Shari'ah* Service Board (SSB) in every country that uses Islamic financing. To remember the reason Islamic banks exist is to offer *Shari'ah* compliant products. While each of the products should comply with *shari'ah*, the bank overall should comply as well.

2-3-1-2-Risk management practiced in Islamic banks

Risk management is an ongoing process that depends directly on changes in the internal and external environments of banks. For IBs, risk management is very complicated because IBs cannot simply replicate the established practices of CBs. However, Kayed and Hassan (2011) have argued that the respective risk management processes of IBs and CBs are, in fact, similar, inasmuch as both kinds of banks begin with risk identification, mitigation, and efforts to control exposure to risk in order to maintain profitability. Unlike CBs, however, IBs must ensure that as the framework develops, all the tools used are in line with the requirements of *Shari'ah*. In spite of the conceptual discussion of risk in Islamic finance, only a few empirical studies have investigated risk management in the Islamic banks².

a-Old studies investigating risk management in Islamic Banks

We elaborate some of the most important empirical studies below³:

-Khan and Ahmed (2001): conducted a survey of 17 Islamic banks on risk management issues. The findings confirmed that the Islamic banks faced some risks arising from profit-sharing investment deposits. Here, the bankers considered these unique risks to be more serious than the conventional risks faced by financial institutions. In terms of the overall risk management processes, they found that the overall risk management processes of the Islamic banks were satisfactory. The results showed that the Islamic banks had established a relatively good risk management environment; however, the measuring, mitigating and monitoring processes and internal controls needed to be further upgraded.

¹ZEROUALI, Mohamed A. Innovation in risk management of Islamic banks. *International Journal of Accounting, Finance, Auditing, Management and Economics*, November 2021, Vol.2, No.6, p.602-616.[Published in French].

²AL RAHAHLEH Naseem and *al.Op.cit.*

³ROSMAN, Romzie and ABDUL RAHMAN, Abdul Rahim. *Op.cit.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

-Mohd. Arrifin and al. (2009): conducted a study that covered 28 Islamic banks in 14 countries using a questionnaire survey to ascertain the perceptions of Islamic bankers (i.e. chief financial officers and risk managers) about the nature of risk, risk measurement and risk management techniques in their banks. The results showed that the Islamic banks were mostly exposed to similar types of risk faced by conventional banks. The findings on risk measurement and risk management techniques showed that the minority of Islamic banks were perceived to use the more technical risk measurement approaches. No evidence was found that the Islamic banks used risk mitigation methods that were different from the ones used by the conventional banks.

-Hassan (2009): assessed the degree to which the Islamic banks in Brunei used risk management practices and techniques in dealing with different types of risk. The study used a questionnaire survey. It was found that the Islamic banks were somewhat reasonably efficient in managing risk. Risk identification and risk analysis and risk assessment were the most significant influencing variables in the risk management practices of the banks.

b-Recent studies investigating risk management in Islamic Banks

Some of recent studies as follow below¹:

-Masood and al (2012): found that IBs in the UAE are more likely to use newer, sophisticated and robust credit risk management techniques of credit risk management than the non-Islamic banks.

-Abedifar and al (2013): found that in general, small IBs in majority Muslim states had a lower credit risk than did CBs of a similar size.

-Hassan and al (2019): published a study on the relationship between liquidity and credit risk by using a simultaneous structural equation approach to 52 IBs and CBs for the period of 2007–2015. They observed that credit risk and liquidity risk have a negative relationship for CBs and for IBs, whereas a negative relationship between liquidity risk and stability is observed only for IBs. . The researchers also found that IBs are better risk managers relative to CBs.

2-3-2-Prudential Principles for Islamic Financial institutions

Islamic banks are at the early stage of growth and their sizes are normally small to medium. In order for them to gain international recognition, Basel II compliance becomes a cornerstone. Also, as long as AAOIFI and IFSB suggestions can be added to the Basel II, the regulatory framework will bring standardization for Islamic banks².

2-3-2-1-Basel II for Islamic financial institutions

The three pillars of Basel II are discussed in the following title, along with their relevance and applicability to Islamic Finance.

According to Akkizidis and Khandelwal the role of minimum capital requirement is equally important in the Islamic financial industry, although the calculation of the capital charge may differ, depending on the risk exposures. The role of supervisors is more critical due to the evolving nature of the Islamic financial industry. Strong regulatory support in the form of monitoring and assistance is needed for the Islamic financial industry. The social responsibility is of utmost importance in Islamic

¹AL RAHAHLEH Naseem and al. *Op.cit.*

² HASSAN,Kabir M and DICLE,Mehmet F. Basel II and Regulatory Framework for Islamic Banks. *Journal of Islamic economics, Banking and Finance*, 2005, Vol.1, No.1, p.1-16.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

finance. Activities which are conducted by the Islamic financial institution should not be *Haram* and, when profits are generated, the *Zakat* should be paid. Along with this, there is a greater emphasis on the transparency and thus the third Pillar of Basel II has more relevance for the Islamic financial industry¹.

Requirements addressing the particularity of Islamic banks' balance sheet structure were introduced under Basel II. As a result of the particular nature of their activities, the risks borne by Islamic banking institutions differ to a greater or lesser extent from those outlined in Basel II. Serious attempts are being made by the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) and the Islamic Financial Services Board (IFSB) to develop a better risk management framework that addresses the risk profile of Islamic banks².

2-3-2-2-Basel III issue in Islamic Financial Institutions

The issue of capital framework and liquidity standards is central to adopting the Basel III. The banking institutions are required to raise minimum capital requirements and hold a capital buffer. However, Islamic banks are exposed to operational risk arising from compliance to Basel III requirements. Some of the principles of risk management as proposed in Basel III can be applicable to the Islamic financial industry with necessary modification and adaptations. Even so, Basel III could not answer all the risk management issues for Islamic financial institutions; hence there has been a need for alternative and supportive standards on risk management. Nevertheless, serious and sustained efforts are needed to find the applicability which is specific to countries and markets³.

2-3-2-3-AAOIFI ethical standards

The accounting and auditing organization for Islamic financial institutions (AAOIFI) is an Islamic international autonomous non-for-profit corporate body that prepares accounting, auditing, governance, ethics and *Shari'ah* standards for Islamic financial institutions and the industry. Its mission is the standardization and harmonization of international Islamic finance practices and financial reporting in accordance with *Shari'ah*⁴.

According to Beekun ethics is a set of moral principles that distinguish what is right from what is wrong⁵. The concept of ethics in Islam is the principles and rules regulating human behaviour that are determined by revelation (*Qur'an* and *Sunnah*) to organize human life in a way that achieves the purpose of his existence in this world in the most complete and complete manner. Islam places a strong emphasis on ethics in various aspects of life. Every action performed by a Muslim should adhere to the requirements of *Shari'ah*⁶.

The ethical model proposed by the AAOIFI Code of Ethics is an equation that includes both *Adl* (justice) and *Ihsaan* (benevolence). Professionals in Islamic finance must always pursue justice in their

¹AKKIZIDIS, Ioannis et KHANDELWAL, Sunil Kumar. *Financial risk management for Islamic banking and finance*. New York : Palgrave Macmillan, 2008.

²ANWARUL ISLAM, K.M and BARGHOUTH, Orobah A. Risk Management of Islamic Banking: An Islamic Perspective. *International Journal of Islamic Banking and Finance Research*, November 2017, Vol.1, No.1, p.25-28.

³ABDUL, Nurhafiza and KADER, Malim. Islamic Banking and Risk Management: Issues and Challenges. *Journal of Islamic banking and finance*, 2015, Vol.32, No.4, p.64.

⁴AAOIFI, About AAOIFI, In: <https://aaoifi.com/about-aaoifi/?lang=en>

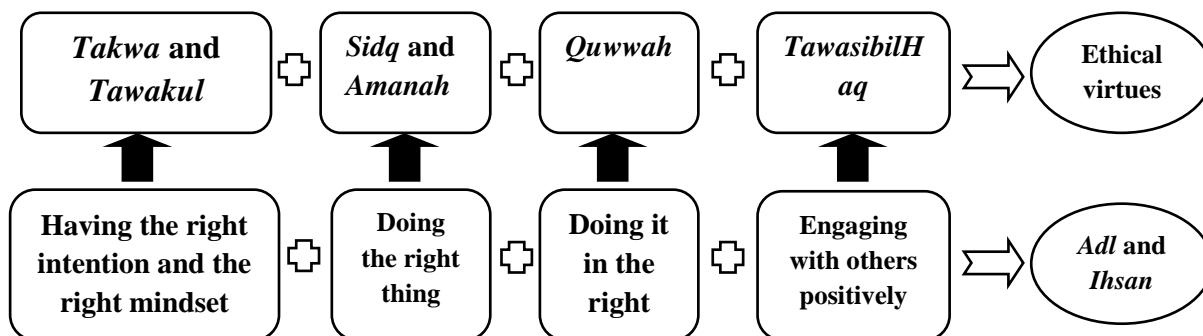
⁵HASSAN, M. Kabir. *Op.cit.*

⁶DAHAK, Abdennour and KARA, Rabah. The centrality of Ethics in the Islamic financial system. In: DAHAK, Abdennour and KARA, Rabah. *Islamic finance project in Algeria: realities and prospects*. Algeria: Imal Edition, December 2022, p.1-16.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

work operations. In order to consistently attain and uphold justice, the professional must first prioritise *Ihsaan* in all circumstances. Islamic finance professionals can contribute to the creation of a more equitable and moral financial system by adhering to all four of the equation's main components, hence they are required to uphold the following six (6) ethical virtues, which are in accordance with the four elements of the equation of *Adl* and *Ihsaan*, as shown in figure below¹.

Figure 3.1: AAOIFI's *Adl* and *Ihsan* equation



Source: AAOIFI Code of Ethics, 2019, p. 13.

- **Taqwa (Allah consciousness):** awareness of Allah's presence and remembrance, leading to obedience to Him and repentance immediately if one deviates or disobeys.
- **Tawakkul (Trust in Allah):** trust in Allah's will and decree, and being content with the outcome after taking all possible means.
- **Sidq (integrity):** defending and conforming to the truth while preserving coherence and consistency in one's intentions, words, deeds, and beliefs.
- **Amanah (Trustworthiness):** respecting and performing the duties, authorities, and responsibilities associated with an individual's role, rank, position, and status, including the care and protection of entrusted resources as a trust.
- **Quwwah (Strength):** possessing the intellectual, psychological, physical, ability, and competence at the required level to fulfil a responsibility or carry out a task.
- **Tawasi bil Haq (Enjoining Good):** encouraging others to do well and avoid evil in a positive, wise, and thoughtful manner.

We can say that adherence of IBs and IFIs to ethical standards holds significant importance because it helps to ensure that these institutions operate in a way that is consistent with *Shari'ah* principles. Hence these standards may uphold the mitigation of operational risks like human error and frauds.

2-3-2-4-IFSB principles for Risk Management

The IFSB issued a comprehensive document on the standards concerning risk management in December 2005. The guidelines are in the form of 15 principles, including the general requirements for risk management and six major risk areas, namely, credit risk, equity investment risk, market risk,

¹BOUAITA, Abderrezak and BOUDJELIDA, Abdelhak. The Ethical Standards of Islamic Financial Transactions Between the AAOIFI and the Algerian Monetary and Banking Act of 2023. *Journal of Business and Trade Economics*, March 2023, Vol.9, No.1, p.234-243.

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

liquidity risk, rate of return risk/displaced commercial risk and operational risk/*Shari'ah* non-compliance risk¹.

2-3-2-4-1-Understanging the IFSB body

The IFSB is an international body, inaugurated in November 2002 and based in Malaysia (Kuala Lumpur). It is the result of the cooperation between several Islamic central banks and monetary authorities of various countries, together with the support of the IDB, the International Monetary Fund and the AAOIFI. The IFSB is essentially an international standard setting body of regulatory and supervisory agencies and its scope broadly includes banking, capital markets and insurance. The efforts of the IFSB can be seen as complementary to those of the AAOIFI and the Basel Committee on Banking Supervision².

2-3-2-4-2-IFSB principals

In July 2003, the IFSB began the development of two prudential standards for the Islamic financial services industry on risk management and capital adequacy, issuing the final version of these two standards in December 2005³.

The document of IFSB issued in 2005 has set number of principles for Islamic financial institutions regarding the risk management. Among the objectives are to ensure Islamic financial institutions comply with the *Shari'ah* rules with the prohibition of interest as the main element, applying *Shari'ah* compliant risk mitigation techniques and complementing the Basel Committee on Banking Supervision's (BCBS) guidelines on risk management to accommodate the specific needs of Islamic financial institutions. They put a set of principles for managing each type of risk as follow in Table below⁴.

¹ROSMAN,Romzie and ABDUL RAHMAN,Abdul Rahim. *Op.cit.*

² ALEXAKIS,Christos and TSIKOURAS,Alexandros. Islamic finance: regulatory framework – challenges lying ahead. *International Journal of Islamic and Middle Eastern Finance and Management*, 2009, Vol.2, No.2, P.90-104.

³*Ibid.*

⁴ NURURL SYAZWANI,Mohd Noor and *al. Op.cit.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Table 3.2: Major Guidelines for risk management according to IFSB.

Risk	Principle	Guideline
General requirement	Principle 1.0	IIFS shall have in place a comprehensive risk management and reporting process.
Credit risk	Principle 2.1	IIFS shall have in place a strategy for financing, recognizing the potential credit exposures at various stages of the agreement.
	Principle 2.2	IIFS shall carry out due diligence review.
	Principle 2.3	IIFS shall have in place an appropriate methodology for measuring and reporting the credit risk exposures.
	Principle 2.4	IIFS shall have in place <i>Shari'ah</i> -compliant credit risk mitigating techniques.
Equity investment risk	Principle 3.1	IIFS shall have in place appropriate strategies, risk management, and reporting processes in respect to the risk characteristics of equity instruments.
	Principle 3.2	IIFS shall ensure that their valuation methodologies are appropriate and consistent.
	Principle 3.3	IIFS shall define and establish the exit strategies in respect of their equity investment activities.
Market risk	Principle 4.1	IIFS shall have in place appropriate framework for market risk management.
Liquidity risk	Principle 5.1	IIFS shall have in place a liquidity management framework.
	Principle 5.2	IIFS shall assume liquidity risk commensurate with their ability to have sufficient recourse to <i>Shari'ah</i> -compliant funds.
Rate of return risk	Principle 6.1	IIFS shall establish a comprehensive risk management and reporting process to assess the potential impact of market factors affecting rate of return on assets.
	Principle 6.2	IIFS shall have in place an appropriate framework for managing displaced commercial

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

		risk
Operational risk	Principle 7.1	IIFS shall have in place adequate systems and controls.
	Principle 7.2	IIFS shall have in place appropriate mechanisms to safeguard the interests of all fund providers.

Source: Guiding principles of risk management, Islamic Financial Services Board (IFSB), December 2005, Kuala Lumpur.

This guideline provides a general requirement of risk management to have comprehensive risk management and reporting process. This includes appropriate board and senior management oversight, to identify, measure, monitors, report and control relevant categories of risks and to hold adequate capital against these risks. The process shall take into account appropriate steps to comply with *Shari'ah* rules and principles and to ensure the adequacy of relevant risk reporting to the supervisory authority¹.

2-3-2-5-The *Shari'ah* Supervisory Boards (SSB) in the Islamic Banks

Supervisory refers to the follow-up, testing and analysis of the works, behaviours and actions that are conducted by individuals, groups, institutions, units and others, to ensure that these transactions are accordance and within the requirements of the *Shari'ah* by using the legitimate means and indicating any irregularities and their solutions².

The SSBs can be defined as a body that supervises and monitors the process of developing the Islamic products and services of finance and investment in the Islamic bank. It is implemented to strengthening the activity of the bank by issuance *Fatwas* and a legal guidance for the daily transactions, according to the needs of the different business units in the bank. SSBs also known as the preventive, remedial and complementary process of control, review and analysis of all the IFIs activities, products, contracts and transactions starting from the incorporation of the IFI onwards to ensure compliance with Islamic *Shari'ah* for the purposes of generating legitimate profits (*Halal*) and improving on the IFIs performance³.

We can say that the main role of the SSB in the IBs and IFSs is summarized in the participation in formulate the instructions, regulations, forms of contracts, correction and development. So, the main functions of SSB are:

- Directing, reviewing and supervises the institutions activities to ensure *Shari'ah* compliance.
- Shari'ah* advice and guidelines.
- Shari'ah* approval on products and services.
- Avoidance of *Shari'ah* non-compliance risk.

¹MOHD ARRIFIN, Noraini and KASSIM, Salina. Risk management practices of selected Islamic banks in Malaysia. *Aceh International Journal of Social Sciences*, June 2014, Vol.3, No.1, p.26-36.

²RAMLI, Rashila and al. The importance of the *Shari'ah* supervisory boards (SSBs) in the Islamic banking system. *South East Asia Journal of Contemporary Business, Economics and Law*, 2016, Vol.9, No.2, p.25-31.

³*Ibid.*

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

2-3-3-Risk Management Strategy in the Islamic Banks

Risk management should not constitute an obstacle to Islamic banks, and the goal of risk management is not to eliminate risks, as this is impossible, but at least to reduce and control them according to the following method¹:

2-3-3-1-Distribution and diversification of investment

One of the methods used to mitigate and manage risks is to distribute and diversify the investment portfolio this distribution may be made on a sectoral basis, on the basis of geographical areas, or on the basis of deadlines and profitability this leads to overall portfolio quality, asset growth and a useful review between risk and return.

2-3-3-2-Creating an effective assessment system

The information required about customers, and the division of work, is the basic step in making a financing decision. It is useful in this field to have specialized credit agencies that can provide the bank with complete information about the customer. In the event that they do not exist, the bank must rely on an internal system and device that enables it to collect information. It obtains information from the client himself, from other banks, and even from his competitors. The evaluation area also includes feasibility studies, including sensitivity tests and simulation methods, to evaluate feasibility studies, including sensitivity tests and simulation methods, to evaluate multiple risks.

2-3-3-3-Looking for an appropriate legal environment

Contracts, and the Islamic Bank's reliance on them as a basis for investment and financing operations, require precision in drafting these contracts in accordance with *Shari'ah* requirements, the nature of operations, legal conditions, and the legal situation in the bank's home country. It requires specialized management that includes a number of experienced jurists who constantly follow up on the legal the procedural aspect for the operations financed by the bank.

2-3-3-4-Maintaining sufficient reserves and allocations

Islamic banks must study their allocation needs with great precision according to their circumstances, the circumstances of their operations, and the deposits they have, taking into account their size, maturity dates, and claims to their customers, in addition to the percentages maintained by the central bank as liquidity to confront potential risks and absorb losses.

2-3-3-5-Looking for high qualified human resources

The nature of Islamic banking operations, in which the bank is a seller, buyer, lessor, or partner, requires good expertise at the bank in various aspects of economic activity, and in managing various economic and commercial projects. Therefore, Islamic banks must have technical departments, and if they do not have it must seek the help of reliable specialized and consulting bodies to carry out some of the work that requires expertise.

2-3-3-6-Obtain appropriate guarantees

¹ SAMHAN, Husayn Mohammad and *al. Investment management in Islamic banks*. In: Arab Organization for development, Egypt, 2012, p.273-279. [Published in Arabic].

Chapter 2 Nature of Risk and their Management in Islamic financial institutions

Banks rely on obtaining guarantees or bets from customers to cover and manage the risks of the other party (the customer) and the risks of his non-compliance with the implementation of his contractual obligations with the bank. In all cases, obtaining these guarantees and using them when needed must be consistent with the provisions of *Shari'ah* and in accordance with what is decided by *Shari'ah* bodies.

2-3-3-7-Treatment of contractual risks.

Islamic banks must formulate contracts with their clients accurately and professionally. In addition, while choosing the contract for a process has an effective impact on the management of risks that may result from the aforementioned process. It is possible to include in contracts some legitimate clauses that mitigate potential risks, or add conditions in the contracts such as transferring some risks to others.

We can say that these techniques holds a significant importance because it helps to ensure the mitigation of risks which may occurs in the Islamic financial institutions, and there is other like encouraging cooperative insurance (Takaful), securitization and finding alternatives to derivatives products.

Conclusion to chapter 2

In the face of modern banking and globalized standards, potential challenges of risk management in Islamic banks persist. Islamic banks must adapt to new risk management measures. That is to say, to the new standards of the banking world.

In order to practice and implement Islamic financial products properly, in accordance with the principles of Islamic law, there shall be an independent body within these banks, to following the work of these financial services, and supervise of the development and formulation of the contracts, and to confirm its adherence to *Shari'ah*. However, this department may be exposed to some of the challenges, which is about the lack of mandatory decisions and the possibility of intervention by the authorities or management such as a CEO.

Finally, we could say that this function (Risk Management) in the Islamic financing system is very sensitive especially in the compliance to *Shari'ah*, it requires high caution because it concerns the *Shari'ah* of Allah, which means the destination of Muslim after death (*Jannah* or *Naar*).

***Chapter 3: Risk Management:
Analysis of multiples cases of Al
Baraka Bank and Al Salam
Bank, then the CPA Islamic
banking window***

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

Introduction to Chapter 3

Although the Central Bank of Algeria does not prohibit the establishment of Islamic financial institutions, they must be subject to the law of traditional loan and monetary institutions, and this is the problem of most Islamic banks that grant licenses under the management of usury laws without taking into account suitability standards, whether in accountancy, financial statements, or reserve ratio, cash and refinancing and other requirements, as is the case with Al Baraka Bank of Algeria, which was founded in 1990, and Al Salam Bank of Algeria, which began its activity in 2008.

The establishment of Islamic banking is considered one of the approaches adopted by Algerian banks in their entry into the field of Islamic banking within the framework of the provisions of regulation No.02-2020, which falls within the approaches establishing Islamic windows within traditional agency and departments.

After representing the various concepts related to Islamic Financial Institutions through theoretical study, this study remains incomplete without projection on the empirical side. From a practical standpoint, we will conduct an applied study of the two Islamic banks in Algeria and one of the Islamic windows (of CPA), to see the extent to which the theoretical aspect matches the practical work that we will carry out on the Algerian Islamic financial institutions, as we will present in this study the risk management mechanism by IFIs of Algeria , after Giving a brief overview of the emergence of Islamic banking in Algeria (in section 1), and studying the cases of Al Baraka Bank and Al Salam Bank through an analysis of strategies (in section 2). Finally, we will move on to analyzing Law 20-02 and studying the case of the Islamic banking windows of CPA (in section 3).

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

The Islamic financial and banking system, unlike any other system, has its own framework derived from Shari'ah, which distinguishes it from other systems.

DAHAK Abdenmour

3-1-Growth and Prospect of Islamic banking in Algeria: a state of places

The current section explores a scope on Islamic banking and finance among Algeria, by giving the important steps that emerged its functioning.

3-1-1-First step to the implementation of Islamic banking in Algeria: From legal perspective

Law 10-90 relating to money and credit of 1990 allowed the Algerian banking sector to recover its role as exclusive intermediary in banking operations, to authorize private investors to create banks and financial establishments in the national market and grant them free choice of their customers and products and even the organization¹. Thus, under the terms of this new law, the Algerian banking scene has seen the integration of a new financial model, in this case the Islamic model.

Over time, modifications and additions have been made to Law 10-90 relating to money and credit through other regulations, instructions and even ordinances, the first of which was promulgated in 2001, this is the Order No. 01-01 of February 27, 2001 relating to adjustments mainly affecting the Currency and Credit Council which was therefore divided into two bodies²:

- The board of directors responsible for the management and administration of the Bank of Algeria,
- And the currency and credit council playing the role of monetary authority.

The bankruptcy of two private banks in 2003, namely: EL KHALIFA BANK and the Bank for Commerce and Industry of Algeria (B.C.I.A), pushed the public authorities to seek a new overhaul of the law on currency and credit 10-90 of 1990 by the issuance of Ordinance No. 03-11 of August 26, 2003, for further strengthening and better protection of local financial players as well as public savings.

A third order was decreed in 2010, Order No. 10-04 of August 26, 2010 with a view to broadening the mission of the Bank of Algeria and strengthening that of the currency and credit council in terms of regulation of monetary circulation and credit distribution.

It emerges from this observation that Law 10-90 relating to money and credit, although it authorized, even implicitly, the Islamic banking model in our country and the ordinances of 2001, 2003 and 2010 which constituted the references for the banking activity of the country, have contributed to the improvement of the level of banking, to the proper functioning of the conventional banks of the place, to making the banking sector among the most regulated in the banking world, but none of them did not bring with it, however, the legal and regulatory framework conducive to legitimizing the operation of Islamic banks in our country.

¹Art, 136 of Law 10-90 relating to money and credit, In: <https://www.abef-dz.org/abef/?q=content/la-loi-sur-la-monnaie-et-cr%C3%A9dit-sgg>

²BOUDJELAL, Mohammed. *Islamic finance in Algeria: a new industry serving the national economy*. In: Conference proceedings Islamic transactions windows in Algerian banks in light of international experiences, Algeria: Batna university 01, 2022, p.15-22. [in french]

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

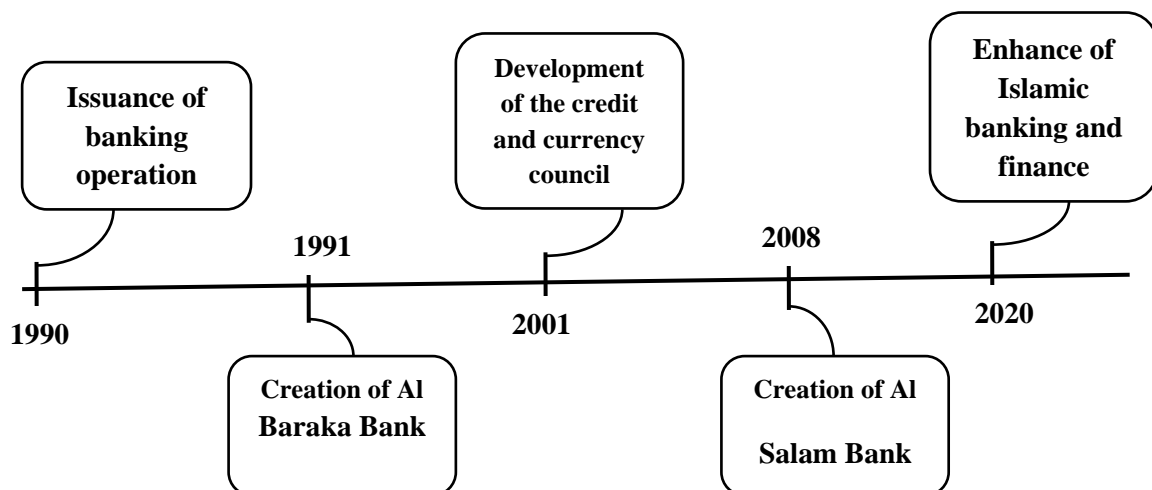
Islamic finance therefore remained on the fringes in Algeria all these decades until the year 2020, although on a practical level, two Islamic banks (Al Baraka Bank created in 1991 and Al Salam Bank created in 2008) were created. In the absence of a clear text that authorizes Islamic banking operations.

Indeed, it was necessary to wait until 2020 for the Algerian legislator to promulgate a first regulation, bearing No. 20-02 of March 15, 2020, which defines banking operations relating to Islamic finance and the conditions of their exercise by banks and financial institutions and sets out the terms and technical characteristics of their implementation. This regulation was followed by Instruction No. 20-03 of April 2, 2020 defining the products relating to Islamic finance and setting the terms and technical characteristics of their implementation by banks and financial institutions.

The great advance in the legislation of banking activity in Algeria was marked by the promulgation of Law No. 23-09 of 3 *Dhou El Hidja* 1444 corresponding to June 21, 2023 relating to monetary and banking law which officially authorized the creation of Islamic banks (public, private or mixed capital). The interest of this law cannot be disputed since regulation 20-02 authorizes the creation of Islamic windows only¹.

We will highlight the most important stage of Islamic banking and finance in figure below.

Figure 1.1: Timeline of Islamic banking and finance in Algeria



Source: Designed by ourselves

3-1-2-History of the establishment and development of Islamic banking in Algeria

Concerning Algeria, Muhammad Nasser referred in his book “The Algerian Press Article” to an article dating back to 1928, calling for the establishment of an Islamic bank operating in Algeria according to the rules of Islamic jurisprudence (*Shari’ah*), and analyzing its content. This article scrutinized an attempt to establish an Islamic bank under the name “The Islamic Bank of Algeria” after its basic law had been prepared and its nominal capital had been collected by some of Algiers’ prominent Muslim entrepreneur, but the French occupation authorities confronted this project and aborted it, The aforementioned article, under the title “Algeria’s need for a private bank,” was written by Sheikh Ibrahim Abu al-Yakadan, and was published in the newspaper “Oued Mizab” in 1928. This

¹BOUDJELAL, Mohammed. *Op.cit.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

article was not published in electronic form until 2013. The project has a strong indication of the circulation of Islamic banking idea in Algeria and the attempt to implement it, but it was aborted by the French occupation authorities, while the usurious banking system was forcefully imposed on the Muslims of Algeria to include them in the capitalist system¹.

3-1-2-1-The first practices of Islamic banking in Algeria

It took three decades later after independence that we saw the liberalization of the Algerian banking sector in 1990 and with it the installation of private capital banks in the national market. And the very first bank established in the national market is the Al Baraka Bank of Algeria, created on May 20, 1991, with mixed capital in equal parts between the Bank of Agriculture and Rural Development (BADR) (public bank) and Al Baraka Banking Group (ABG) in which the headquarters is in Bahrain. It begins properly its banking activities during the month of September 1991. Al Baraka Bank of Algeria is authorized to carry out all banking, financing and investment operations, in accordance with the principles of Islamic Jurisprudence (*Shari'ah*). It will be followed by other banks with foreign private capital operating according to the conventional banking model. The irony of the fate of the Algerian banking centre, second Islamic bank Al Salam Bank-Algeria (ASBA), created in 2008, with foreign capital will constitute the last establishment with private capital to join the list of 11 conventional private banks on the national market already established. At the end of 2020, the two Islamic banks increase their Minimum capital required by the Bank of Algeria, like other banks on the Algerian market, namely 20,000,000,000 DZD².

Currently, the Islamic financial sector includes 19 commercial banks distributed as follow³:

- Six (06) public banks which capture more than 85% of the banking market,
- One (01) bank with a mixed capital public-private (Foreign),
- 12 private banks with foreign capital (including 3 French banks).
- 09 financial institutions.
- 06 representatives Offices.

The political change made since the last presidential election in December 2019 has given new impetus to Islamic finance. The President of the Republic Abdelmadjid TEBBOUNE honoured his commitments during the electoral campaign and therefore called on local banks to open up to Islamic finance, particularly public banks which dominate the market with more than 85% of banking activity.

3-1-2-2-Year of regulation of *shari'ah*-compliant banking operations: 2020

However, the kick-off of this new industry was launched by the Central Bank at the time of the former Governor of the Bank of Algeria Mr. Aïmene Benabderrahmane through the publication of regulation 20-02 of March 15, 2020 defining the banking operations relating to Islamic finance and the conditions for their exercise by banks and financial institutions.

¹DAHAK, Abdennour. The problem of establishing Islamic banking windows in Algerian banks: Between the banking position and the Islamic norm. *Journal of North African Economics*, March 2022, Vol.18, n°28, p.199-222. [published in Arabic].

²BOUDJELAL, Mohammed. *Op.cit.*

³*Ibid.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

The role of the Higher Islamic Council (HCI) was decisive in this process of implementing Islamic finance since it is to this institution that the authorities have entrusted charaic support, as stipulated in article 14 of regulation 20-02. This support is provided through the national charaic authority of Fatwa for the Islamic finance industry (ACN) created on April 1, 2020 within the HCI. The ACN is made up of the Muslim religion (Islam) scholars and high-level experts in Islamic finance.

Intended to strengthen the development of the national economy, this new industry requires a roadmap that the monetary authorities have divided into three (03) strategic axes¹:

a-Consultation with all local stakeholders, including the HCI.

b-A gradual approach starting with the creation of Islamic windows within traditional banks, public or private.

c-Financial inclusion which remains a priority objective for monetary authorities. Islamic finance, the modernization of banks, the relaxation of bureaucratic procedures instituted for decades and the digitalization of the economy remain appropriate means to promote financial inclusion.

3-1-2-3-Looking at the Algerian banking system until January 2021: Analysis

The Bank of Algeria counts nineteen accredited banks in Algeria until January 2021, and the Bank of Algeria lists the names of banks active in the Algerian financial arena, and they are shown in the table below.

Table 1.1: List of approved banks in Algeria until January 2021 and some data related to them

Bank name	Original country Nature of ownership	number of Agencies between 2019 & 2021	Market share 2018	Number of Islamic banking windows opened
External Bank of Algeria (BEA).	Public bank	216	Public Banks represent 87% of the banking market share	-
National Bank of Algeria (BNA).	Public bank	218		Open more than 50 windows
Algerian popular loan (CPA).	Public bank	150		Open more than 100 windows before the end of first semester of 2021
Bank of Agriculture and Rural Development (BADR).	Public bank	327		Open 9 windows, Open 58 windows before the end of September 2021.
Local Development Bank (BDL)	Public bank	160		-
National Savings and Reserve Fund (CNEP)	Public bank	218		-A special agency for Islamic banking. -Open 40

¹BOUDJELAL, Mohammed.Op.cit.

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

				windows in 2021.	
Society General Algeria	French	91	Foreign banks represent 13% of the market share of the Algerian banking sector.		
BNP Paribas Al-Djazair	French	71		-Trying to launch Islamic products since 2014.	
Natixis ALGERIE	French	91		–	
Fransabank Al-Djazair	French	15		–	
CITIBANK	American	01		–	
Arab Banking Corporation Bank – Algeria (ABC)	Bahraini-Algerian	24		–	
TRUST BANK Algeria	Kuwaiti Algerian	35		The total market share of Islamic banks is 3% of the total Algerian banking market.	Open the windows of Islamic banking.
Housing Bank-Algeria	Jordanian Algerian	07			Open windows since 2015.
Algeria Gulf Bank (AGB)	Kuwaiti Algerian	61			-Islamic products since 2017. -Open a window – Al Burraq
Arab Bank PLC-Algeria	Jordanian Algerian	08			–
HSBC Algeria	British	02	–		
Al BARAKA	Bahraini Algerian	32	Islamic Bank		
Al salam Bank Algeria	The UAE	18	Islamic Bank		
A public and foreign Bank	6 public banks 13 foreign banks.	1583	100%		Open 320 windows before the end of 2021.

Source:DAHAK, Abdennour. The problem of establishing Islamic banking windows in Algerian banks: Between the banking position and the Islamic norm. *Journal of North African Economics*, March 2022, Vol.18, n°28, p.199-222. [published in Arabic].*Op.cit.*

It is clear from the table above that the share of Islamic banks in the Algerian banking market is limited and marginal, compared to the dominance of conventional banks with a share of 87%, where the market share of the Foreign Bank of Algeria was the highest, estimated at 26.07%, then the National Bank of Algeria comes with an estimated percentage of 24.37%, followed by the Local Development Bank with an estimated percentage of 8.29%. The private sector owns only 13%, and French banks own an estimated 40%, hence, the total share of Islamic banks does not exceed 3% of the total banking market, according to the Al Baraka Bank of Algeria report for the year 2018, Algeria's total collection of Islamic banks is represented by only two banks; they are Al Baraka Bank of Algeria, which is considered the first banking institution operating within the framework of Islamic *Shari'ah* in Algeria, as it was founded in 1990, A few months after the issuance of the Monetary and Loan Law, which opened the door for the private and foreign sectors to establish banks in Algeria. Then, many years later, a new player came to the Islamic banking sector by establishing Al Salam Bank, the second Islamic bank to enter the Algerian market in 2008.

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

It is also noted from the table above that the number of agencies of the two Islamic banks combined is estimated at 50 agencies spread throughout the Algerian national territory, which is a very weak number compared to the number of agencies of interest-based banks estimated at 1533 agencies throughout the country. If we take the example of Al Baraka Bank of Algeria, which began its activity in the Algerian market about 30 years ago, and was only able to open 32 agencies across the country, This can be attributed to several reasons, including: First, the monetary and loan law is not appropriate to the nature of the work of such banks, Secondly, this can be explained by the relationship of Algerian society with Islamic banking.

3-1-3-Islamic windows in Algeria: between experience and generalization

Regulation No.20-02 defines an Islamic banking window as “a structure within a bank or financial institution charged exclusively with Islamic banking services and products”, The Islamic banking window must be financially independent from other structures of the bank or financial institution.

The idea of Islamic windows in conventional banks in Algeria came as an echo and reaction to the success and acceptance received by the experience of the two Islamic banks, Al Baraka Bank of Algeria (1991) and Al Salam Bank (2008). Some foreign private banks were the initiators of adopting the idea of windows, as they opened windows to provide Islamic banking services, in light of a legislative and regulatory vacuum, except that the Bank of Algeria (the central bank) does not object, on the basis that it offers new products in parallel with its conventional products. The organization of Islamic banking activity within these banks was governed by the private effort of each bank, without an official framework for it. The reaction of conventional banks to the success of the Islamic banking experience was driven by a group of factors, mainly¹:

- Banks do not need the requirements to obtain a new accreditation to practice Islamic banking activity,
- Competition with existing Islamic banks,
- The desire to protect its customers from switching to Islamic banks,
- Enhancing the achieved returns and getting closer to other segments of society.

These initiatives have met with success and steady growth in terms of attracting customers and granting financing, such that in many of these banks, it exceeded 25% of the volume of the bank's activity. In the Algerian Gulf Bank, the percentage of the balance of Islamic financing in the period 2017-2020 ranged between 20%-29%. As for the Housing and Trade Bank, the ratio of the Islamic financing balance to the total financing volume in the period 2017-2020 ranged between 13.12%-19.36%.

The demand for the services of these windows caught the attention of the public authorities, so they decided to circulate these windows to the public banks which dominate the national banking market. There were promises to open these windows before the end of 2017, with the rest to be opened in 2018. But this was not done under the pretext of good preparation for the operation and fear of failure².

¹KEDDI, Abdelmajid. *The general context of the adoption of Islamic windows in conventional banks in Algeria*. In: Conference proceedings Islamic transactions windows in Algerian banks in light of international experiences, Algeria: Batna university 01, 2022, p.31-42. [in Arabic]
²*Ibid.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

3-1-3-1-Results of the issuance of regulation 20-02 on Islamic windows: until august 2022

This system gave a new dynamism to banking, as new financial products were added in parallel with conventional products. This also allowed the number of banking windows to increase and their spread to distant regions. In light of this system, the process of granting licenses to open Islamic windows witnessed rapid growth, moving from 49 licenses at the end of 2020 to 89 licenses at the end of October 2021, that is, in just 10 months. These Islamic windows also contributed to enhancing the spread of banking across the national territory, and made it possible to quickly raise the level of economy banking, as public banks alone, by August 2022, had launched 294 Islamic windows distributed as follow in table below¹.

Table 3.2: Islamic windows and *Shari'ah*-compliance certificates for products, located in conventional banks until August 2022.

The bank		Number of opened Islamic windows	Certificates of compliance for products
Bank of Agriculture and Rural Development	BADR	49	17
External Bank of Algeria	BEA	29	09
National Fund for Savings and Provident	CNEP	50	12
Algerian Popular Loan	CPA	85	15
Local Development Bank	BDL	14	28
National Bank of Algeria	BNA	67	05
Total in public banks		294	81
Housing Bank	[same]	07	10
Gulf Bank Algeria	AGB	59	09
Arab Banking Corporation	ABC	01	15
Total in private banks		67	34
Total		361	115

Source: KEDDI, Abdelmajid. *Op.cit.*

From the table it appears to us that the ability of public banks to mobilize human resources and supervise the activity of these windows varies greatly, and the same applies to their strategy in expanding the products offered. This requires a great training effort and attention to developing Islamic banking professions through training bodies specialized in that. However, on the other hand, we can notice the development referred to above through the case of the Algerian Popular Credit (CPA), which was able, from the launch of the Islamic windows in 2020 until March 31, 2022, to²:

- Open Islamic accounts for private individuals and entrepreneur in various formats: 15665 accounts
- Amounts deposited in accounts in the bank through Islamic windows: 9.984 billion DZD.
- Number of funds granted: 353 funds,
- Amount of funds granted: 218 million DZD.

We point out that with the presence of the two Islamic banks and the nine conventional banks that hold the compliance certificate to open windows for practicing Islamic banking, 58% of the banks, i.e.

¹KEDDI, Abdelmajid. *Op.cit.*

²*Ibid.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

11 out of 19 approved banks until January 2, 2022, practice Islamic banking activity, which means that this activity is heading towards generalization and spread.

In order to rationalize and strengthen Islamic banking in Algeria, the Bank of Algeria (BNA) signed in January 2022 a memorandum of understanding for cooperation and coordination with the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), this is to achieve the adoption of the standards issued by this body, and benefit from capacity building programmes, with Algeria hosting events and activities seeking to enhance awareness of Islamic finance.

In the same endeavour, the Bank of Algeria (BNA) signed in September 2022 a technical assistance contract with the Islamic Development Bank (IDB) aimed at strengthening the legal, regulatory and supervisory framework for Islamic finance in Algeria, In addition to developing monetary policy tools and supervisory techniques compatible with the provisions of Islamic *Shari'ah*, and capacity building in the field of human resources training¹.

3-1-3-2-The Islamic Banking Provisions in the 2023 Monetary and Banking Act

The Algerian Monetary and Banking Act was issued through Law No. 23-09, dated June 21, 2023. This law consists of one hundred and sixty-seven (167) articles distributed across nine (9) sections, encompassing significant amendments within the framework of restructuring and reforming the banking and financial sector in response to major economic and financial transformations and technological challenges².

The Monetary and Banking Act of 2023 introduced a series of new amendments and provisions related to the regulation of Islamic banking, which can be summarised as follows:

A-Emergency Liquidity Assistance

Article 47 of the Monetary and Banking Act of 2023 provides a lifeline for solvent banks that are experiencing a temporary liquidity crisis. The Central Bank of Algeria can provide emergency liquidity to these banks, but only if they meet certain conditions. The bank must be solvent, provide appropriate guarantees, and submit a work plan to restore its liquidity and repay the emergency liquidity³.

B-Exclusive Islamic Banks and Financial Institutions

The Monetary and Banking Act of 2023 opens the door for the establishment of exclusive IBs and IFIs that are fully dedicated to Islamic banking operations. It also allows conventional banks to offer Islamic banking products and services through Islamic windows, provided that these windows are financially, accounting, and administratively independent from the rest of the bank⁴.

¹KEDDI, Abdelmajid. *Op.cit.*

²Monetary and Banking Act, 2023.

³BOUAITA, Abderrezzak and BOUDJELIDA, Abdelhak. *Op.cit.*

⁴*Ibid.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

C-Scope of Islamic banking Operations

According to Article 68 of the Banking and Monetary Act, banking operations include "receiving public funds (...) and banking operations related to Islamic finance"¹. This article does not explicitly specify which banking operations IBs and IFIs can engage in.

Furthermore, Article 71 of the same law defines banking operations related to Islamic finance as "any operation conducted by banks or Islamic windows that comply with *Shari'ah* principles". This expands the range of marketable Islamic financial products and the freedom to conduct any banking operation, provided it is *Shari'ah*-compliant, as opposed to the previous system, which restricted the scope to just eight products and required them to be free from *riba*. The expansion of the scope of Islamic banking operations is expected to lead to the emergence of new Islamic financial instruments and operations².

D-Financing the Banking Deposit Guarantee Fund

Article 134 of the Banking and Monetary Act has provided IBs and Islamic windows with a special privilege when it comes to financing the Banking Deposit Guarantee Fund. The fund has a dedicated separate account for them. Additionally, the calculation and payment of premiums for Islamic banking deposits are handled separately from conventional banks, which is in line with the requirements of *Shari'ah*³.

E-Adapting Monetary Policy Tools to the Characteristics of Islamic Banking

Article 44 of the same law stipulates allows the Bank of Algeria to adapt its monetary policy tools to the specificities of Islamic banking operations. This opens up future prospects for investing excess liquidity in IBs and IFIs away from interest rates.

¹Monetary and Banking Act 2023, *Op.cit*, p. 13, In: <https://www.bank-of-algeria.dz/stoodroa/2023/08/Loi-monetaire-et-bancaire.pdf>

²BOUAITA, Abderrezzak and BOUDJELIDA, Abdelhak. *Op.cit*.

³*Ibid*.

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

3-2-Risk management practices in Algerian Islamic banks: Al-Baraka Bank and Al Salam Bank

Through this section we will find out about the organization of risk management framework within the Algerian Islamic banks, and looking after its dealing with risks.

3-2-1-Risk management practices disclosures in Al Baraka Bank Algeria

First Islamic bank in Algeria with mixed capital (public and private). Al Baraka Bank of Algeria was created on May 20, 1991 with a capital of 500,000,000 DA, increased to 20,000,000,000 DA in 2020¹.

Al Baraka Bank of Algeria is authorized to carry out all banking, financing and investment operations, in accordance with the principles of Islamic *Shari'ah*. It offers its customers, including individuals, professionals and corporate, a wide range of leading banking products in the field of the Islamic financial industry, approved by its Fatwa and *Shari'ah* Committee².

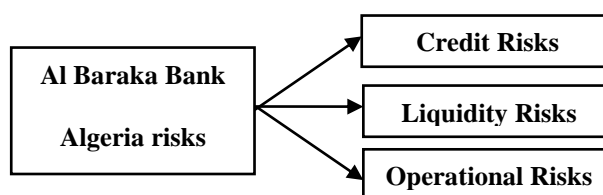
3-2-1-1-Risk management strategy in Al Baraka Bank

For risk management Al Baraka Bank adopts a variety of solutions and procedures stipulated in the articles of contracts in which it deals, and it follows a clear strategy regarding risk management, including³:

- The bank established a risk management directorate;
- Establishing a credit risk management committee;
- Follows a set of procedures when it grants funding to its applicants.

The major risks to which the bank is exposed are classified in the figure below.

Figure 2.1: Major risks that face Al Baraka Bank



Source:HASHLAF, Iman and BAGDALI, Fatima Zahra. *Risk management in Islamic banks: case study of Al Baraka Bank of Algeria, Oran agency*. Academic master thesis. Ibn Khaldoun of Tiaret university, FSEGC, 2019, p.98.

3-2-1-2-Risk mitigation strategy by Al-Baraka Bank

To address the risks, Al Baraka Bank resorts to some solutions and procedures as follow¹:

¹Al Baraka Bank official site, history, In: <https://www.albaraka-bank.dz/historique/>

²*Ibid.*

³BOUNGAB, Moukhtar and BELATRECH, Meriem. The principle of risk management in Islamic banks (A case study of Al Baraka Bank Algeria). *Journal of Economic Papers*, June 2019, Vol.3, No.1, p.42-59.

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

3-2-1-2-1-For credit risk

Regarding the Bank's regulation:

- The bank adopts a binding promise to purchase the contractual risks of the other party that means it requires security deposit, namely *Hamish Jiddiy'ah*.
- According to Article Two of the Bank's regulation, the customer has no right to complain to the bank regarding any defect or error in the goods, and is obligated to accept that.
- Article seven of the Bank's regulation stipulates that the customer is obligated to insure the goods subject of the contract against all risks (insurance policy), while giving the bank the right to take his place in collecting any compensation in the event of any accident.
- According to Article Six of the Bank's regulation, the bank has the right to impose on the procrastinating debtor a late fine on the amount due that is not paid within the agreed upon deadlines in the proportion stipulated in the banking conditions at Al Baraka Bank of Algeria

3-2-1-2-2-For operational risk

The Bank works to manage operational risk through²:

- Continuously training employees to help them properly understand the principles of Islamic banking transactions.
- Establish an internal organization to be able for the discovery of risks and errors automatically.
- Continuous monitoring and preparation of a continuity plan to avoid exposures.
- Reviewing management reports, work reports, and operating plans.
- Developing an operational risk guide that includes clarifications, steps, and methods of operation in each department, such as: ways and how to deal with customers.

3-2-1-2-3-Notes and comments on Al Baraka Bank risk management strategy

We can conclude from the risk management strategy at Al-Baraka Bank Algeria, a set of observations and notes as follow below:

- The bank requires documents from its customers and this is such a risk prevention technique to mitigate the risk of asymmetric information, namely hazard moral and adverse selection.
- The bank requires **Hamish Al-Jiddiy'ah (security deposit)** as measure to mitigate the credit risk (Risk prevention)
- The bank deal with procrastinating debtor with a lateness fee (Risk prevention)
- In some case the bank require an insurance policy for the goods (Risk transfer)

¹BOUNGAB, Moukhtar and BELATRECH, Meriem. *Op.cit.*

²HASHLAF, Iman and BAGDALI, Fatima Zahra. *Op.cit.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

- For operational risk the bank relies on a risk management process which is represented by a set of activities.

3-2-1-3-Al-Baraka Bank requirements for its risks: From financial statements

In this topic we will discuss the way in which Al Baraka Bank manages its risks (Extracts from Annual Report of the bank 2018-2019)¹:

3-2-1-3-1-Presentation of study results

Al Baraka Bank, like other banks, provides several services and is exposed to several risks. In this regard, we will try to present how this bank manages risks.

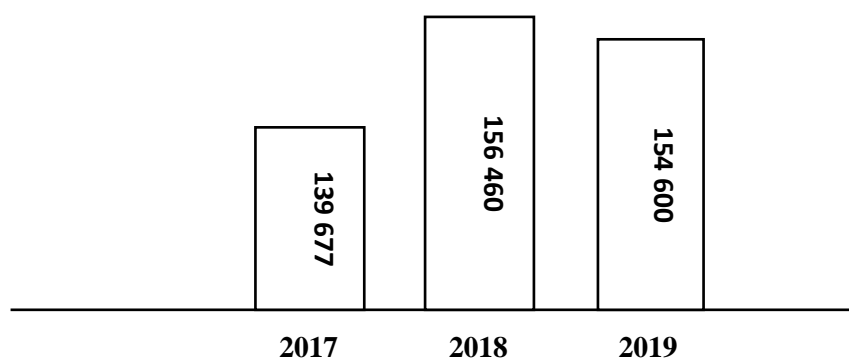
A-Important financial data of Al-Salam Bank

During this regard, we will review the various statements issued by Al-Baraka Bank Algeria in its financial report for the years 2019/2018. Then, we will expose financial data below (Unit is in KDZD):

B-Total of funding

We will expose a financial data (Unit is in KDZD):

Figure 2.2: Funding



Source: Al Baraka Bank report 2018/2019

From the figure above we notice that funding has decreased by 1,860 million Algerian Dinars corresponding to -1% compared to the previous financial year, to reach 154,600 million Algerian Dinars at the end of 2019, thus recording an increase of 14,923 million Algerian Dinars corresponding to +10.68% compared to the 2017 financial year. We can say that the decrease is caused by its reputation risk.

C-Credit risk mitigation measures

We will expose a financial data (Unit is in KDZD):

¹<https://www.albaraka-bank.dz/storage/2021/06/RAPPORT-2019-FR.pdf>

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

Table 2.1: Ordered Guarantees

This item contains the guarantees obtained from customers as part of the financing granted to them by the bank.

Guarantees	2019	2018	Change
From customers	6 121 045	5 899 318	221 727
From financial institutions	231 254	234 207	-2 953
Total	6 352 299	5 899 318	452 981

Source: From Al Baraka Bank report 2022/2023

We notice that the bank requires an important amount of guarantees

D-Liquidity risks mitigation measures

We will expose a financial data (Unit is in KDZD):

Table 2.2: Provisions to cover risks and burdens

Allocations	2019	2018	Change
Provisions for risks and burdens	856 859	749 563	107 563

Source: From Al Baraka Bank report 2022/2023

Also:

Table 2.3: Funds to cover general banking risks

Allocations	2019	2018	Change
Funding for general banking risks	3 612 329	3 431 939	180 390

Source: From Al Baraka Bank report 2022/2023

Also:

Table 2.3: Reserves

Allocations	2019	2018	Change
Reserves	3 968 943	2 157 459	1 811 484

Source: From Al Baraka Bank report 2022/2023

E-Operational risks mitigation measures

We will expose a financial data (Unit is in KDZD):

Table 2.4: Burdens of exploitation

Allocations	2019	2018	Change
General operating expenses	3 516 547	3 270 618	245 929

Source: From Al Baraka Bank report 2022/2023

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

3-2-1-3-2-Results discussions

From the above statements we can say that Al Baraka Bank has a good number of customers, and it requires some risk management techniques.

The bank relies on taking out guarantee from his customers as insurance to his funding which is a technique to prevent the credit risk, in the case of liquidity the bank relies on special allocations and provisions for risks. And for operational risk the bank relies on expenses designated in advance. And the increased from the year 2018 to 2019 can be commented as a sign of evolution of the bank's customer as well as the risks he faces.

3-2-2-Risk Management disclosures in Al-Salam Bank

Universal bank under Algerian law, Al Salam Bank Algeria operates in respect of the moral principles of the Algerian society. It offers *Shari'ah* compatible products certified as compliant by the bank's *Shari'ah* Council¹.

Al Salam Bank Algeria works in accordance with a clear strategy aimed at supporting the economic growth of all sectors of activity in the country; it offers innovative banking services, in order to meet the expectations of the market, customers and shareholders. An alternative bank, Al Salam Bank-Algeria is characterized by its commitment to respecting the principles of *shari'ah* in all its transactions².

3-2-2-1-Organizational structure for risk management

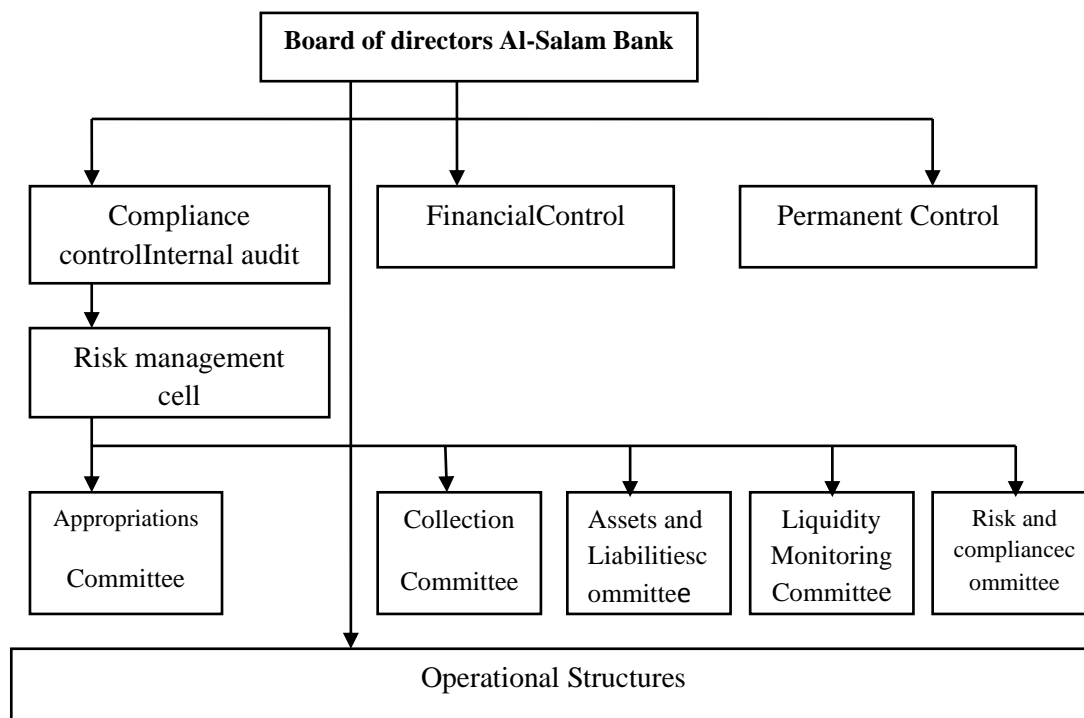
Risk management consists of establishing an internal system, to frame and evaluate the negative impact of internal and external factors related to the Bank's activity on its assets and results at any time. Risk management at Al Salam Bank Algeria is carried out through a group of central structures which is presented in figure 2.1 (Extracts from Annual Report of the bank 2022, p.47):

¹Official site of Al Salam Bank, Home page, In : [A propos de la banque \(alsalamalgeria.com\)](http://alsalamalgeria.com)

²*Ibid.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

Figure 2.3: The organizational structure of risk management at Al Salam Bank Algeria

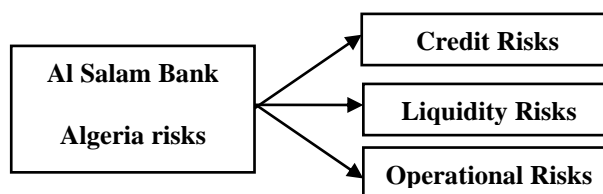


Source:DAHAK, Abdennour. Strategic management of risks for Islamic banks: A reference to the case of Al Salam Bank Algeria. *Forum journal for economics studies and research*, October 2021, Vol.5, No.2, p.65-84.

3-2-2-2-Risk management framework strategy (Extracts from Annual Report of the bank 2022, p.48)¹

“During the year 2017, Al Salam Bank Algeria adopted a set of policies that organize and frame risk management and define the relevant structures and the tasks assigned to them”. The major risks to which the bank is exposed are classified in the figure below.

Figure2.2: Major risks that face Al Salam Bank Algeria



Source: Author’s design from Annual report 2022.

“For the purpose of disclosure to the Board of Directors, the bank also prepares a risk matrix that summarizes the most important risks to which the bank is exposed, measuring indicators of exposure to them and comparing them with the internal standards set by the bank. The matrix is prepared on a quarterly basis. The matrix is presented to the Risk and Compliance Committee for discussion and approval before being presented to the Board of Directors.”

¹[RA2022 \(alsalamalgeria.com\)](https://alsalamalgeria.com) and [Rapport Annuel 2021-AR \(alsalamalgeria.com\)](https://alsalamalgeria.com)

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

3-2-2-2-1-Credit Risks

The credit risk management policy at Al Salam Bank Algeria is generally based on the following principles:

A-Criteria for accepting credit risks

“Customers who submit a financing request to the bank are divided into five categories: individuals, institutions, government agencies, banks and financial institutions”.

“Every financing request received by the bank requires the availability of a set of administrative and financial documents, in addition to information and documents related to the guarantees proposed to cover the required financing”.

“Financing applications are studied and evaluated according to seven main criteria related to the client’s creditworthiness, suitability and financial capabilities, in addition to the quality of the proposed guarantees and economic conditions”.

We could say that this bank in order to accept the credit risk, it first begins to classify its customers, then it works to collect some data from those customers, and finally it reviews the requests and classifies them in terms of acceptance, it suit a risk management process.

B-Internal credit risk assessment system

“The bank has an internal system for assessing institutions that submit financing applications, and it is based on a set of quantitative and qualitative standards. The evaluation of institutions with commitments is reviewed annually or when they submit a new funding request.”

- “The qualitative criteria relate to the legal form of the institution, the quality of its management, the economic sector in which it operates, its relationship with banks and the sources it will rely on to repay the required financing, and they are weighted at 60% of the assessment.”
- “As for the quantitative criteria, they represent 40% and are related to the financial structure of the institution, its liquidity and profitability. The system also allows institutions to be classified into ten sections according to the degree of risk, according to the score obtained.”

C-Division of risk

“The division of risks is represented by not concentrating the financing granted by the bank on one customer or group of customers, or on one economic sector or group of sectors, or on one type of financing.”

“Al Salam Bank Algeria is keen to respect the regulatory standards specified by the Bank of Algeria in this framework, which stipulate that exposure to risks with one client should not exceed 25% of the bank’s own funds and that the total of major exposures (exposures that exceed 10% of The bank's own funds) must not exceed eight times the bank's own funds.”

D-Collecting guarantees

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

“Collecting guarantees is considered one of the means used to reduce credit risks, but it does not replace respecting the conditions for obtaining financing or evaluating the quality of the client who submits the financing request.”

“The bank collects several forms of guarantees, including real guarantees such as real estate mortgages or equipment mortgages, and collateral such as joint guarantees and insurances at insurance funds, in addition to cash guarantees.”

“The obtained guarantees must cover a certain percentage of the financing granted by the bank, and the percentages are determined within the credit risk policy.”

“The guarantees are evaluated by the bank’s expert or by an independent expert approved by the bank. Guarantees are re-evaluated periodically or when exceptional circumstances arise related to the guarantee itself or the market that make it necessary to re-evaluate it in order to ensure its coverage of existing obligations.”

E-Credit risk classification

“Credit risks are classified and its impairment provision is created in accordance with the requirements of the Bank of Algeria System No. 03-14, and the classification of customer receivables and the determination of the levels of impairment provision is decided by the Allocations Committee, which meets quarterly to evaluate the quality of receivables.”

“Defaulted receivables are also followed up on a daily basis by the Defaulted Receivables Follow-up and Collection Party, which is presented weekly to the Collection Committee.”

3-2-2-2-Liquidity risk

“Liquidity risks are linked to the nature of the bank’s activity, which is based on transferring funds within the economic system, as it serves as a mandatory crossing point between various market participants. In this context, the bank uses the resources it collects (on-demand or on-term resources) to establish its uses (on-demand or on-term).”

“This transfer, which is the basis of the bank's activity and the source of its profitability, this might make it to finance long-term uses by relying on short-term resources. In this case, the bank must be able to pay part of its resources when they due, by using its uses. Therefore, the bank's inability to pay its resources and meet its obligations exposes it to what is called liquidity risk.”

“The bank is keen to respect the standards related to liquidity risks specified by the Bank of Algeria, especially the short-term liquidity factor and the factor for private funds and permanent resources. The bank’s internal policy also specifies a set of standards that must be respected, which are mainly represented in the following:

-Maintaining a liquid assets ratio of at least 25% of total assets.

-Maintaining the rate of use of deposits in financing less than 90%.

-Maintaining short-term liquidity transactions for one and three months estimated at least 120% (where the mandatory ratio is estimated at least 100%).

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

-Maintaining the deposit concentration ratio, where the sum of the ten largest deposits should not exceed 30% of the total customer deposits.

-Maintaining a long-term liquidity ratio exceeding 60%.”

“The Treasury and Financial Operations Department monitors daily the bank's liquidity position with the aim of optimal liquidity management in a way that allows the bank to avoid falling into a liquidity crisis or maintain a high level of liquidity, which results in the loss of returns that may result from its employment.”

“Liquidity risks are monitored through the Liquidity Monitoring Committee, which meets monthly, and the Assets and Liabilities Committee, which meets quarterly. Their primary tasks are to follow up and analyze the development of the bank’s resources and uses in order to set goals related to liquidity management and the preventive measures that must be taken.”

3-2-2-2-3-Operational risk

“Operational risks result from inadequacy or shortcomings related to the procedures, employees, and internal systems of the bank, or from the occurrence of external incidents, and they include risks resulting from internal or external fraud.”

“Operational risks are managed at Al Salam Bank Algeria within the framework of the operational risk policy approved during the year 2017. This policy defines the general framework for operational risks, the organization of its management, and the responsibilities of the various bank structures concerned with that.”

“The bank prepared a risk map by activity, which monitored about 60 activities grouped into six major professions (management, support, commitments, local operations, international operations and information technology). During 2019, a database of incidents related to operational risks was also established and an operational risk management program was approved.”

3-2-2-2-4-Notes & comments on Al Salam Bank Risk management Strategy

We can conclude from the risk management system at Al-Salam Bank Algeria, a set of observations and notes as follow below:

-This bank adopts a risk management process dealing its exposures, it also adopt a set of quantative and qualitative standards, while the bank pay more attention to the qualitative criteria with 60% of assessment than the qualitative with the 40% of the assessment.

-The bank requires documents from its customers and this is such a risk prevention technique to mitigate the risk of asymmetric information, namely hazard moral and adverse selection.

-The bank operates under the regulatory standards specified by the bank of Algeria (BNA).

-For credit risk the exposure with one client should not exceed 25% of the banks and the total of major exposures.

-The bank reduces credit risk through multiple means and collecting guarantee is one of them. Hence the guarantees have several forms as follow:

- Real guarantees: include real estate mortgages and equipments mortgages;

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

- Collateral: include joint guarantee and insurance at insurance fund;
- Cash guarantees.

-Guarantees coverage ratio for financing are determined within the adopted credit risk policy.

-Guarantees are submit to a permanent assessment.

-The bank follows the requirements of the bank of Algeria (BNA) system No.03-14 on its credit classification.

-For liquidity risk this bank follows the standards specified by the Bank of Algeria (BNA).

-The internal policy of the bank specifies a set of Standards for liquidity Risk.

-The liquidity of this bank is submitted to a permanent monitoring by the Treasury and Financial Operations Department.

-Maintaining a high level of liquidity may conduct to a loss of returns that may result from its employment.

-The liquidity Monitoring Committee and Asset & Liabilities Committee are responsible about liquidity management and the preventive measures that must be taken.

-Operational risks are managed at this bank within the framework of the operational risk policy approved during the year of 2017.

-The bank prepares a risk map by activity; this can be considered as risk prevention technique.

-The bank establishes a database of incidents related to operational risks and this can be considered as risk prevention technique.

3-2-2-3-Al-Salam Bank requirements for its risks: From financial statements

In this topic we will discuss the way in which Al-Salam Bank manages its risks (Extracts from Annual Report of the bank 2022-2021):

3-2-2-3-1-Presentation of study results

Al Salam Bank, like other banks, provides several services and is exposed to several risks. In this regard, we will try to present the most important financing options in addition to how to manage risks.

3-2-2-3-1-1-Important financial data of Al-Salam Bank

During this regard, we will review the various statements issued by Al-Salam Bank-Algeria in its financial report for the years 2021/2022. Then, we will expose financial data below (Unit is in KDZD):

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

A-Funding according to the economic operator

Table 2.5: Shows the financings according to the economic operator

The economic operator	2022	2021
Individuals	17 633 660	18 472 772

Source: From Al-Salam Bank report 2021/2022

The table above represents the number of individuals dealing with Al-Salam Bank, and we could say that it has a good number of users.

B-Funding according to the financing form

Table 2.6: Shows the financings according to the financing form

Financing forms	2022	2021	Percentage of change
Exploitation financing	136 020 576	115 967 825	17%
Investment financing	16 760 405	13 950 009	20%
Leasing movable Assets	11 327 318	10 599 263	7%
Real estate leasing	3 344 835	2 796 509	20%
Debit current accounts	356 523	257 399	39%
Real estate financing	6 495 525	5 493 417	18%
Consumer financing	5 887 396	9 028 744	-35%
TOTAL	180 192 578	158 093 166	14%

Source: From Bank Al-Salam Report 2021/2022

We note from the table above that the value of financing increased from 2021 to 2022, as for consumer financing we note that it has decreased in 2022.

The table above also shows that Al-Salam Bank added other financing forms since recent years, which contributed to raising the value of the bank in order to attract new customers.

C-Funding according to the portfolio quality

Table 2.7: Shows the total financings

Quality of portfolio	2022	2021
Total funding	180 192 578	158 093 166
Current funding	170 917 560	151 477 028
-Including receivables that are overdue for less than 90 days	1 946 102	1 284 328
Classified funding	9 275 018	6 161 138
-Funding with possible risk	735 723	270 828
-Funding with high risk	2 009 368	1 166 617
-Non-performing funding	6 529 927	5 178 693
Allowance for impairment	5 657 981	4 477 256

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

-Provision for funding with possible risks	72 535	34 783
-Provision for funding with high risk	627 599	254 232
-Provision for non-performing funding	4 957 847	4 188 241
Percentage of overdue funding	1.1%	0.8%
Percentage of classified funding	5.2%	4.2%
Percentage of coverage of classified funding	61%	67%

Source: From Al-Salam Bank Report 2021/2022

From the table above we notice that the percentage of overdue funding increased from 2021 to 2022 but with lesser percentage, that it to say it didn't increase highly. And the decreased notified from 2021 to 2022 means that the level of credit risk in 2021 was lesser than in 2022.

We notice that Bank Al-Salam monitors its credit risk, as it has set a provision to mitigate the risk of classified funding, and the coverage rate for these risks is 68% and 61% in both year of 2021 and 2022 respectively, we could say that it is a good ratio because it exceed 50%.

3-2-2-3-2-Al-Salam Bank risk mitigation measure/instrument

Through this regard we will present the measure/instrument that Al-Salam Bank refers to in dealing its exposures.

A-Al-Salam Bank's mechanism for confronting credit risks

We will expose financial data (Unit is in KDZD):

Table 2.1: Financing commitments granted

2022	2021	Change	percentage
91 148 449	71 467 118	19 681 331	28%

Source: From Al-Salam Bank Report 2021/2022

Also:

Table 2.8: Financing obligations for the benefit of customers

This item includes the obligations granted to customers as shown in the following table

Type of obligations	2022	2021	Percentage of change
Letters of credit	28 861 266	27 567 446	5%
Unused Financing Commitments	47 274 386	34 152 167	38%
Total	76 135 652	61 719 613	23%

Source: From Al-Salam Bank Report 2021/2022

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

Also:

Table 2.9: Warranty obligations by order of customers

Type of obligations	2022	2021	Percentage of change
Transactions guarantee of letters	11 981 328	8 501 267	41%
Administrative letters of guarantee	1 238 571	1 070 269	16%
Customs letters of guarantee	1 114 640	147 469	535%
Other letters of guarantee	65 500	500	13 000%
Total	14 400 039	9 747 505	48%

Source: From Al-Salam Bank Report 2021/2022

Also:

Table 2.10: Guarantee obligations obtained from financial bodies

This item includes consideration for guarantees obtained from banks to cover financing granted to the bank's customers.

Types of obligations	2022	2021	Percentage of change
For guarantees to cover credits letters	5 220 434	5 111 449	2%
For guarantees of good implementation	1 467 688	1 793 665	-12%
For submission guarantees	1 232 081	502 686	-96%
For guarantees of refunding advances	20 306	436 227	182%
Total	7 940 509	7 844 027	1%

Source: From Al-Salam Bank Report 2021/2022

Also:

Table 2.11: Other obtained obligation

This item contains the guarantees obtained from customers as part of the financing granted to them by the bank.

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

Types of obligations	2022	2021	Percentage of change
Personal guarantee and reserve guarantee	204 290 949	156 609 479	30%
Mortgages	151 649 637	109 727 990	38%
Insurance against payment risk	51 043 377	32 569 411	57%
Investment bond mortgages	35 766 196	24 210 596	48%
Car mortgages	20 204 179	24 164 514	16%
Total	462 954 388	347 281 990	33%

Source: From Al-Salam Bank Report 2021/2022

Also:

Table 2.12: Occupied real estate

This item includes real estate assets that the bank owns for the purpose of leasing them or appreciating capital, and it may own them as part of operations to collect defaulted customers' financing instalments through payment contracts.

2022	2021	Change	Percentage
1 373 178	1 420 913	-47 735	-3%

Source: Al-Salam Bank Report

B-Al-Salam Bank's mechanism for confronting liquidity risks

We will expose financial data (Unit is in KDZD):

Table 2.13: Provisions to cover risks and burdens

2022	2021	Change	Percentage
514 730	444 888	69 842	16%

Source: From Al-Salam Bank Report 2021/2022

Also:

And this item consists of the following provisions:

Items	2022	2021	Percentage of change
Provisions to cover classified off-balance sheet obligations	294 360	217 562	35%
Provisions to cover risks and burdens	220 370	227 326	-3%
Total	514 730	444 888	16%

Source: From Al-Salam Bank Report 2021/2022

Also:

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

This item includes provisions of a reserve nature that are formed in accordance with Article No. 09 of Regulation No. 03-14 related to the classification of receivables and signature obligations to banks and financial institutions and the formation of provisions for them, as they are calculated on the balance of current financing (unclassified) at a rate of 1% annually until their total level reaches 3% of the total balance of current receivables.

Table 2.14: Funds to cover general banking risks

2022	2021	Change	Percentage
2 136 675	1 986 519	150 156	8%

Source: From Al-Salam Bank Report 2021/2022

Also:

Table 2.15: Reserves

2022	2021	Change	Percentage
2 920 035	3 874 230	-954 194	-25%

Source: From Al-Salam Bank Report 2021/2022

This item includes the legal reserve, which is formed in accordance with the commercial law and the basic law of the bank, and the optional reserve, which is formed in accordance with the decision of the general assembly of shareholders. The decrease in the balance of reserves is due to the distribution of profits to shareholders.

Items	2022	2021	Percentage of change
Legal Reserves	1 951 344	1 612 422	21%
Optional Reserves	968 691	2 261 808	57%
Total	2 920 035	3 874 230	25%

Source: From Al-Salam Bank Report 2021/2022

C-Al-Salam Bank's mechanism for confronting operational risk

We will expose financial data (Unit is in KDZD):

Table 2.16: Burdens of exploitation

2022	2021	Change	Percentage
3 334 732	2 911 839	422 893	15%

Source: From Al-Salam Bank Report 2021/2022

This item consists of the elements shown in the following table:

Items	2022	2021	Percentage of change
Employees expenses	2 071 321	1 753 509	30%
Services	816 403	783 509	38%
Taxes and fees	224 686	244 915	57%
Various expenses	222 322	130 325	48%
Total	3 334 732	2 911 839	16%

Source: From Al-Salam Bank Report 2021/2022

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

General operating expenses represent 30% of the bank's output for the year 2022, and employee expenses represent 62% of these total expenses.

3-2-2-3-2-Results Discussions

Al-Salam Bank offers several facilities, where the bank's portfolio is distributed between short and medium-term facilities and indirect obligations, On the other hand, the Finance Directorate includes a department for economic studies that focuses on market studies and accordingly identifies sectors of activity that can be quantified. The development of some economic sectors also allows the bank to set credit limits according to the sector of activity.

Al Salam Bank, in exchange for the facilities granted, requires customers to provide guarantees which are financial guarantees, mortgages, and cash insurances, hence it is worth noting that real guarantees are subject to approval by the legal Affairs Department and are followed up by the Finance Department.

Through the results obtained previously, we note that Al Salam Bank-Algeria faces three types of risks: credit risk, liquidity risk, and operational risk. We will discuss the results briefly as follow:

A-Regarding credit risk

The total funds granted in 2022 were greater than those granted during 2021, this indicates that the bank's customers are constantly increasing, thus its activity is expanding, which increases the possibility of exposure to risks on the one hand, and on the other hand, increases the bank's profits. The results of its mechanism was all perfect , only for occupied real estate, the decrease in the balance of this item is due to the decrease in these occupied real estate during the year 2022 compared to the year 2021.

B-Regarding liquidity risk

Regarding liquidity risks, we can say that Al Baraka Bank has not previously been exposed to a deficit in meeting its obligations due to its large retention to Short-term financing.

As for liquidity risks, the bank is working to manage them according to a set of mechanisms, which are the formation of provisions and reserves, as we note that the total provisions for 2022 were higher compared to the year 2021, this indicates that the bank was not exposed to risks that include non-compliance with future promises that fall within the 2023 budget plans, this also applies to the provisions prepared to cover general expenses, as the total for the year 2022 was higher than the total in the year 2021, which is a good position for the bank. This also applies to the reserves, which allows the bank to face any risk it may face in liquidity.

C-Regarding operational risk

As for operational risks, we note that the total in 2022 was higher than the total in 2016, and this indicates that the bank controls its operational risks.

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

3-3-Risk Management practices in Islamic banking windows in Algeria: CPA case

Through this section we will rely on analysing a legal text relating to the Islamic banking in Algeria and give out a disclosures related to risk management, and discuss of a *Murabahah* simulation of Islamic banking window of Credit Popular Algeria (CPA).

3-3-1-Disclosures from legal text: Regulation 2018 and 2020

Through this title we will discuss the disclosures of both systems, hence, give attention to the instruction 20-03, and then we will comment and conclude with regard to risk management.

3-3-1-1-The regulations 18-02: This system includes the rules for practicing banking operations related to participatory banking which does not give rise to the collection or payment of interest, and the most important aspects of the system are the following¹:

- Including the forms of receiving deposits and participatory financing within the banking operations stipulated in the Monetary and Loan Law, while recognizing their legal specificity, and listing the products of *Murabahah*, *Musharakah*, *Mudarabah*, *Ijarah*, *Istisnaa*, Salam, and investment deposits, as examples.
- The marketing of these products is subject to prior authorization from the Bank of Algeria.
- The possibility of requesting a certificate of *Shari'ah* conformity from the national body qualified for this purpose.
- Customers must be notified of minimum and maximum prices and conditions.
- The possibility of practicing participatory banking through specialized windows in traditional banks, provided that the two activities are completely separated.
- Financial independence and accounting separation of these windows which practicing a participatory finance.
- Investment deposits are not subject to the bank deposit guarantee system.
- Looking for a certification of compliance with *Shari'ah* by banks and financial institutions is optional, that is to say it is not obligatory.
- In addition to the provisions of these regulations and unless otherwise stipulated, participatory finance products are governed by all legal and regulatory provisions relating to banks and financial institutions, thus we could say these windows of participatory finance are subject to the same framework of risk management as the bank or the financial institution.

3-3-1-2-The regulation 20-02: This system replaces Regulation 18-02 dated November 4, 2018, incorporating most of its provisions and including the following additions²:

- Giving the Islamic description to processes that were previously called participatory

¹Regulation 18-02, In: <https://droit.mjustice.dz/sites/default/files/Loi-organique-n%C2%B0-18-02.pdf>

² Regulation 20-02, In: <https://www.bank-of-algeria.dz/reglement>

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

- Including the same formulas of *Murabahah*, *Musharakah*, *Mudarabah*, *Ijarah*, *Istisnaa*, Salam and investment deposits within the banking operations stipulated in the Money and Loan Law, but as a matter of limitation.
- A certificate of *Shari'ah* compliance must be requested from the National Authority for Fatwa before requesting a license from the Bank of Algeria.
- It is necessary to establish a *Shari'ah* supervisory body appointed by the General Assembly of Shareholders to monitor the compliance of products with the *Shari'ah* rules.
- There must be complete procedural, structural and accounting separation between the Islamic banking window and the rest of the activities of conventional banks.
- Investment deposits are not subject to the bank deposit guarantee system and referral to a special system that has not yet been issued

3-3-1-3-The instruction 20-03: These are the instructions that define the financing and deposit formulas stipulated in Regulation No. 02-20, and indicate how to apply them and their *Shari'ah* requirements¹. They are generally inspired by the *Shari'ah* standards of the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI)².

With these regulatory texts, we could say that Islamic banking transactions now have their own regulatory framework that requires respect for the *Shari'ah* rules related to this activity; hence Islamic finance was highlighted in Algerian Banks in accordance with its own regulations and instructions, but still has a gap. The nature of risk management within these Islamic banking windows can be summarized in the following points:

- In the content of this regulation there is not really a particular explanation of the risk management specific to these Islamic finance products.
- In the content of this regulation there is no specification about the separation of the risk management organization between the windows and its whole institutions
- These regulation did not address the ethical aspect of Islamic financial transactions.
- According to the article 22 of regulation 02-2020 we can say that the framework of risk management within Islamic banking is subject to the same framework as the Bank of Algeria.
- The necessity to establish a *Shari'ah* supervisory body (SSB) within every institution that includes Islamic financial products may be considered as a risk management technique for the avoidance of *Shari'ah* non-compliance risk, namely risk avoidance technique by the request certificates from *Shari'ah* Authority for Fatwa body. Hence, it also leads to prevention against reputational risk.
- About credit risk, Islamic financial system relies on guarantees which can be considered as risk prevention technique.

¹ Instruction 20-03. In: <https://www.bank-of-algeria.dz/reglement>

² The official website of the bank of Algeria, regulatory and legislative framework. In: <https://www.bank-of-algeria.dz/>

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

-The separation between the Islamic banking window and the rest of the activities of conventional bank can also be a technique of risk management for *Shari'ah* non-compliance risk, namely risk avoidance.

3-3-2-Murabahah model of CPA Islamic banking window: a case study

Murabahah for purchase orderer (MPO) is considered as a new and developed financing formula for simple *Murabahah* and a form of trust sales carried out by Islamic banks and Islamic windows of conventional banks, which mediate between sellers and the buying seekers¹.

3-3-2-1-Understanding Murabahah for purchase orderer (MPO)

MPO, or as pronounced in Arabic: *Al Murabahah lil aamer bil shiraa*. *Murabahah* is selling a commodity as per the purchasing price with a defined and agreed profit mark-up. This mark-up may be a percentage of the selling price or a lump sum. This transaction may be concluded either without a prior promise to buy, in which case it is called an ordinary *Murabahah*, or with a prior promise to buy submitted by a person interested in acquiring goods through the institution, in which case it is called a "banking *Murabahah*," i.e., MPO. This transaction is one of the trust-based contracts that depend on transparency as to the actual purchasing price or cost price in addition to common expenses².

According to Al-Salam Bank MPO is defined as the process of the bank purchasing movable or immovable assets with specific characteristics based on the customer's request and promise to buy them and then reselling them on a *Murabahah* basis after owning and receiving them at a price that includes the cost plus a margin of profit promised by the customer³.

Through these definitions we could say that:

-The parties of the *Murabahah* for purchase orderer (MPO) are three: the purchaser or the customer; the bank and the seller from whom the bank buys what the customer requests from it.

-The process is carried out according to a contract which includes that the bank obtaining the price of the goods plus their costs and the agreed upon profit mark-up, whether its payment is immediate or deferred, in exchange for its purchase of a specific commodity based on the customer's request.

-The *Murabahah* for purchase orderer (MPO) does not enter the ownership of the seller (the bank) except after requesting it from the person ordering it and before concluding the contract, so that he buys it according to the agreement in his favour while retaining his right to a certain agreed-upon profit (mark-up)⁴.

-The MPO includes two promises; the first is a promise from the customer to the bank to buy the goods from him according to the agreed upon specifications, and the second is a promise from the bank to the customer to acquire them according to the specifications and sell them to him⁵.

-This formula of *Murabahah* has two forms, which are¹:

¹ HADERBASH, Lamia. Murabaha for purchase orderer under regulation 20-02 and instruction 2020-03. *Journal of Legal and Political Thought*, May 2023, Vol.7, No.1, p.776-797.

²HARON, Mohamad S and al. Reputation Risk and its Impact on the Islamic Banks: Case of the Murabahah. *International Journal of Economics and Financial Issues*, 2015, Vol.5, No.4, p.854-859.

³ Al-Salam Bank official website.

⁴HADERBASH, Lamia. *Op.cit.*

⁵*Ibid.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

- *Murabahah* for purchase orderer with binding to promise;
- *Murabahah* for purchase orderer with not binding to promise.

3-3-2-2-Real estate *Murabahah* simulation case from CPA Islamic windows

In the following table we will present an example of *Murabahah* simulation from the CPA Islamic windows (See Appendix 2):

Table 3.1: *Murabahah* simulation from CPA

Real estate <i>Murabahah</i> simulation	
Name of requester	
First name of requester	
Date of birth	24/12/1990
Requester income	52 000, 00
BNA saver beneficiary	Saver
Name of Co-requester	
First name of Co-requester	
Date of birth of Co-requester	
Cost of the good	6 000 000, 00
Hamish Jiddiy'ah (Security deposit)	2 450 000, 00
Duration (months)	480

Source: CPA financial institutions post Islamic windows

A-Simulation description

-This simulation indicates that there is a purchase orderer (requester).

-Also it indicates that there is a conclusion of a promise to purchase.

-So, the bank proceeds to purchase the good and get the ownership.

-It sounds a *Murabahah* for purchase orderer (MPO) because there is a binding to promise which is *Hamish Jiddiy'ah*, in other word a banking *Murabahah* transaction.

-From this simulation we see that this client is an employee and a saver (healthy sign), moreover he has put in place a promise of commitment (*Hamish Jiddiy'ah*). That means he is capable to pay the amount of the goods plus an upon agreed profit mark-up.

B-Risk exposure of CPA Islamic window

Holding inventory of acquired goods in the event that the customer fails/cancel the purchases, thus we can consider it as **credit risk**.

C-Risk mitigation measure of CPA Islamic window

Islamic banking requires **Hamish Jiddiy'ah (security deposit)** as measure to mitigate the risk that may arise from this *Murabahah* banking (MPO).

This is what the Algerian project adopted in Article 11 of the instruction No.20-03 mentioned above, saying: "In the case of *Murabahah* contract for the purchase orderer, the bank or financial institution

¹HARON, Mohamad S and al. *Op.cit.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

may require, before purchasing the commodity designated by the purchase orderer, that the latter sign a pledge to purchase the specific commodity from the orderer”¹. This can be considered a type of **risk management techniques**, namely **risk prevention**.

This technique was clarified through Article 12 of the instruction No.20-03 mentioned above, saying: “The bank or financial institution can require the purchase orderer to make a security deposit called the *Hamish Al-jiddiy’ah*”².

Through this context it is a matter to explain this process of risk mitigation as follow below:

-The purchase orderer can recover the entire security deposit immediately after concluding the *Murabahah* contract, or use it as a discount from the selling price.

-In the case that the bank or financial institution does not respect its binding, the purchase orderer will return the security deposit.

-The bank or the financial institution can also deduct from the amount of the security deposit any amount that represents the actual damage which incurred as a result of the purchase orderer’s failure to honor the promise.

D-Results of the simulation

Then it is a matter to show and present the simulation results from CPA Islamic windows in the table below:

Table 3.2: Results of *Murabahah* simulation from CPA

Results of the real estate <i>Murabahah</i> simulation	
Amount financing granted by the bank	3 550 000,00
Hamish Al-jiddiy’ah (security deposit) rate	40,83%
Duration (months)	480
Profit mark-up rate	6,50%
Profit mark-up	6 425 673,00
Management commission in DZD	21 122,50
Mansuality	20 784,00
Total Mansuality in DZD	20 784,00
Final status of the financing request	Request Accepted

Source: CPA financial institutions post Islamic windows

Results discussion

-Through this results (3 550 000, 00 DZD) we highlight that the client use his security deposit (2 450 000, 00 DZD) as a discount from the selling price (6 000 000, 00 DZD).

-The purchase orderer (client) was bound by his promise to the bank to reward him with a profit mark-up which estimated at 425 673, 00 DZD.

-The Mansuality indicate that the client pays for the goods on an instalment which is estimated at 20 784, 00 DZD, and the payment is made through his salary which is estimated at 52 000, 00 DZD.

¹ Instruction 20-03. *Op.cit.*

²Instruction 20-03. *Op.cit.*

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

-The request is accepted which indicates the conclusion of a *Murabahah* contract for the purchase orderer.

- We notice that this simulation is not rational, so we give the reason in the table below.

Table 2.1: signs of violating *Shari'ah* rules

Signs of non-compliance with <i>Shari'ah</i>
1 -Real estate <i>Murabahah</i> product is offered by the Islamic finance window of the CPA (mixing of funds).
2 -Requirement of <i>hamich al jiddiy'ah</i> (guarantee) with a rate of 40.83% (very high condition and rate).
3 -Total cost to be paid at the end of 480 months is equal to 3 996 795,5 DZD (total cost is much higher than the initial cost of the property)
4 -Profit mark-up rate 6.5% (interest principle) is increased by the fee of the management commission.
5 -The amount of financing granted by the bank 3,550,000.00 represents only half of the initial cost of the property.

Source: Established by ourselves

From this simulation we can say that this banking window is subject to *Shari'ah* non-compliance and this is the same for all Islamic banking windows of Algeria as they are all regulated under the law 02-2020.

Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window

Conclusion to Chapter 3

In our research we suit a multiples case of qualitative study, so we are about to give a summary of comparison on risk management strategy practices among the chosen case as follow below:

Table 3: Comparison on risk management strategy practices in IFIs among Algeria

Algeria's IFIs	Risk management specificities	
	Risk management strategy	Technique
Al Baraka Bank	<ul style="list-style-type: none"> - Approved by its Fatwa and <i>Shari'ah</i> Committee. - Requires <i>Hamish Al-Jiddiy'ah</i> , thus there is a binding to purchase promise - Requires Lateness Fee - Requires Insurance policy - Sets up an operational Risk management process by training employees, establish an internal organization, developing a guide - Rely on guarantees, Allocations, Reserves in mitigating the risk 	<ul style="list-style-type: none"> - Risk avoidance - Risk prevention - Risk transfer
Al Salam Bank	<ul style="list-style-type: none"> - Certified by the bank's <i>Shari'ah</i> Council - Adopts a Risk Management process for its risk - Requires documents from its customers - Operates under the regulatory standards specified by the BNA. - Requires Guarantees: Reel Guarantees, Collateral, and Cash Guarantees. - Guarantee are submitted to a permanent assessment - Follows the BNA standards for his liquidity - Sets up an operational risk management process by preparing a map of activity and database incidents. - Rely on guarantees, Allocations, Reserves in mitigating the risk 	<ul style="list-style-type: none"> - Risk avoidance - Risk prevention
Credit Popular Algeria (CPA) Islamic banking windows	<ul style="list-style-type: none"> - Certified by the bank's <i>Shari'ah</i> Council - Requires <i>Hamish Al-Jiddiy'ah</i>, thus there is a binding to purchase promise. - Requires a management Commission 	<ul style="list-style-type: none"> - Risk avoidance - Risk prevention
Specificities	<p><i>Hamish Al-Jiddiyah</i> and; the binding to purchase promise, and; <i>Shari'ah</i>-Compliance certificate</p>	

Source: Established by ourselves

*General
Conclusion*

General conclusion

Basically, this is the first time you have done serious and rigorous scientific work, and it is an experience that matter.

Umberto Eco

For the proper functioning of Islamic financial institutions, risk management plays a fundamental role because it ensure their survival, and Risk managements practices are put in place in an effort to eradicate, reduce, and manage risk, and to increase the benefits of while avoiding the harm associated with taking risk (risk culture). It is the avoidance of risky activities or when the risk cannot be avoided, transferring the risk to a third party. However, in terms of the risk management process, IFIs are similar to CFIs. Hence, through our research work, we have tried to present the different aspects related to risk management framework in light of Islamic finance system.

Acknowledgment the need for sound risk management and corresponding comprehensive risk management framework in IFIs, we shed light on IFSB body which introduced risk guidelines for IFIs to accommodate the needs of these institutions; it is a set of principles for managing each type of risk. Also the SSB has a core place in this framework as it is required to screening to exclude *Riba-Gharar*, and *Maysir* based-transactions, and the role of this body is to reduce exposure to risk to a level that considered being appropriate. The SSB emphasizes justice, ethics, and accountability as the AAOIFI. Unlike CFIs, however, IFIs must ensure that as the framework develops, all the tools used are in line with the requirements of *Shari'ah*. Therefore we conclude that the most important point is the adherence to *Shari'ah*, because if it contradicts the *Shari'ah* then it is no more an IFI.

We notice that Islamic banking and finance in Algeria operate within the framework of the laws and regulations of the Central Bank of Algeria (BNA) which make the Islamic banking institutions in difficulty to face rapid changes in the business environment, especially for Risk Management. The provisions of Regulation No. 20-02 specifying banking operations related to Islamic banking and the rules for their practice by financial banks are considered incomplete and insufficient from the perspective of Islamic economics. For risks, we notice that credit risks, liquidity risk and operational risk is the most common among Islamic banking institutions in Algeria, but in-depth we think that *Shari'ah* non-compliance risk is hidden by these institutions.

This study therefore allowed us to achieve our specific research objectives which was identified from the problematic of research also the sub-questions, as follow:

The first specific objective was achieved by using a documentary research through deduction and descriptive analysis, and the answer to this objective is linked to chapter 1 and chapter 2.

- The first important conclusion in relation to the first objective, shows that the term risk found its origin in Arabic literature in the *Qur'an* "*rizq*" assuming that it is unique because it means the risk of profit, of favourable consequence (granted by Allah), and we think it sounds more useful as the *rizq* is originally comes from Allah's fate, so we can conclude that from *Qur'anic* meaning there is no *rizq* without taking a risk, and in business field the entrepreneur should relate the outcomes along taking risk to Allah's fate.
- The second conclusion shows that the Islamic financial institutions do face shared risk with the conventional institutions but only in type while it is different in content, for example, the

operational risk of IFIs is specific in CFIs. It is also noted that the IFIs do face a unique risks because of its based-principles and its products. And we think that the IFIs is more riskier than CFIs as it requires a high quality of human resource and sensitive carefulness and needs a unique regulatory framework regarding his unique specificities in financial sector.

The second specific objective was set to investigate what the risk mitigation technique used in both Islamic and conventional banking system, the answer was found with the help of collecting information through theoretical background and a review of literature. The achieving of this objective is linked to the two chapter of theoretical framework 01 and 02.

- The first important conclusion, in relation to the second objective shows that the both systems rely on same strategy of risk management exactly for the risk decomposition and risk aggregation, also the collecting of guarantee but IFIs apply it in parallel with *Shari'ah*. Also for risk management technique they are subject to the same techniques, namely risk prevention, risk avoidance, risk transfer, and risk absorption. For the financial strategy like the Basel accord we think that it is not useful for IFIs as it was created at first for the CFIs.
- The second conclusion shows that risk management in IFIs is very complicated because it cannot simply replicate the established practices of CFIs. However, there were some practitioners who suggested the link of Basel II to the case of Islamic banking, and others who criticize the Basel III and concluded a several challenges along the adopting of Basel requirements. The AAOIFI and IFSB were the serious attempts that had been made-up to develop a better risk management framework that addresses the risk profile of Islamic banking and finance, hence, the SSB.

The third specific objective is linked to the sub-question 2 and 3, and the achieving of the objective finds out in chapter 3 with linkage to chapter 1 and 2. And the answer to this objective is made by conducting a content analysis through annual reports of the two Islamic banks of Algeria and an Islamic window of CPA, also a legal text of Algerian regulatory framework.

- The first important conclusion shows that the Algerian government was late in adopting the Islamic financial industry, and when it is adopted it was for a worst intention which is to attract new capital to finance economy, attracting a segment of savers and entrepreneurs who want to deal in parallel to *Shari'ah*. It is also noted that the conventional banking system dominate the market with high share percentage. Also opening Islamic banking windows in CBs is a failed system due to the mixing of legitimate funds with ill-gotten funds.
- The second conclusion shows that Al Baraka bank, Al Salam bank and the CPA Islamic banking window mostly rely on collecting guarantees from the customers, and we think it sounds a traditional strategy as it is practiced by the CBs. Also they require a binding to purchase promise which is not imposed from the *fiqh*. Also they certificate their products from a *Shari'ah* council, note that there is a lack of transparency on *Sharia'ah* non-compliance disclosures in the annual reports of IBs . These specificities sounds less sufficient and the risk management still have gaps.
- Finally we think that specificity lies in the adoption of standards such as (IFSB and AAOIFI) and the creation of a specialized fatwa body for Islamic finance in each country. Also launched serious training for human resources on Islamic economics and Islamic finance. And most importantly separate globally the system of Islamic finance from the conventional one in each country.

We notice that there has been less works on Islamic finance especially on risk management disclosures among Algeria, while There is a need to conduct a comprehensive analysis of each of the risks for better and detailed understanding of the aspects of the risk management process, i.e. risk identification, assessment, analysis, monitoring, reporting, mitigating and measurement. Hence, this research study is of the interest and value for academic point of view, so this study can be supplemented and extended along several possible lines:

- *Shari'ah* risk management disclosures in Algerian Islamic financial system.
- A Comparative Study of Risk Management Practices between Islamic and Conventional Banks in Algeria
- The industry of Islamic finance among Algeria: Prospects & Challenges
- Revising of the Islamic banking window which operates within conventional bank
- The violating of *shari'ah* while operating under a unique regulatory system among a country : Disadvantages

*Bibliographic
References*

1-Books

AKKIZIDIS, Ioannis et KHANDELWAL, Sunil Kumar. *Financial risk management for Islamic banking and finance*. New York : Palgrave Macmillan, 2008.

BALTHAZAR, Laurent. *From Basel 1 to Basel 3*. In: *From Basel 1 to Basel 3: The integration of state-of-the-Art risk modelling*. London: palgrave macmillan UK, 2006, p.209-213.

BODIE,Zvi et MERTON,Rober. *Finance*, 3^{ème} édition. en: France par christophe thibierge préface de paul samulson, 2011, p. 304.

BERK,Jonathan and DEMARZO,Peter. *Corporate finance*. Pearson International Edition, 2006, p.926.

CHAPRA, Muhammed U. *Towards a just monetary system*. 223 London Road Leicester, UK, the Islamic foundation, 1995, p.56.

DUHAMEL, Henri. *Strategies et direction d'entreprise*. Paris: CLET, December 1986, p.12.

DAHAK, Abdennour., KARA, Rabah. *Le memoire de master: du choix du sujet a la soutenance*. 2^{ème} édition, Tizi-Ouzou: Edition El Amel. 2022, p.110.

ESCH,Louis et al. *Asset & Risk Management: La finance orientée « risques »*.Paris: Boek & Larcier, 2003, p.14.

GEORGE R. Terry., LESLIE W. Rue. *Principals of management*. Inc, Homewood, Illinois, 1982.

HOPKIN,Peter. *Fundamentals of risk management: Understanding, evaluating and implementing effective risk management*. 4th édition.Great Britain and the United StatesKoganPage Limited, 2017, p.16.
Available on:
<http://dspace.vnbrims.org:13000/jspui/bitstream/123456789/5077/1/Fundamentals%20of%20Risk%20Management.pdf> (Accessed on 15/02/2024).

HULL,John et al. *Gestion des risques & institutions financieres*. PEARSON Education, 2010, p.16.

IQBAL,Zamir and MIRAKHOR,Abbas. *An introduction to Islamic finance: theory and practice*. Second édition. Asia: John & Sons, 2011, p.287.

Josien,Samuel and Landrieux-kartochian,Sophie. *Management des entreprises*.3rd édition. Gualino, 2017, p.207.

KERMISCH,Celine. *Le concept du risque: de l'épistémologie a l'éthique* [en ligne]. Paris: 11, street Lavoisier Tic & Doc édition, 2011, p.3. disponible sur:
<https://books.google.dz/books?id=3P15eL77zw4C&lpg=PR6&ots=xo19ASkE0S&dq=le%20concept%20du%20risque>. (Cnslté le 12/02/2024).

KOLMAN,H.Felix.A Brief History of Risk Management. In: FRASER,J and J.SIMKINS,Betty. *Enterprise Risk Management: Today's leading research and best practices for tomorrow's executives*. Hobo-ken: John Wiley & Sons. 2010, p.19-29.

LUC, Bernet-Rollande. *Banking principle and technique*. 23rd édition. Paris: Dunod, 2004, p.128. [In French].

- RONCALLI, Thierry. *Financial risk management*. 2nd edition, 2009, p.58. [In French].
- SAMHAN, Husayn Mohammad and al. *Investment management in Islamic banks*. In: Arab Organization for development, Egypt, 2012, p.273-279. [Published in Arabic].
- SCHROECK, Gerhard. *Risk Management and Value Creation in Financial Institutions*. In Canada: Editions John Wiley & Sons, Inc, 2002, p.25. Available on: <http://ndl.ethernet.edu.et/bitstream/123456789/27045/1/133.Gerhard%20Schroeck.pdf> (Accessed on 18/02/2024).
- SHANMUGAM, Bala & ZAHARI, Zaha R. *A primer on Islamic finance*. The Research Foundations of CFA Institution Publishing, Virginia-USA, December 2009, p.14. PDF format. Available on: <https://old.mbri.ac.ir/userfiles/file/Islamic%20Banking> (Accessed on 26/02/2024).
- USMANI, Muhammad Taqi. *An introduction to Islamic finance*. Kluwer Law International, P.O.Box 8589, 2508 CN The Hague, The Netherlands, 2002, p.27.
- VAUGHAN, Emmet J and Therese M. *Fundamentals of Risk And insurance*. 10th edition. In united states of America :John Wiley & Sons, Inc, 2008, p.3. Available on: <https://books.google.dz/books?id=3P15eL77zw4C&lpg=PR6&ots=xo19ASkE0S&dq=le%20concept%20du%20risque>. (Accessed on 12/02/2024).
- VERNIMMEN, Peter and al. *Corporate finance: theory and practice*. 2nd edition. 2009, p.971.
- WARDE, Ibrahim. *Islamic finance in the global economy*. 2nd Edition. Edinburgh University Press, 2012, p.70.
- YVON, Pesqueux. *Gestion des risques: une question d'expert? [en ligne]*. foresight and strategies, 2012, No.2-3, p.243-264. Disponible sur : <https://www.cairn.info/revue-prospective-et-strategie-2012-1-page-243.htm>. (consulté le 14/02/24).

2- Reviews and Journals

- ABUZARQA, Rawan. Banking risk management according to the requirements of the Basel agreements. *SEA-Practical Application of Science*. June 2019, Vol.7, No.19, p.29-38.
- AHMED DAHLAN, Salleh and al. Contractual Risk Transfer in Islamic Home Financing: Analysis in Bank Malaysia. *International journal of Academic Research in Economics & Management Sciences*, Vol.11, No.3, p.405-417.
- ALI ELGARCI, Mohamed. Credit Risk in Islamic Banking and Finance. *Islamic Economics Studies*. March 2003, Vol.10, No.2, p.1-25.
- ALI IDHBIA, Omar. The Difference between Risk in Islamic Banks and Commercial Banks. *International Journal of Scientific and Research Publications*, May 2018, vol.8, N.5, p.692-703.
- ALAMI, Safae and ACHABA, Allal. Le risk management: une revue de literature. *Revue Internationale des Sciences de Gestion*, October 2020, Vol.3, No.4, p.290 - 301.
- AL RAHAHLEH, Naseem and al. Developments in risk management in Islamic finance: A review. *Journal of Risk and Financial Management*, February 2019, Vol.12, No.1, p.1-22.

- ABDUL RAHMAN,Rashidah and *al.* Instruments and risks in Islamic financial institutions. *Malaysian Accounting Review, Special Issue*, 2010, Vol.9, No.2, p.11-21.
- ANWARUL ISLAM, K.M and BARGHOUTH, Orobah A. Risk Management of Islamic Banking: An Islamic Perspective. *International Journal of Islamic Banking and Finance Research*, November 2017, Vol.1, No.1, p.25-28.
- ABDUL, Nurhafiza and KADER,Malim. Islamic Banking and Risk Management: Issues and Challenges. *Journal of Islamic banking and finance*, 2015, Vol.32, No.4, p.64.
- ALEXAKIS,Christos and TSIKOURAS,Alexandros. Islamic finance: regulatory framework – challenges lying ahead. *International Journal of Islamic and Middle Eastern Finance and Management*, 2009, Vol.2, No.2, P.90-104.
- BACK, Kerry. Asymmetric information and option. *The review of financial studies*, 1993,Vol.7, No.3, p.434-472.
- BENZEKKOURA,Laounia. Islamic Windows experience in Algerian legislation.. *Journal of Economics and Management*. December 2020, Vol.4, No.2, p.1-19.
- BOUAITA, Abderrezzak and BOUDJELIDA, Abdelhak. The Ethical Standards of Islamic Financial Transactions Between the AAOIFI and the Algerian Monetary and Banking Act of 2023. *Journal of Business and Trade Economics*, March 2023, Vol.9, No.1, p.234-243.
- CULP.Christofer L. RAROC Revisited Ex Ante vs. Ex Post RAROC. *The Journal of Lending & Credit Risk Management*, March 2000, Vol.82, No.6, p.50-57.
- DAHAK,Abdenmour et KARA,Rabah. La gestion des risques au sein des guichets de finance islamique en algerie: un etat des lieux. *Marketing and Business Research Review*, December 2021, vol.2, No.2, p.61-75.
- DE OLIVEIRA,Ualison R and *al.* The ISO 31000 standard in supply chain risk management. *Journal of Cleaner Production*, 2017, Vol. 151, p. 616-633.
- FONTAINE,Ridhwan. Schools of management, Islamic management and science.*International Journal of Economics, Management and Accounting*, June 2023, Vol.31, No.1, p.1-22.
- Goss, A Barry. Aspects of hedging theory. *Australian journal of agricultural economics*, December 1980, Vol.24, No.3, p.210-223.
- HALIS,Mine and ABDSSALM ELTAWIL,Ahmed E. Risk Management in Islamic Banks: Findings from Libya. *The International Journal of Economic and Social Research*, 2017, Vol.13, No.2, p.97-118.
- HASSAN, M. Kabir. Ethical principles of Islamic financial institutions. *Journal of Economic Cooperation and Development*, 2013, Vol. 34, No.1, p. 63-90.
- HASSAN,Kabir M and DICLE,Mehmet F. Basel II and Regulatory Framework for Islamic Banks. *Journal of Islamic economics, Banking and Finance*, 2005, Vol.1, No.1, p.1-16.
- HADERBASH, Lamia. Murabaha for purchase order under regulation 20-02 and instruction 2020-03. *Journal of Legal and Political Thought*, May 2023, Vol.7, No.1, p.776-797.

Bibliographic References

- HARON, Mohamad S and al. Reputation Risk and its Impact on the Islamic Banks: Case of the Murabahah. *International Journal of Economics and Financial Issues*, 2015, Vol.5, No.4, p.854-859.
- JOHNSON, L. Leland. The Theory of Hedging and Speculation in Commodity Future. *The review of economics studies*, June 1960, Vol.27, No.3, p.139-151.
- KLEIN, Tobias and al. Market transparency, adverse selection and moral hazard. *Journal of political economy*, Vol.124, No.6, p.1677-1713.
- LI, Zheng and al. Overview of Risk Management System of Commercial Bank Data Center. *International Journal of Security and Its Applications*, 2016, Vol. 10, No.3, p.245-258.
- LINSMEIER, Thomas J and PEARSON, Neil.D. Risk management: An introduction to Value at Risk. *Financial Analysts Journal*, January 2019, Vol.56, No.2, p.47-67.
- MOHD RAZIF, Nor Fahimah and al. Permissibility of Hedging in Islamic Finance. *Middle-East Journal of Scientific Research*, 2012, Vol.12, No.2, p.155-159.
- MOHD ARRIFIN, Noraini and KASSIM, Salina. Risk management practices of selected Islamic banks in Malaysia. *Aceh International Journal of Social Sciences*, June 2014, Vol.3, No.1, p.26-36.
- NURURL SYAZWANI, Mohd Noor and al. Shariah Risk: Its Origin, Definition, and Application in Islamic Finance. *Journal.sagepub.com/home/sgo*, April 2018, p.1-12.
- OUBDI, Lahsen and RAGHIBI, Abdessamad. An Overview on the Practice and Issues of Hedging in Islamic Finance. *International Journal of Contemporary Research and Review*, October 2017, Vol.8, No.10, p.1-11.
- PASHCHENKO, Svetlana and al. Financial Risk Management. *Advances in Economics, Business and Management Research*. 2017, Vol.38, No.38, p.512-517.
- PRZETACZNIK, Sylwia. The evolution of risk management. *The Malopolska School of Economics in Tarnów Research Papers Collection*, 2022, Vol.53, No.(1-2), P.95-107.
- PROKOPCZUK, Marcel and al. Quantifying Risk in the Electricity Business: A RAROC-based Approach. *Energy Economics journal*, September 2007, [Vol.29, No.5](#), P.1033-1049.
- RAMLI, Rashila and al. The importance of the *Shari'ah* supervisory boards (SSBs) in the Islamic banking system. *South East Asia Journal of Contemporary Business, Economics and Law*, 2016, Vol.9, No.2, p.25-31.
- ROSMAN, Romzie and ABDUL RAHMAN, Abdul Rahim. The practice of IFSB guiding principles of risk management by Islamic banks International evidence. *Journal of Islamic Accounting and Business Research*, 2015, Vol.6, No.2, p.150-172.
- Rashwan, Mohamed H., A Comparison between Islamic and Traditional Banks: Pre and Post the 2008 Financial Crisis, December 2010. Available at SSRN: <https://ssrn.com/abstract=1724451> or <http://dx.doi.org/10.2139/ssrn.1724451> (Accessed on: 27/02/2024).
- SETHI, Narayan and al. A survey of international financial risk management system. *Journal of Public Administration, Finance and Law*, 2013, Vol.18, No.4, p.186-203.

TIESSET, Muriel and TROUSSARD, Philippe. Regulatory capital and economic capital. *France bank, financial stability review*, November 2005, No.7, p.63-79

ULLAH AGHA, Syed E and SABIRZYANOV, Ruslan. Risk Management In Islamic Finance: An Analysis From Objectives Of *Shari'ah* Perspective. *International Journal of Business, Economics and Law*, august, 2015, Vol.7, No.3, p.46-52.

3- Conference and Seminar

Al-SUWAILEM, Sami . Islamic Approach to Risk. *Chair for Ethics and Financial Norms, University Paris 1 Panthéon-Sorbonne in collaboration with King Abdulaziz University*. Presentation: 3rd Seminar held on September 4th, p.461-487. PDF format. Available on: https://iei.kau.edu.sa/Files/121/Files/149853_73-EHBook-7.pdf (Accessed on 16/02/2024).

BOUDJELAL, Mohammed. *Islamic finance in Algeria: a new industry serving the national economy*. In: Conference proceedings Islamic transactions windows in Algerian banks in light of international experiences, Algeria: Batna university 01, 2022, p.15-22. [in french]

KEDDI, Abdelmajid. *The general context of the adoption of Islamic windows in conventional banks in Algeria*. In: Conference proceedings Islamic transactions windows in Algerian banks in light of international experiences, Algeria: Batna university 01, 2022, p.31-42. [In Arabic].

NIKONOVA, Tatiana and al. Principles and instruments of Islamic financial institutions. *Procedia Economics and Finance* 24, 2015, p.479 – 484. *International Conference on Applied Economics, ICOAE* 2015, 2-4 July 2015, Kazan, Russia. Available on: <https://core.ac.uk/download/pdf/81975618.pdf> (Accessed on: 17/04/2024).

4- University works papers

ABDUL RAHMAN, Asma. *A Comparative Study of Risk Management Practices between Islamic and Conventional Banks in Pakistan [online]*. Doctoral thesis, Cardiff Metropolitan university, January 2016, p.456. PDF format. Available on: https://figshare.cardiffmet.ac.uk/articles/thesis/A_comparative_study_of_risk_management_practices_between_islamic_and_conventional_banks_in_pakistan/20286285/1/files/36235383.pdf (Accessed on: 16/04/2024).

DAOU, Rym. *Risk Management and Bank Performance: Evidence from the MENA Region [online]*. Doctoral thesis. Faculty of business Administration and economics, Lebanon: Notre Dame University-Louaize, May 2020, p.148. PDF format. Available on: <http://ir.ndu.edu.lb:8080/xmlui/bitstream/handle/123456789/1211/Risk%20management%20and%20bank%20performance-Rima%20Daou.pdf?sequence=1&isAllowed=y> (Accessed on 16/04/2024).

FABOZZI, Frank J. and KOTHARI, Vinod. Securitization: The Tool of Financial Transformation. *Yale ICF Working Paper* No. 07-07, Available at SSRN: <https://ssrn.com/abstract=997079> (Accessed on 20/04/2024).

GORTON, Gary and METRICK, Andrew. SECURITIZATION. *Working Paper 18611 in: NATIONAL BUREAU OF ECONOMIC RESEARCH 1050 Massachusetts Avenue Cambridge, MA 02138*, December 2012.

GAIT, Alsadek H and WORTHINGTON, Andrew C., A Primer on Islamic Finance: Definitions, Sources, Principles and Methods, *School of Accounting & Finance, University of Wollongong, Working Paper 5*, 2007.

KARA, Rabah, « Analyse du développement financier de l'Algérie (1962-2015) : Approche institutionnelle historique ». Thèse de doctorat. Tizi-Ouzou : Université MOULOUD MAMMERI, 2017, p. 86.

OUENDI, Lynda. *Analysis of the Islamic finance contribution in the financing of the economy: case of project financing*. Doctoral Thesist. Faculty of economics, commerce and management. Mouloud Mammeri University Of Tizi-ouzou: Department of economics, June 2019, p.1-204.

TARIQUELLAH Khan. & HABIB Ahmed. Risk management: Analysis of certain aspects linked to the Islamic finance industry. *Islamic Development Bank, Occasional Paper No. 5*, Jeddah-Saudi Arabia, 2001, p.1-189.

TASCA, Paolo and BATTISTON, Stefano. *Diversification and Financial Stability* .CCSS Working Paper No. 11-001, April 2011, p.1-27.

5-Regulatory text

Art, 136 of Law 10-90 relating to money and credit

Monetary and Banking Act, 2023.

Regulation 18-02

Regulation 20-02

Instruction 20-03

AAOIFI Code of Ethics, 2019.

6-Administrative Report and Documents

Annual Report of Al Baraka bank Algeria, 2018-2019.

Annual Report of Al Salam Bank, 2021-2022.

CPA Simulation Document.

Guiding principles of risk management, Islamic Financial Services Board (IFSB), December 2005, Kuala Lumpur.

PADGANEH, Yousef. Risk-Adjusted Return on Capital (RAROC). *Reports by the head of Enterprise Risk Management for commercial bank international in: Global Association of Risk Professionals (GARP)*, December 2014, p.1-20.

TIESSET, Muriel and TROUSSARD, Philippe. Regulatory capital and economic capital. *France bank, financial stability review*, November 2005, No.7, p.63-79.

Usmani, Muhammad I.A. Examining the prudence of Islamic banks: A risk management perspective. Pakistan bank report. Available on: <https://www.meezanbank.com/wp-content/themes/mbl/downloads/Euromoney.pdf> (Accessed on 09/05/2024).

7- Websites

<https://aaoifi.com/about-aaoifi/?lang=en>

<https://www.abef-dz.org/abef/?q=content/la-loi-sur-la-monnaie-et-cr%C3%A9dit-sgg>

<https://www.bank-of-algeria.dz/stoodroa/2023/08/Loi-monetaire-et-bancaire.pdf>

<https://www.albaraka-bank.dz/historique/>

<https://www.albaraka-bank.dz/storage/2021/06/RAPPORT-2019-FR.pdf>

[A propos de la banque \(alsalamalgeria.com\)](http://A%20propos%20de%20la%20banque%20(alsalamalgeria.com))

<https://droit.mjustice.dz/sites/default/files/Loi-organique-n%C2%B0-18-02.pdf>

<https://www.bank-of-algeria.dz/reglement>

<https://www.bank-of-algeria.dz/reglement>

<https://www.bank-of-algeria.dz/>

العربية:

1- الكتب:

محمد باقر الصدر، اقتصادنا، دار التعاون للطبوعات، بيروت، لبنان، 1987، ص 574.

حسين محمد سمحان وآخرون، إدارة الاستثمار في المصارف الإسلامية، المنظمة العربية للتنمية الإدارية، مصر، 2012، ص ص 279-273.

دحاك عبد النور، قارة رابح، مركزية الأخلاق في النظام المالي الإسلامي في الجزائر (مشروع الصيرفة الإسلامية في الجزائر: الواقع والآفاق)، ديسمبر، 2022، ص ص 1-16.

2- الرسائل والمذكرات:

طهراوي أسماء، إدارة المخاطر في البنوك الإسلامية، دراسة قياسية .. - أطروحة دكتوراه-، كلية العلوم الاقتصادية، التجارية وعلوم التسيير، جامعة أبي بكر بلقايد، تلمسان، الجزائر، 2014، ص ص 1-204.

بونقاب مختار، دور المندسة المالية الإسلامية في إدارة مخاطر صيغ التمويل الإسلامي (دراسة حالة بنك البركة الجزائري وعينة من المصارف الإسلامية)، أطروحة دكتوراه، كلية العلوم الاقتصادية والعلوم التجارية والتسيير، جامعة قاصدي مرباح، ورقلة، 2017، ص ص 1-171.

حشلاف إيمان وفاطمة الزهراء . إدارة المخاطر في البنوك الإسلامية (دراسة حالة بنك البركة الجزائري وكالة وهران)، مذكرة ماستر أكاديمي، كلية العلوم الاقتصادية والعلوم التجارية والتسيير، جامعة ابن خلدون، وهران، 2019، ص 98.

3- المجالات:

Bibliographic References

- مختار بونقاب، مريم بالأطرش، مبدأ إدارة المخاطر في المصارف الإسلامية (دراسة حالة بنك البركة الجزائري) . مجلة أوراق الاقتصادية، المجلد 13 / العدد 22 ، جوان 2019، ص ص 42-59.
- دحاك عبد النور، الإدارة الاستراتيجية للمخاطر الخاصة بالمصارف الإسلامية: إشارة إلى حالة مصرف السلام الجزائري، مجلة المنتدى للدراسات والأبحاث الاقتصادية : دورية دولية محكمة تصدر عن جامعة الجلفة، المجلد 5، العدد، 2، 2021، ص ص 65-85.
- دحاك عبد النور، إشكالية إنشاء شبابيك الصيرفة الإسلامية في البنوك الجزائرية بين الوضعية البنكية والمعيارية الشرعية، مجلة اقتصاديات شمال إفريقيا، المجلد 18، العدد 28، ص ص 199-292.


Appendices

Appendix 1

Surah and Verses	The mentioned <i>Qur'anic</i> verses	
	ARABIC	ENGLISH
AL-Baqarah [282]	<p>يَا أَيُّهَا الَّذِينَ آمَنُوا إِذَا تَدَايَيْتُمْ بِدَيْنٍ إِلَىٰ أَجَلٍ مُّسَمًّى فَاكْتُبُوهُ ۚ وَلْيَكْتُب بَيْنَكُمْ كَاتِبٌ بِالْعَدْلِ ۚ وَلَا يَأْب كَاتِبٌ أَنْ يَكْتُبَ كَمَا عَلَّمَهُ اللَّهُ ۚ فَلْيَكْتُبْ وَلْيُمْلِلِ الَّذِي عَلَيْهِ الْحَقُّ وَلْيَتَّقِ اللَّهَ رَبَّهُ وَلَا يَبْخَسْ مِنْهُ شَيْئًا ۚ فَإِنْ كَانَ الَّذِي عَلَيْهِ الْحَقُّ سَفِيهًا أَوْ ضَعِيفًا أَوْ لَا يَسْتَطِيعُ أَنْ يُمِلَّ هُوَ فَلْيُمْلِلْ وَلِيُّهُ بِالْعَدْلِ ۚ وَاسْتَشْهِدُوا شَهِيدَيْنِ مِنْ رِجَالِكُمْ ۚ فَإِنْ لَمْ يَكُونَا رَجُلَيْنِ فَرَجُلٌ وَامْرَأَتَانِ مِمَّن تَرْضَوْنَ مِنَ الشُّهَدَاءِ أَنْ تَضِلَّ إِحْدَاهُمَا فَتُذَكَّرَ إِحْدَاهُمَا الْأُخْرَىٰ ۚ وَلَا يَأْبُ الشُّهَدَاءُ إِذَا مَا دُعُوا ۚ وَلَا تَسْأَمُوا أَنْ تَكْتُبُوهُ صَغِيرًا أَوْ كَبِيرًا إِلَىٰ أَجَلِهِ ۚ ذَٰلِكُمْ أَقْسَطُ عِنْدَ اللَّهِ وَأَقْوَمٌ لِلشَّهَادَةِ وَأَدْنَىٰ أَلَّا تَرْتَابُوا ۚ إِلَّا أَنْ تَكُونَ تِجَارَةً حَاضِرَةً تُدِيرُونَهَا بَيْنَكُمْ فَلَيْسَ عَلَيْكُمْ جُنَاحٌ أَلَّا تَكْتُبُوهَا ۚ وَأَشْهِدُوا إِذَا تَبَايَعْتُمْ ۚ وَلَا يُضَارَّ كَاتِبٌ وَلَا شَهِيدٌ ۚ وَإِنْ تَفَلَّحُوا فَإِنَّهُ فُسُوقٌ بِكُمْ ۚ وَاتَّقُوا اللَّهَ ۚ وَبِعَلِّمُكُمُ اللَّهُ ۚ وَاللَّهُ بِكُلِّ شَيْءٍ عَلِيمٌ (282)</p>	<p>O you who have believed, when you contract a debt for a specified term, write it down. And let a scribe write [it] between you in justice. Let no scribe refuse to write as Allah has taught him. So let him write and let the one who has the obligation dictate. And let him fear Allah, his Lord, and not leave anything out of it. But if the one who has the obligation is of limited understanding or weak or unable to dictate himself, then let his guardian dictate in justice. And bring to witness two witnesses from among your men. And if there are not two men [available], then a man and two women from those whom you accept as witnesses – so that if one of the women errs, then the other can remind her. And let not the witnesses refuse when they are called upon. And do not be [too] weary to write it, whether it is small or large, for its [specified] term. That is more just in the sight of Allah and stronger as evidence and more likely to prevent doubt between you, except when it is an immediate transaction which you conduct among yourselves. For [then] there is no blame upon you if you do not write it. And take witnesses when you conclude a contract. Let no scribe be harmed or any witness. For if you do so, indeed, it is [grave] disobedience in you. And fear Allah. And Allah teaches you. And Allah is Knowing of all things. (282)</p>
AL-Baqarah [275]	<p>الَّذِينَ يَأْكُلُونَ الرِّبَا لَا يَقُومُونَ إِلَّا كَمَا يَقُومُ الَّذِي يَتَخَبَّطُهُ الشَّيْطَانُ مِنَ الْمَسِّ ۚ ذَٰلِكَ بِأَنَّهُمْ قَالُوا إِنَّمَا الْبَيْعُ مِثْلُ الرِّبَا ۚ وَأَحَلَّ اللَّهُ الْبَيْعَ وَحَرَّمَ الرِّبَا ۚ فَمَنْ جَاءَهُ مَوْعِظَةٌ مِنْ رَبِّهِ فَانْتَهَىٰ فَلَهُ مَا سَلَفَ وَأَمْرُهُ إِلَى اللَّهِ ۚ وَمَنْ عَادَ فَأُولَٰئِكَ أَصْحَابُ النَّارِ ۖ هُمْ فِيهَا خَالِدُونَ (275)</p>	<p>Those who consume interest cannot stand [on the Day of Resurrection] except as one stands who is being beaten by Satan into insanity. That is because they say, “Trade is [just] like interest.” But Allah has permitted trade and has forbidden interest. So whoever has received an admonition from his Lord and desists may have what is past, and his affair rests with Allah. But whoever returns to [dealing in interest or usury] – those are the companions of the Fire; they will abide eternally therein. (275)</p>
Yusuf [47-49]	<p>قَالَ تَزْرَعُونَ سَبْعَ سِنِينَ دَأَبًا فَمَا حَصَدْتُمْ فَذَرُوهُ فِي سُنْبُلِهِ إِلَّا قَلِيلًا مِمَّا تَأْكُلُونَ (47) ثُمَّ يَأْتِي مِنْ بَعْدِ ذَٰلِكَ سَبْعٌ شِدَادٌ يَأْكُلْنَ مَا قَدَّمْتُمْ لَهُنَّ إِلَّا قَلِيلًا مِمَّا تَحْصِنُونَ (48) ثُمَّ يَأْتِي مِنْ بَعْدِ ذَٰلِكَ عَامٌ فِيهِ يُغَاثُ النَّاسُ وَفِيهِ يَعْصِرُونَ (49)</p>	<p>Joseph replied, “You will plant ‘grain’ for seven consecutive years, leaving in the ear whatever you will harvest, except for the little you will eat (47) Then after that will come seven years of great hardship which will consume whatever you have saved, except the little you will store ‘for seed’ (48) Then after that will come a year in which people will receive abundant rain and they will press ‘oil and wine.’” (49)</p>
AL-Rum [39]	<p>وَمَا آتَيْتُمْ مِنْ رَبًّا لِيَرْبُو فِي أَمْوَالِ النَّاسِ فَلَا يَرْبُو عِنْدَ اللَّهِ ۚ وَمَا آتَيْتُمْ مِنْ زَكَاةٍ تُرِيدُونَ وَجْهَ اللَّهِ فَأُولَٰئِكَ هُمُ الْمُضْعِفُونَ (39)</p>	<p>Whatever loans you give, ‘only’ seeking interest at the expense of people’s wealth¹ will not increase with Allah. But whatever charity you give, ‘only’ seeking the pleasure of Allah—it is they whose reward will be multiplied. (39)</p>
An-Nisa [161]	<p>وَأَخْذِهِمُ الرِّبَا وَقَدْ نُهُوا عَنْهُ وَأَكْلِهِمْ أَمْوَالِ النَّاسِ بِالْبَاطِلِ ۚ وَأَعْتَدْنَا لِلْكَافِرِينَ مِنْهُمْ عَذَابًا أَلِيمًا (161)</p>	<p>Taking interest despite its prohibition, and consuming people’s wealth unjustly. We have prepared for the disbelievers among them a painful punishment. (161)</p>
AL-Imran [130]	<p>يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَأْكُلُوا الرِّبَا أَضْعَافًا مُضَاعَفَةً ۖ وَاتَّقُوا اللَّهَ لَعَلَّكُمْ تُفْلِحُونَ (130)</p>	<p>O believers! Do not consume interest, multiplying it many times over. And be mindful of Allah, so you may prosper. (130)</p>

Source : The holy Qur’an

Appendix 2

Banque Nationale d'Algérie  **البنك الوطني الجزائري**

"SIMULATION MOURABAHA IMMOBILIER"


Nom du demandeur :	...
Prénom du demandeur :	...
Date de naissance :	24/12/1990
Revenu du demandeur :	52 000,00
Bénéficiaire epargnant BNA :	- Epargnant
Nom du Co-demandeur :	
Prénom du Co-demandeur :	
Date de naissance du Co-demandeur :	
Coût du bien :	6 000 000,00
Hamich al jiddia :	2 450 000,00
Durée :	480

RESULTAT DE LA SIMULATION

Montant du financement accordé par la banque :	3 550 000,00
Taux de hamich al jiddia :	40,83 %
La durée(Mois) :	480
Taux de la marge bénéficiaire :	6,50 %
Marge bénéficiaire :	6 425 673,00
Montant de la commission gestion en (DA) :	21 122,50
Montant de la mensualité :	20 784,00
Mensualité TOTALE en (DA) :	20 784,00
Etat final de la demande de Financement :	Demande Acceptée

Appendix 3

Banque Nationale d'Algérie		BNA	البنك الوطني الجزائري
"SIMULATION MOURABAHA IMMOBILIER"			
Nom du demandeur :	*****		
Prénom du demandeur :	****		
Date de naissance :	01/01/1987		
Revenu du demandeur:	70 000,00		
Bénéficiaire epargnant BNA :	- Non Epargnant		
Nom du Co-demandeur :			
Prénom du Co-demandeur :			
Date de naissance du Co-demandeur :			
Coût du bien :	8 500 000,00		
Hamich al jiddia :	4 000 000,00		
Durée :	480		
<u>RESULTAT DE LA SIMULATION</u>			
Montant du financement accordé par la banque :	4 500 000,00		
Taux de hamich al jiddia :	47,06 %		
La durée(Mois) :			
Taux de la marge bénéficiaire :	7,00 %		
Montant de la commission gestion en (DA) :	26 775,00		
Montant de la mensualité :	27 964,00		
Mensualité TOTALE en (DA) :	27 964,00		
Etat final de la demande de Financement :	Demande Acceptée		


 REDMI NOTE 8 PRO
 AI QUAD CAMERA

*Table
Of
Contents*

Tables of contents

content	page
General Introduction	14
Chapter 1: Theoretical framework of Risk Management	18
Introduction to chapter 1	19
1-1-The understanding of risk and Risk Management	20
1-1-1-The concept of risk	20
1-1-1-1-Risk term evolution	20
1-1-1-2-Definitions of risk	21
1-1-1-2-1-Risk in financial literature	22
1-1-1-2-2-Risk in Islamic economics	23
1-1-1-2-3-Risk in banking context	24
1-1-1-3-Uncertainty and its relationship to risk	24
1-1-1-4-Risk culture	25
1-1-2-Risk management concept	25
1-1-2-1-Origins of risk management	25
1-1-2-1-1-Evolution of risk management over history	25
1-1-2-1-2-Risk management in Islam from <i>Maqasid al-Shari'ah</i> Perspective	26
1-1-2-1-3-Enterprise Risk Management (ERM)	28
1-1-2-2-Risk Management Meaning	29
1-1-2-2-1-Management definition	29
1-1-2-2-2-Risk Management definition	29
1-1-2-2-3-The main objectives of risk management	29
1-1-2-2-4- Risk management impact on economic efficiency	30
1-2-Strategy and process of risk management	31
1-2-1-Strategies for managing risk	31
1-2-1-1-Strategy meaning	31
1-2-1-2-Strategies in general way for business field	31
1-2-1-3-Strategies for financial risk management	31
1-2-1-3-1-Basel I Accords	32
1-2-1-3-2-Basel II Accords	32
1-2-1-3-3-Basel III Accords	33
1-2-1-4-Taking out guarantees	33
1-2-2-Risk management process	33
1-2-2-1-Understanding of risk management process	34
1-2-2-2-Process of risk management in finance	35
1-2-3-The three dimensions of risk transfer	37
1-2-3-1-Hedging technique	38
1-2-3-2-Insurance technique	38
1-2-3-3-Diversification technique	39
1-3-Tools of Risk Management	40
1-3-1-Value at Risk (VaR)	40
1-3-1-1-VaR definition	40
1-3-1-2-VaR is for Managing as well as Measure Risk	40
1-3-1-3-Value at Risk methods	41
1-3-1-3-1-Historical simulation for VAR	41
1-3-1-3-2-Analytic (variance/covariance) method for VAR	41

1-3-1-3-3-Monte Carlo Simulation for VaR	42
1-3-2-Risk Adjusted Rate of Return (RAROC)	43
1-3-2-1-RAROC definition	43
1-3-2-1-1-Types of RAROC	43
1-3-2-1-2-Mesures and applications of economic capital	44
1-3-2-2-The Importance of Risk Capital Allocation	45
1-3-2-3- Advantages and Disadvantages of RAROC	45
1-3-2-3-1-Advantages of RAROC Model	45
1-3-2-3-2-Disadvantages of RAROC Model	45
1-3-3-Securitization	46
1-3-3-1-Securitization definition	46
1-3-3-2-Understanding of the Asset-Backed Securities (ABS	47
Conclusion to chapter 1	49
Chapter 2: Nature of Risk and their Management in Islamic financial institutions.	50
Introduction to chapter 2	51
2-1-Salient Features of Islamic finance	52
2-1-1-Historical development of Islamic finance	52
2-1-1-1-The early days of Islamic finance transactions	52
2-1-1-1-1-Finance in the Prophet era	52
2-1-1-1-2-Finance in the Caliphs era	52
2-1-1-2- Modern-day experiments and developments	53
2-1-2-Understanding Islamic Finance	54
2-1-2-1-Definition of Islamic finance	54
2-1-2-2-Sources of Islamic finance	55
2-1-2-3-Principles of Islamic finance	57
2-1-2-3-1-Freedom from <i>Riba</i>	57
2-1-2-3-2-Profit and Loss Sharing (PLS)	59
2-1-2-3-3- <i>Shari'ah</i> -Approved Activities	59
2-1-2-3-4-Sanctity of Contract	59
2-1-2-3-5-Avoidance of <i>Gharar</i>	60
2-1-3-Instruments of Islamic finance	60
2-1-3-1- <i>Murabahah</i> instrument (trade financing)	60
2-1-3-1-1-Understanding <i>Murabahah</i>	60
2-1-3-1-2- <i>Murabahah</i> contract	61
2-1-3-1-3- <i>Murabahah</i> sale characteristics	61
2-1-3-2- <i>Ijarah</i> instruments	62
2-1-3-3- <i>Salam</i> and <i>Istisnaa</i> instruments	62
2-1-3-3-1- <i>Bai-Salam</i> (Advanced purchase)	63
2-1-3-3-2- <i>Al-Istisnaa</i> (Commissioned manufacturer)	63
2-1-3-4- <i>Mudarabah</i> and <i>Musharakah</i> instrument	63
2-2-Key Risks Faced by Islamic Financial Institutions	66
2-2-1-Understanding Islamic Financial Institutions	66
2-2-1-1-Conventional institutions	66
2-2-1-2-Islamic Banks	66
2-2-1-2-1-Models of Islamic Banks	66
2-2-1-2-2-Comparison between Islamic bank and conventional bank	67
2-2-1-3-Islamic banking window	68

2-2-2-Risks in Islamic financial institutions	69
2-2-2-1-Shared Risks with conventional banks	70
2-2-2-1-1-Financial Risks	70
2-2-2-1-2-Non-Financial Risks	71
2-2-2-2-Unique Risk in Islamic financial institutions	73
2-2-2-2-1-Shariah Non-Compliance Risk	73
2-2-2-2-2-Rate of Return Risk	73
2-2-2-2-3-Displaced Commercial Risk	74
2-2-2-2-4-Equity Investment Risk	74
2-2-2-3-Risks linked to Islamic finance instruments	75
2-3-Risk Management adapted by Islamic financial institutions	77
2-3-1-Risk Management in Islamic financial institutions: A review of Literature	77
2-3-1-1-Theoretical Background	77
2-3-1-2-Risk management practiced in Islamic banks	78
2-3-2-Prudential Principles for Islamic Financial institutions	79
2-3-2-1-Basel II for Islamic financial institutions	79
2-3-2-2-Basel III issue in Islamic Financial Institutions	80
2-3-2-3-AAOIFI ethical standards	80
2-3-2-4-IFSB principles for Risk Management	81
2-3-2-4-1-Understanging the IFSB body	82
2-3-2-4-2-IFSB principals	82
2-3-2-5-The <i>Shari'ah</i> Supervisory Boards (SSB) in the Islamic Banks	84
2-3-3-Risk Management strategy in the Islamic banks	85
2-3-3-1-Distribution and diversification of investment	85
2-3-3-2-Creating an effective assessment system	85
2-3-3-3-Looking for an appropriate legal environment	85
2-3-3-4-Maintaining sufficient reserves and allocations	85
2-3-3-5-Looking for high qualified human resources	85
2-3-3-6-Obtain appropriate guarantees	85
2-3-3-7-Treatment of contractual risks.	86
Conclusion to chapter 2	87
Chapter 3: Risk Management: Analysis of multiples cases of Al Baraka Bank and Al Salam Bank, then the CPA Islamic banking window	88
Introduction to chapter 3	89
3-1-Growth and Prospect of Islamic banking in Algeria: a state of places	90
3-1-1-First step to the implementation of Islamic banking in Algeria: From legal perspective 90	90
3-1-2-History of the establishment and development of Islamic banking in Algeria	91
3-1-2-1-The first practices of Islamic banking in Algeria	92
3-1-2-2-Year of regulation of <i>shari'ah</i> -compliant banking operations: 2020	92
3-1-2-3-Looking at the Algerian banking system until January 2021: Analysis	93
3-1-3-Islamic windows in Algeria: between experience and generalization	95
3-1-3-1-Results of the issuance of regulation 20-02 on Islamic windows: until august 2022	96
3-1-3-2-The Islamic Banking Provisions in the 2023 Monetary and Banking Act	97
3-2-Risk management practices in Algerian Islamic banks: Al-Baraka Bank and Al Salam Bank	99
3-2-1-Risk management practices disclosures in Al Baraka Bank Algeria	99
3-2-1-1-Risk management strategy in Al Baraka Bank	99

3-2-1-2-Risk mitigation strategy by Al-Baraka Bank	99
3-2-1-2-1-For credit risk	100
3-2-1-2-2-For operational risk	100
3-2-1-2-3-Notes and comments on Al Baraka Bank risk management strategy	100
3-2-1-3-Al-Baraka Bank requirements for its risks: From financial statements	101
3-2-1-3-1-Presentation of study results	101
3-2-1-3-2-Results discussions	103
3-2-2-Risk Management disclosures in Al-Salam Bank	103
3-2-2-1-Organizational structure for risk management	103
3-2-2-2-Risk management framework strategy	105
3-2-2-2-1-Credit Risks	105
3-2-2-2-2-Liquidity risk	106
3-2-2-2-3-Operational risk	107
3-2-2-2-4-Notes & comments on Al Salam Bank risk management strategy	107
3-2-2-3-Al-Salam Bank requirements for its risks: From financial statements	108
3-2-2-3-1-Presentation of study results	108
3-2-2-3-1-1-Important financial data of Al-Salam Bank	108
3-2-2-3-2-Al-Salam Bank risk mitigation measure/instrument	110
3-2-2-3-2-Results Discussions	114
3-3-Risk Management practices in Islamic banking windows in Algeria: CPA case	115
3-3-1-Disclosures from legal text: Regulation 2018 and 2020	115
3-3-1-1-The regulations 18-02	115
3-3-1-2-The regulation 20-02	115
3-3-1-3-The instruction 20-03	115
3-3-2-Murabahah model of CPA Islamic banking window: a case study	117
3-3-2-1-Understanding Murabahah for purchase orderer (MPO)	117
3-3-2-2-Real estate <i>Murabahah</i> simulation case from CPA Islamic windows	118
Conclusion to chapter 3	121
General Conclusion	123