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Foreword

My interest in options and derivatives arose during my studies at the Vienna University of Economics and Business, where I have graduated with a major in finance in 2013. Simultaneously I have developed interest in economic matters in the Islamic world during my oriental studies and studies in international development. In the first instance, I was interested in Islamic economics in the context of alternative economic approaches. The seminar of Univ. Prof. Dr. Wolfram Schaffar “Development Theories and –Paradigms in a Trans-disciplinary Context” in the Winter Term 2015 was particularly helpful. My interest for Islamic Finance matters developed during 2016 in the seminar “The Arab World in an Economic Perspective” by Dr. Karin Kneissl, (currently Minister of Foreign Affairs in Austria). I was firstly introduced to the fundamental work “Handbook of Islamic Banking” by Hassan M Kabir. During an intensive research lasting from December 2016 to April 2017 I have made myself familiar with the basics of Islamic banking and finance. It took another three months to conceptualize the basic outlines of the current paper.

I have to admit that I could not have accomplished this work alone. During the entire period I was surrounded by people who have supported me with their professional skills, advice and sheer presence. I would like to express my deep gratitude especially to the following persons:

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- Dr. Richard von Fuchs who agreed to proofread the current paper and gave me crucial advice on language.

Last but not least I would express my deep gratitude to my loving family, especially my Mother and my girlfriend Blanka Havlíčková who shared all my psychical burdens, connected with writing such an academic paper. Without their help the current work would not have come to existence

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1.1 Introduction

The present interdisciplinary thesis examines a relatively new area of financial economics within the context of a religiously founded financial system. A financial option is basically a right to buy (=call option) or sell (=put option) a specified asset for a certain price (=strike price) in exchange for a premium (=option price). Options are time bargains, meaning that the conclusion of the contract and the execution of the contract do not occur simultaneously. In this regard, options show certain similarities with swaps, forwards and future contracts.

Another peculiarity of options is their tradability, hence between the conclusion of the contract and the expiry date (the execution of the contract, or maturity), most options can be traded at will. This and the fact that due to modern communication methods (telephone, internet) most contracts can be concluded over the counter makes them extremely popular in the finance industry, as they are highly suitable for hedging, speculative and arbitrage purposes (cf. Hull 2018: 11). The price (and the actual value) of an option highly depends on its expiry date and the value of an underlying asset. Therefore they are often classified as derivatives in the economics literature (cf. Hull 2018: 1).

Meanwhile the total value of the global derivatives markets is vast and by far exceeds the global stock markets. Moreover, the value of underlying outstanding derivative transactions is a manifold of the global GDP (cf. Hull 2018:1). There is a problem because economic regulation does not cover many aspects of trading with derivatives and their risk is hard to ascertain. During the year 2007 many derivative products were backed by insecure and risky underlying assets and when this fact became obvious, the prices of derivatives collapsed. Many experts, e.g. the author of the standard work on financial derivatives, John C. Hull (2018), claim that these processes partly unleashed the US credit crisis in 2007 and the subsequent deep economic recession in the following years (cf. Hull 2018: 184ff).

Because of its significance, the phenomenon of options and derivative trading has occupied scholars from several academic disciplines. Since the seventies, economists of the neoliberal school developed complex mathematical models to describe financial options. Two of the most popular models are the binomial model and the option pricing model of Fischer Black, Myron Scholes and Robert Merton¹.

¹ The high relevance of this model, also widely known as Black-Scholes-Merton model is shown by the fact that Robert Merton and Myron Scholes were awarded with the Noble prize for economics in 1997. Fischer Black passed away in 1995. (cf. Hull 2018:319)

Critics of the fundamental principles of current capital market practices come primarily from the domain of sociology. For example the sociologist Donald MacKenzie and the economist Yuval Millo claim that derivatives were “morally dubious instruments of gambling”(MacKenzie / Millo 2003: 137), which had been “a central driver of the marketized, mathematicized risk-evaluation culture of the contemporary world”(ibid.:136). Other critics say that financial options increased the liquidity of stock securities and thus they significantly contributed to the detachment of the world of finance from the real economy (Diaz-Bone 2012: 67). Last but not least, critics also claim that capital markets would follow their own paradigms, which were not transparent to people outside the inner circles of finance. (Kalthoff / Vormbusch 2012: 9).

Somewhere in the middle of these two arguments we find a set of theories which work on the same trajectory and use the same model infrastructure, as neoliberal ones, which also take psychological factors into account. These approaches also known as “behavioral finance”, negate the classical principle of *homo oeconomicus*- the rational man, who always seeks to maximize his marginal utility.

One of the main designated goals of our paper is to examine the place of Islamic finance in this area of conflict. Although there are several examples of attempts to establish a religious and morally based economic system², in no other world religion could it emerge to the same extent as it does in Islam. Even some Western scholars, e.g. MacKenzie and Millo, acknowledged the moral superiority of Malaysian officials to Westerners when they introduced derivatives in the late 90ies and acted in accordance with Islamic jurisprudence instead of following the neoclassical model. (cf. MacKenzie / Millo 2003: 139).

Authors often claim that the structure of “Islamic finance” was located in the Quran (Vogel / Hayes 1998: 1) , a scripture which emerged nearly 1500 years ago. Relying on the argument of the immutability of the Holy Scriptures, its supporters repeatedly stress the continuity of the “Islamic economical model” from the Medinan era (622-633) until the 21st century. Furthermore as a result of an increased intellectual intercourse with capitalism and communism, Muslim and Arab scholars like Maudūdī, Quṭb, Ḡābirī and Aflāq established a Muslim social and economic doctrine (cf.Reisner 1996: 151), which greatly shapes modern discourses in Muslim communities.

² Buen vivir in Latin America, Ubuntu in Africa and the concept of gross domestic happiness in Bhutan-to name a few. We have dealt with this issue in a separate seminar paper. Islamic Economy. An alternative concept? University of Vienna seminar paper 2015

On a practical level, in recent years we have seen the rapid opening of Islamic banks and insurance companies offering their clients Sharia-compliant financing tools like *murābaḥa* contracts, *ṣukūk* and *takāful* products. However at first glance, Islamic products seem to be under-represented on the capital markets. This issue is crucial because due to the changing economic conditions, for example the rapid fall of oil prices states and corporations in the Islamic world are in desperate need of new and innovative financing methods. Criticism mainly concerns the heterogeneity of the interpretations of the Sharia, the lack of common standards for regulation and supervision and the lacking instruments for managing liquidity risks for Islamic banks (cf. Kern 2012: 18). The key questions we have formulated is how contemporary Islamic finance copes with new complex financial instruments like options and derivatives. What are their contemporary practices in Arabic countries?

An endeavor to find a complete answer to the whys would greatly exceed the scope of the present paper. Thus we intend our thesis to be a pilot study to map the key aspects of a subject, which is still in its infancy (cf. Kamali 2000: 191-193) and identify possible areas of research for the future. Our research questions are the following: “Are there alternatives for financial options in Islamic finance?” and “Do Islamic financial principles currently play a role in the capital markets in the Gulf countries?”

In the first chapter of our paper we will introduce the basic economic concepts which lie behind financial options and derivatives. In the second part we will devote ourselves to the second pillar of our interdisciplinary work, where we will introduce the key theoretical aspects of Islamic finance. After briefly presenting the current state of research, we will devote ourselves to our next main topic, Islamic options. Last we will examine the current practices in the Countries of the Gulf Cooperation (CCG).

1.2 Methodology

The present paper is a solely based on literary research on. During our analysis we will rely on primary and secondary literature of selected works of *hadith* and *fiqh*. During our hadith analysis we will primarily refer to six canonical hadith collections of the Sunnites (*kutub al-sitta*). These are al-Buḥārī, Muslim, abū Dawūd, at-Tirmīdī, ibn Māḡa and Muwaṭṭa Mālik. During the analysis of *fiqh*, we have relied on Ḡazālīs al *fiqh ‘ala l-maḡāhib al-arba’*. The reason for this is the high acknowledgement of this work among Sunnite Muslims. The reason why we didn’t include Shiite hadiths and works of Shiite scholars into our analysis is not because of

their lesser relevance, but rather the time and content related restrictions we had to face in our thesis. During the translation of Verses from the Quran- if not stated otherwise, we have relied on the translation of Muhsin Khan. All verses and translations are quoted from the internet site legacy.quran.com (marked in the bibliography).

Where necessary, we transliterated according to the standards of the Deutsche Morgenländische Gesellschaft (DMG). A detailed transliteration table can be found in the attachment at the end of this paper. In case of frequently used geographical and common names, we use the common English spelling forms (e.g. "Quran", "Hadith", "Sharia", "Mecca", "Jidda"). When we cite English publications from authors with Arab names, we use the spelling forms under which these works were published (e.g. "Al Saati", "Jamaldeen"). In case we refer to the same author who published both in English and in Arabic, we will use the Arabic transliteration, but in brackets we will also mention the Latin variant, (e.g. Al-Qarī (El-Gari)).

2. The theory of financial options

2.1. The global relevance of options and derivatives

Options belong together with forwards, futures and swaps to the group of financial instruments which are commonly known as derivative securities. The basic feature of derivatives is that their value depends on the value of another commodity (*derivare* Latin to derive, to draw on), often called “*underlying asset*”. In the past few years derivatives gained increased importance both for financial service providers, as well as for corporations. The primary reason for the attractiveness of derivatives is that they are ideally suitable for mitigating financial risks of various kinds: e.g. commodity price risks, exchange rate risks and interest change risks.

Another basic feature of derivatives is the time difference between the conclusion of the contract and the performance thereof. For this reason derivatives are also often classified as “*time deals*” (in contrast to “*spot deals*”, where contract conclusion and performance happen simultaneously). In other words, this means that the specification of the contract details, e.g. the price and quantity are fixed today, while the delivery (and possibly also the settlement) take place at some point in the future. This future date of contract performance is also called the *maturity date* or *expiration date*.

We can further classify time deals into unconditional time deals and conditional time deals. A conditional time deal means that one of the contracting parties has the possibility to choose whether to perform the contract to the originally stipulated conditions or not, whereas in the case of unconditional time deals, there is no such option (cf. Geyer / Hanke et al. 2015: 257).

While forwards and futures belong to the group of unconditional time deals, financial options belong to conditional ones. In practice this means that the buyer of the option (in stock market jargon also called “the contract party in the long position”) has the decision, whether to exercise the option or not. On the other hand, the seller (in other words: “writer”, “option holder” or “contract party in the short position”) is obliged to perform the contract according to the stipulated contractual provisions, in case the buyer decides to exercise that option.³

³ Today there is a huge variety of options on the market, therefore there are no clear provisions regarding the exact date of the exercise of the option. Basically we distinguish European and American options. While European options can be exercised at maturity date only, American options can be exercised any time within the contract period.

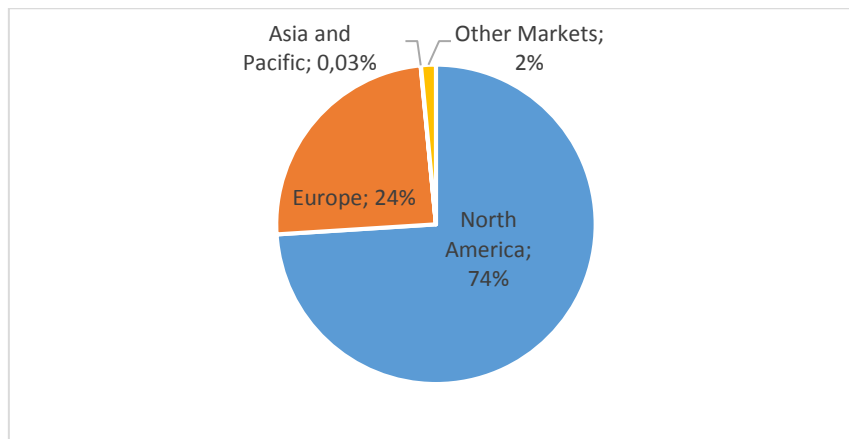
The possible spectrum of underlying assets is virtually infinite. The first standardized derivative contracts were future transactions on grain and livestock on the Chicago Board of Trade in the mid-1800s. Today there is practically a limitless range of possible underlying assets. Apart from agricultural products, which still enjoy a high popularity, there are derivatives on foreign currencies, interest rates, raw materials (e.g. crude oil in particular), machinery and even real estate. (The daily bulletins of the CME group give a fairly good overview of possible underlying assets: (CME Group 2018)).

The growing importance of options and derivative markets is signalized by their rapidly growing size since 2000. Basically the exchange of options and derivatives can take place on two main exchange platforms: Conventional stock exchanges and offmarket exchange platforms, (also called “over the counter [OTC] markets”).

In stock exchanges, the trading of options runs similarly to other commodities like shares and bonds; they can be traded at will between the market participants. On the other hand, in OTC the contracting parties agree on the details of the contract bilaterally, without third party involvement⁴. The main actors in OTC derivatives markets are banks, fund managers and larger corporations (Hull 2018: 3).). In November 2017 the total size of OTC traded derivatives amounted nearly to \$500,000 billion US dollars, out of which ca 10% were options (BIS 2017). Out of the \$51,858 billion outstanding OTC option contracts, \$10,901 billion (21%) contracts were on foreign exchange deals, \$36,970 billion (71%) were on interest rates and \$6,836 billion (13%) were equity linked (ibid.).

The trading volume of financial options traded on global stock exchanges was comparable to those which were traded over the counter: In September 2017 the open interest of all options traded amounted to USD 52,367 billion. This graph shows the division of the exchange traded by continents:

⁴ In some cases though, the contract parties may present the OTC trade to a central counterparty (CCP), which operates similarly to an exchange clearing house. (Hull 2018: 3)



(Own graph based on the data of BIS 2018)

We can see that the global option trade is principally covered by two markets, the North American and the European. The role of the entire Asian market is marginal: The total open interest is only \$17 billion USD. Nevertheless the data show a growing tendency: Since 2015 the open interest in Asian markets has almost tripled (BIS 2018).

In 2016 the largest derivatives exchanges worldwide (by trading volume in millions) were the Chicago Mercantile Exchange (CME) with \$3,942.2, the national stock exchange of India with \$2,119.46 followed by the Atlanta-based Intercontinental Exchange with a trading volume of \$2,037.93. The largest derivative exchange in Europe is the Moscow Exchange with a trading volume of \$1,950.15 (statista.com 2018).

2.2 Option types

The following section explains the basic functionality of financial options using basic examples. Options are complicated financial instruments and we assert that the best way to introduce the topic is by using basic mathematical examples from introductory literature. The generally acknowledged standard work for options and derivatives is Hull's *Options, Futures and other Derivatives* published in 2018. The latest (10th) edition is divided to 37 chapters and comprises over 800 pages, which demonstrates the giant scope of this topic.

2.2.1 Payoff scheme of future contracts

In order to better understand how financial options work, we will have a look at a somewhat more “straightforward” derivative contract type, financial futures. In contrast to options, futures

are unconditional time bargains, meaning that both contracting parties (i.e. the buyer and the seller) are obliged to perform the contract at its maturity date according to the stipulated conditions.

Let us illustrate the motivation behind futures with an example: given it is January 1st and an imaginary company will need to purchase 100 barrels of crude oil on the 1st of July. Basically the company manager has two options: He can wait until 1st of July and buy 100 barrels of crude oil on the market to market conditions at that time, or he can buy a future contract (future long) now on 100 barrels of crude oil with a delivery date on the 1st of July⁵. We assume that there is a future contract on 100 barrels quoted as \$60 for each barrel, and the manager decides to buy this future contract. After purchasing the future contract, the company is obliged to buy the underlying asset for these conditions, no matter what market conditions occur at the date of contract performance.

The profit or loss of the company depends on the actual (spot) price of crude oil on July the 1st. If the oil market collapses and the actual price of crude oil falls to \$40 on that date, the company manager would have been better off without purchasing the future contract, as he could have purchased the underlying asset for \$20 cheaper for each barrel. Thus in this scenario, the company has suffered a total loss of $20 \times 100 = \$2,000$ by purchasing the future contract.

On the other hand, in another scenario the price of crude oil may increase significantly. Let us assume the actual price of crude oil is \$90 / barrel on 1st of July. This scenario would mean that the manager was better off by purchasing the future contract, because if he had waited until the purchase date, he would have paid more for the underlying asset (\$90 instead of only \$60). Accordingly his gross profit amounts to \$3,000 (30×100).

Thus very simplified⁶ we can assume that the profit / loss equation of the company looks as follows:

$$\Pi = (\text{spot price} - \text{futures price}) \times \text{contract value}$$

Resulting in the following linear yield curve:

⁵ For the sake of simplicity we assume that January the 1st is a working day.

⁶ In reality the price of futures contracts depend on a high variety of factors, e.g. maturity time of futures contracts, spot price of the underlying asset, interest rate and possible warehousing costs. For a more exhaustive discussion of futures contracts we would like to refer to Hull 2018: 24-71. The aforementioned example is a highly simplified version of the example provided by Hull 2018: 58.



Own graph based on (Geyer /Hanke et al. 2015: 267)

This means that theoretically speaking the maximum possible loss of the company through the future contract is limited by \$6000, given the unlikely situation occurs that the oil price falls down to zero dollars. The maximum profit is theoretically unlimited, as the maximum possible price of crude oil is theoretically infinite.

Future contracts are *zero sum games* in the same way as financial options (as we will explain in a later chapter somewhat more in detail), meaning that one trading party gains the same sum what the counterparty loses and vice versa. Naturally from the perspective of the seller of the future contract (future short), the yield curve results in an inverse linear declining graph.

2.2.2 Call options

Hypothetically the company manager from the last example intends to purchase the underlying asset in advance, however simultaneously he would also like to leave the possibility open to purchase the underlying asset on the spot market in case the market price drops. In other words, the company manager searches for a solution, where he can limit his possible losses. (We recall that in the case of a future contract his maximum possible loss amounted to \$6,000). In this case a financial option may be a more suitable solution.

An option is a conditional time contract, where unlike futures, the purchaser of an option *may*, but does not necessarily *have to* conclude the contract upon the stipulated conditions. We can also refer to financial options as a sort of insurance, which in exchange for a premium, insures them against possible investment losses.

Let us show a practical example: Given the same starting position as in the last example: It is January 1st and the company intends to purchase 100 barrels of crude oil by July 1st. On the local stock exchange he finds a call option on the desired contract value and strike price of \$60, currently quoted at \$5. This means that for a premium of \$5, the company has the right to buy the underlying asset for \$60 on the 1st of July⁷, but does not have to.

Let us look at the two scenarios from the previous example. If the oil price sinks to \$40, it would be more favorable for the company to purchase crude oil on the spot market, instead of exercising the option and pay \$60 for each barrel of crude oil which would mean that the company would have to pay \$20 more. Thus the company manager would rather allow the option to lapse and his only loss from the option business would be the option premium of \$5 multiplied by the contract value (=\$500).

In scenario two, the price of crude oil rises to \$90 / barrel. This scenario means that on the spot market the company would pay \$30 more than by exercising its option to buy crude oil for only \$60.

The company manager will exercise the call option if the value of the underlying asset *exceeds* the strike price of the option. In this case we are speaking of an option which is *in the money*⁸. (cf. Geyer / Hanke et al. 2015: 296)

For the company, this results in a profit equation as follows:

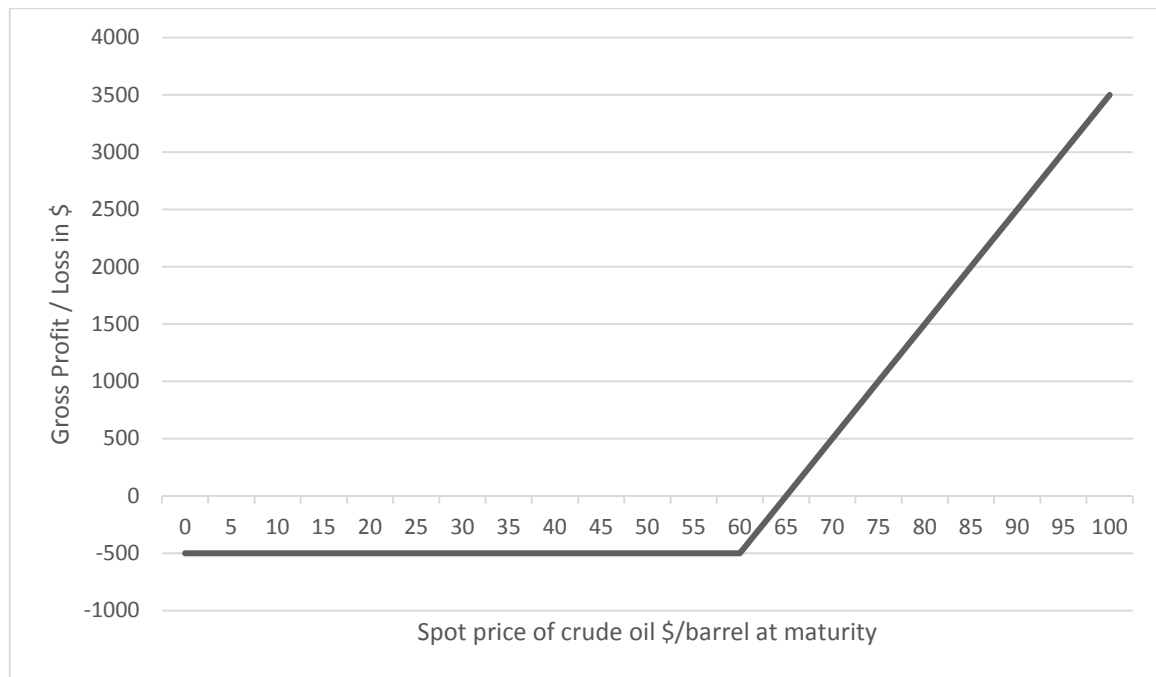
$$\Pi = (\text{spot price} - \text{strike price} - \text{option premium}) \times \text{contract value}$$

In this particular case his total profit amounts to $(\$90 - \$60 - \$5) \times 100 = \$2,500$

Summing up the company's overall yield curve will result as follows:

⁷ For simplicity reasons we assume that all options discussed here are European ones.

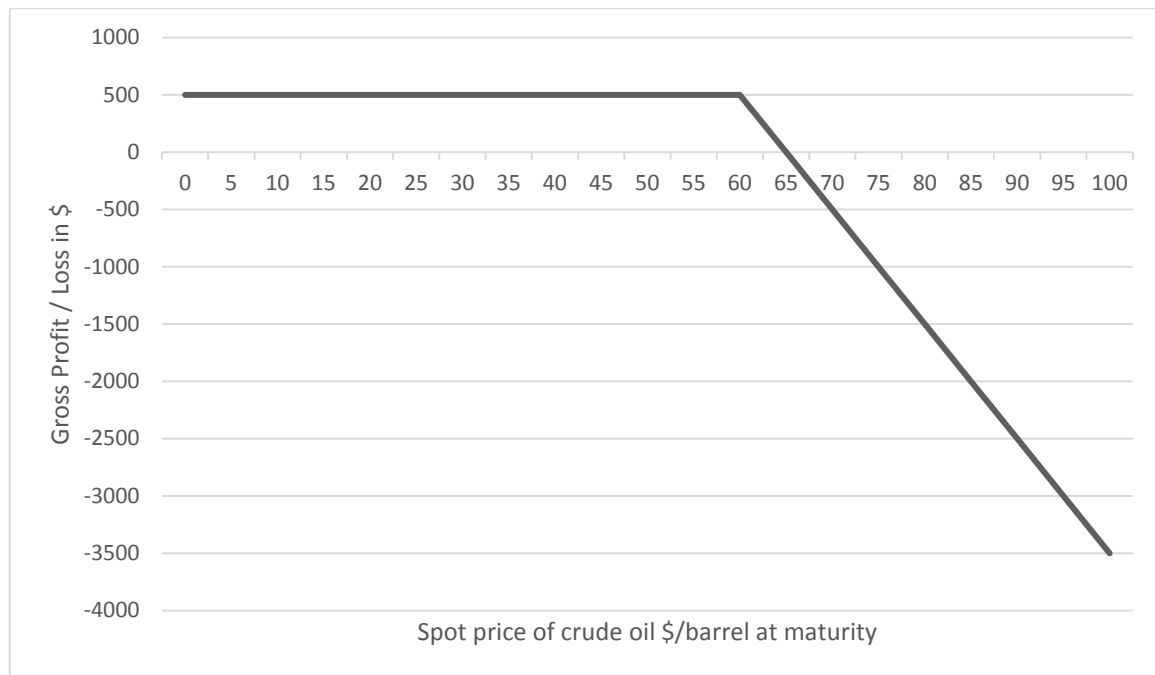
⁸ In case the value of the underlying is below the strike, the option is *out of the money*, while in case the value of the underlying equals the strike price we speak of *at the money* options (cf. Geyer / Hanke, et al. 2015: 296).



Own graph based on (Geyer /Hanke et al. 2015: 281)

Looking at the graph we get a better understanding on the basic motivation behind options: to keep open the possibility of making profit, but to limit losses as much as possible (cf. *ibid.*). On the other hand, the option seller (in the short position) has a mirror-inverted yield curve. In the option premium, he receives limited gains, but if the buyer decides to exercise the option, his losses are theoretically unlimited:⁹

⁹ It is recalled that options work similarly like insurance contracts. Thus the option premium is by no means constant, but shall fairly reflect possible deviations in the price of the underlying asset. We will return to this topic in chapter 2.4.



2.2.3 Put options

The kind of financial option, we have presented in the previous chapter was a call option, meaning that the buyer has the right to *buy* the underlying asset and the option seller is obliged to *sell* the underlying asset if the buyer desires to exercise his option. Now we will turn our attention to the second main kind of option forms, *put options*. In this case the buyer has the right to *sell* the underlying asset for the strike price, whereas if the buyer exercises his option, the option seller is obliged to *buy* the underlying asset for the stipulated price.

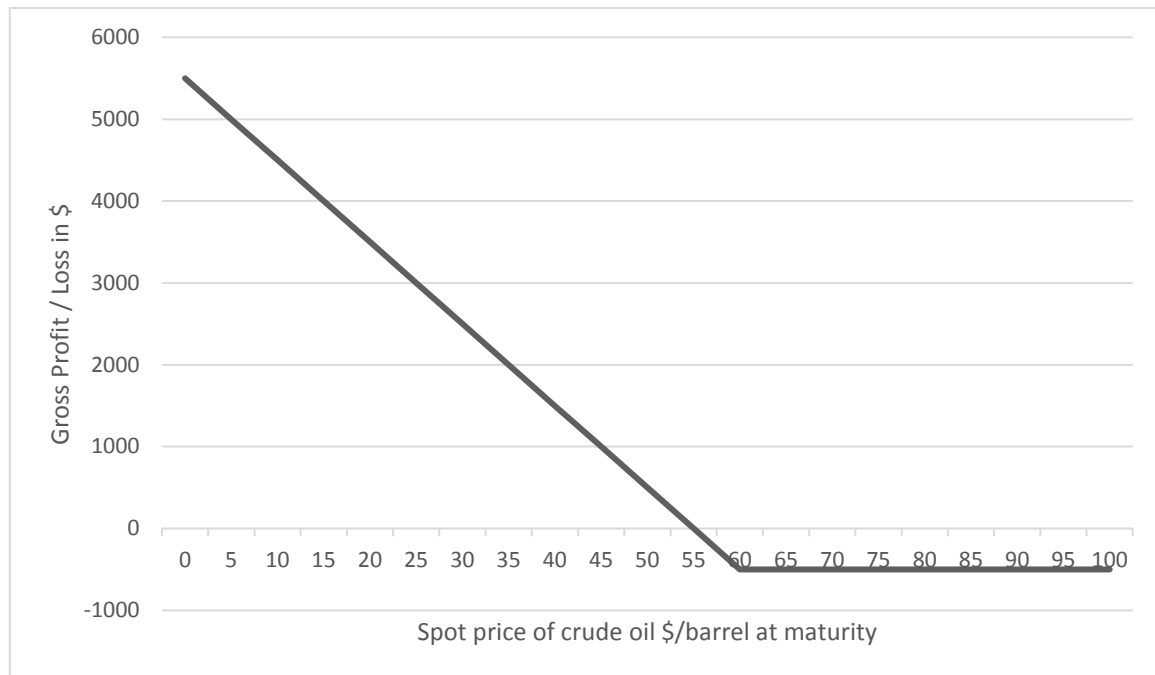
Given on January 1st the company manager has 100 barrels of crude oil and he knows that he will sell the asset on July 1st. He may consider purchasing a *put option*. Hypothetically there is a put option with a strike price \$60 currently listed at \$5 on the local stock exchange with an expiration date on July 1st.

Let us take the two possible scenarios from the previous examples: Given that on 1st July, the oil price sinks to \$40: In this case if he thinks economically, the company manager would exercise the option, because it gives him the right to sell the underlying asset for a higher price than it is actually worth of (for \$60 instead of \$40). His total gain in this particular case is \$1,500, which results from the following formula:

$[(\text{Spot price } \$60) - (\text{Strike price } \$40) - (\text{option premium } \$5)] \times (\text{contract value } 100 \text{ barrels}).$

In scenario two the oil price rises to \$90. In this case the company manager won't exercise the option, as he can sell the underlying asset for a more favorable condition on the market. In this case his loss amounts to \$500 (=option premium x contract value).

The profit/ loss curve of the company resulting from the *long put* option contract will look as follows:



Own graph based on (Geyer /Hanke et al. 2015: 289)

The maximum loss of the company is limited by option price multiplied by the contract value, while its maximum gain – if the oil price sinks to zero dollars- is limited to \$5,500. Accordingly the seller of the put option has a mirror inverted yield curve with a maximum gain of \$500 and a maximum possible loss of \$5,500.

2.3 Usage of options

In the following subchapter we will present the main fields of financial options. Options are a form of insurance against price fluctuations. However the fact that they are easily tradeable make them also attractive among other kinds of dealers too, who not only want to reduce risks, but seek to achieve profit from buying and selling the derivative instead. Principally there are three key types of trader: hedgers, speculators and arbitrageurs. (cf. Hull 2018: 11), (cf. Geyer /Hanke et al. 2015: 290-295).

2.3.1 Hedging

By using options, investors can theoretically significantly reduce, (or in some special cases even completely eliminate) risks resulting from price volatility (Sandmann 2010: 14-15). Let us assume the company has 100 barrels of crude oil in stock, worth \$60/barrel. The company manager anticipates a large fall of the oil price by the 1st of July. No matter how much the price of crude oil falls, by purchasing a *put option* with the same strike price and the desired exercise date, he can sell the commodity for \$60 by the 1st of July. Naturally he has to pay the price of the put options, but at least his loss becomes predictable and he can somewhat reduce price risk.

On the other hand the company manager may also be interested in securing himself against high oil prices. He may want to keep his assets as low as possible (e.g. due to accounting or taxation reasons). In this case he may consider selling *call options*, in order to limit his profit to a certain level.

Theoretically an investor can also reach a state, where he can eliminate risk completely. Through combining put and call options, he can fix the value of his asset, no matter in what direction the oil prices moves. This state is also called “the perfect hedge”. (Černý 2009: 11).

2.3.2 Speculation

Chancellor defines speculation as “an attempt to make gains from changes in market price” (Chancellor 2000: xi). The key concept of speculation is to make an investment today with the hope of gaining profit in the future. The key difference between investors and speculators is the “presence or absence of the intention to ‘trade,’ i.e. realize profits from fluctuations in security prices” (Schumpeter 1939: 679, cited from Chancellor 2000: xi). Because of their high tradability and price volatility, financial options are also a highly popular instrument for speculators.

Let us illustrate how such a speculation strategy could work in practice, using a practical example: Starting from our initial example, it is January 1st and the current oil price of crude oil is \$50. The company manager expects a significant rise of oil prices by the 1st of July and is ready to invest \$5,000. He has two possibilities:

Without buying options, he may invest the money in 100 barrels of crude oil ($=\$5,000 \div \50). Let us assume, his plan works and the price of oil rises to \$65/ barrel by July 1st. Thus his net profit amounts to:

$$(\$65 - \$50) \times 100 = \$1,500$$

On the other hand he might consider investing \$5,000 in *call options*. We assume that there is a call option for \$1 with an exercise price of \$60 on the local stock market. The company manager buys 5,000 call warrants, which entitles him to buy 5,000 barrels of crude oil on 1st July for \$60. After buying the commodity he may immediately resell it on the spot market for \$65 and his profit amounts to:

$$5,000 \times (\$65 - \$60) = \$25,000$$

Subtracting his initial investment of \$5,000 his total gain amounts to \$20,000

Through using financial options, the profit of the company is 13 times higher than from buying the underlying asset directly on the market. On the other hand, his potential loss by using options is also higher. If the price of crude oil falls to \$35 on the 1st of July, his loss would be \$1,500, when he buys crude oil directly. If he chooses the *option* strategy, his total loss would be \$5,000, meaning that he would lose his total investment in call options.

(Example based on Hull 2018: 15)

2.3.3 Arbitrage

The last main field of financial options is *arbitrage*. Hull defines arbitrage as “locking in a riskless profit by simultaneously entering into transactions in two or more markets” (Hull 2018: 16). Černý defines arbitrage, when “prices of basis assets are inconsistent, providing possibilities of riskless profits (Černý 2009: 38). The main difference between speculators and arbitrageurs is that speculators try to make extra profits by using price differences over time, while arbitrageurs take advantages of market inconsistencies over space.

Arbitrage possibilities can exist if there are severe price differences in different markets, e.g. two identical stocks of the same company are traded for different prices in regionally different stock exchanges. If this is the case, an investor could buy the same item on a market where it lists at a lower price and sell it on the market where it lists at a higher price. In other words,

arbitrage opportunities exist, “at any situation, in which it is possible to make profit without taking any risk or making any investment” (Berk / DeMarzo 2017: 104).

As the price of derivatives are dependent on a high variety of factors (e.g. time until maturity and current interest rate on the market, price of the underlying asset), options are also highly lucrative instruments for arbitrageurs. A popular mathematical method for evaluating option prices is the “no arbitrage model”, where the value of a portfolio containing financial options is replicated with a risk-free portfolio (such as fixed interest rate treasury bills) (cf. Černý 2009: 40f).

A more detailed description of arbitrage strategies with options would greatly exceed the scope of this thesis. In this regard, we would like to refer to specialized literature (e.g. Hull 2018:272ff, (Černý 2009: 40)).

In practice, hedging, speculation and arbitrage are mostly not practiced independently. Instead we often find combinations of these forms. Possible payoff structures of combined options may assume diverse shapes. Some examples are presented (from Hull 2018: 258-267):

Figure 12.2 Profit from bull spread created using call options.

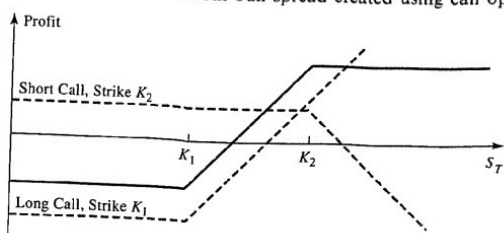


Figure 12.10 Profit from a straddle.

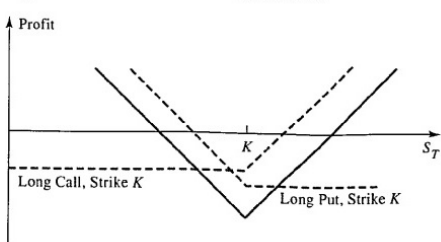


Figure 12.4 Profit from bear spread created using put options.

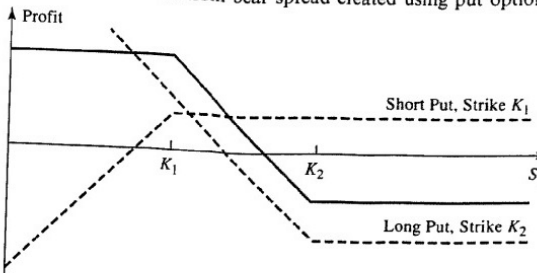
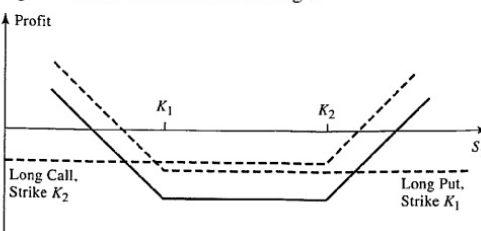


Figure 12.12 Profit from a strangle.



2.4. Excursion. Option evaluation methods

The price of a financial option is by no means constant. It can vary greatly on a daily or even on an hourly basis. Its price depends on a high variety of factors, e.g. time until maturity, interest rates and possible fluctuations in the price of the underlying asset. In general practice, option prices are evaluated using sophisticated stochastic calculation methods (e.g. the Black-Scholes

Merton Model). A mispriced option will be more likely a subject to arbitrage opportunities and can cause market inconsistencies (cf. Černý 2009: 39-41.) This paper will present the simplest (and one of the most popular) evaluation method, the binomial model.

We assume that the price of an underlying asset, (e.g. crude oil or shares), which now costs \$50 can have two values in the future: In scenario A, it increases by 30%, while in scenario B, it declines by 30%. The probability for scenario A is 60%, while the probability for scenario B is 40%¹⁰. In a simplified manner, we assume that the risk free interest rate on all capital markets is 0% per annum. A one time step is equivalent to 3 months (i.e. $t=1$ - three months, $t=2$ - six months).

We assume it is currently the 1st of January and there is a European call option traded for the underlying asset with an exercise price \$60 and a maturity date 1st of July.

First of all we observe the possible movements in the underlying after three months ($t=1$). In scenario A the price of the underlying may rise by 30%, thus amounts to $\$50 \times 1.3 = \65 , whereas in scenario B it may decline by 30% and amount to $\$50 \times 0.7 = \35 . After six months there can be four possible scenarios: C, D, E and F¹¹. In scenario D, the price of the underlying will rise again and will amount to $\$65 \times 1.3 = \84.5 , while in scenario D it will fall to \$45.5. The worst case scenario is F, when the price of the asset will fall twice to \$24.5.

On the basis of this model, we will try to evaluate the possible values of the options in $t=2$. In scenario C, the option is *in the money*, because the value of the underlying exceeds the strike price of \$60. As a result, the intrinsic value of the option is given by $\$84.5 - \$60 = \$24.5$. In scenarios D, E and F the intrinsic value of the option is zero because in all cases the call option is *out of the money*.

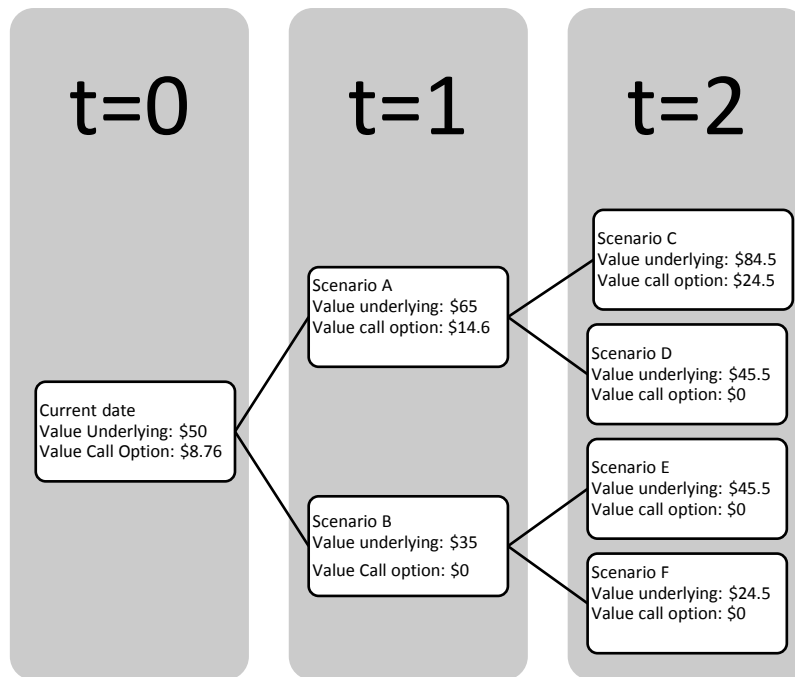
If we would like to receive the current price of the option we have to recalculate its expected value from $t=2$. Thus in node A, we take the values from the nodes C and D, while in node B, we take the values from the nodes E and F.

¹⁰ Theoretically the probability of an upward movement p correlates with the possible price movements of the underlying asset (given the market is “perfect” and there are no arbitrage opportunities). (See Hull 2018: 275). Our goal in this example is to solely demonstrate the key principles of the binomial model, thus for simplicity reasons we assume that the probability of an upward movement p is 60% and for a downward movement $(1-p)$ is 40%.

¹¹ Since we assumed that the possible increase and decline of the price of the underlying are the same (=30%), scenario D and E have the same outcomes actually.

For the value of the call option we receive in node A $\$24.5 \times 0.6 + \$0 \times 0.4 = \$14.6$. Using identical calculation methods, in node B the value of the call option amounts to 0. Analogically the current price of the option stems from the expected value in $t=1$, thus $\$14.6 \times 0.6 + 0 \times 0.4 = \8.76 .

In the following graph we have summarized the outcomes in a clearer manner. This evaluation method can also be applied identically for *put options*.



Graph and example based on Hull 2018: 278ff and (Sandmann 2010: 199ff)

2.5 Excursion. Selected aspects of behavioral finance

2.5.1 Rationalism versus behaviorism in modern economy

We do not consider the next chapter as a crucial part of our thesis. Nonetheless we would like to give a quick overview about some aspects of contemporary finance which greatly shape the modern understanding of financial options. Our intent is to show the reader that options and derivatives are by no means a “perfect” and homogenous theoretical construct, but rather interconnected with a high variety of issues, being intensively discussed among contemporary scholars

Classical financial theories assume that markets are consistent and all market participants have complete knowledge about the quality and the quantity of the traded products. In such an environment, prices would be able to adjust themselves and there would be a minimal need for

external regulators. However, the global financial and economic crisis has showed that capital markets are by no means perfect, since investors make their decisions under uncertainty, and by no means possess full information and so they mostly do not make their choices on the basis of rational arguments, but rather on how they momentarily perceive things (cf. Hens 2016: v).

In the past 50 years, Western economists started to observe decision making processes in the financial sector from a new perspective. We can observe a shift away from the principle of the, *Homo economicus* and an inclusion of psychological and philosophical aspects (Camerer 1999: 10575). This new set of thoughts has become known as “behavioral economy (Hens 2016: v).

Camerer defines the four principles of economic behavior as follows: (Diagram from Camerer 1999: 10576)

Rational principle	Behavioral principle	Psychological foundation
Expected utility $\sum_i P_i u(X_i)$	Prospect theory $\sum_i \pi(P_i) u(X_i - r)$	Psychophysics, adaptation: loss-aversion, reflection, mental accounting, nonlinear $\pi(P_i)$
Equilibrium (mutual best response)	Learning, evolution	Generalized reinforcement, replication by fitness
Discounted utility $\sum_t \delta^t u(x_t)$	Hyperbolic discounting $u(X_0) + \sum_{t=1} \beta \delta^t u(X_t)$	Preference for immediacy (temptation)
Own-payoff maximization $u_{X_2}^1(X_1, X_2) = 0$	Social utility $u_{X_2}^1(X_1, X_2) \neq 0$	“Spend” money on other people (reciprocate, dislike inequality)

2.5.2 Decisions under uncertainty- Utility vs. prospect theory

The area of risk management and decisions under uncertainty is an important field, where rationalistic (prescriptive) and behavioral (descriptive) approaches confront each other (cf. Hens 2016: 15).

Uncertainty can manifest itself in two forms: Uncertainty in the narrow sense and risk (Laux /M.Gillenkirch et al. 2012: 33). We speak of uncertainty in the narrow sense, when the decision maker knows the possible outcomes of his decision, but he is unable to predict their probabilities. On the other hand, we speak of risk when the outcome of a certain decision is uncertain, but the correspondent probabilities are predictable. (ibid.).

Finance defines risk as an objective measure, however a preference in favor of one alternative or another depends on the subjective appraisal of the decision maker (Geyer /Hanke et al. 2015: 33). One form of measurement of risk attitudes is the “certainty equivalent” (CE). Principally

it is the amount of money which a lottery participant is willing to pay for participating in the game (ibid.: 34). Let us show this principle on the basis of a trivial example:

We have three players Jim, James and Jill, who seek to participate in a lottery, which requires an initial investment. Jim is willing to pay maximally €500, James €660 and Jill €900. There are three possible future payoff scenarios and the corresponding probabilities are as follows:

Bad Scenario (20%)	Average scenario (50%)	Good scenario (30%)
€300	€600	€1000

The expected value (EV) of the lottery is given with $€300 \times 20\% + €600 \times 50\% + €1000 \times 30\% = €660$

Jim is willing to invest a considerably lower sum than the EV of the project, implying that he considers risk as a negative factor (=risk averse).

James is willing to pay maximally as much as the EV of the lottery, implying that risk does not have any influence on his decision. Jill's stake exceeds the EV of the project. She is ready to pay €900 and expects that the good scenario will materialize, implying that she is willing to take more risk for a higher profit (=Risk lover). (Example based on Geyer /Hanke et al. 2015: 37).

In other words in risky situations, a rational decision maker decides on the basis of the expected value (μ) and standard deviation (σ) of the future return on his investment and his individual utility expectations (i.e. the value, what he actually expects from an investment) (cf. Laux /M.Gillenkirch et al. 2012: 103). An investor who is willing to take risk appraises a high standard deviation as positive. A risk neutral-investor does not consider standard deviation at all (and also risk- cf. Geyer / Hanke et al. 2015:33), whereas a riskaverse investor judges high standard deviations adversely. Given if multiple scenarios deliver the same expected return, but show different deviations, a risk lover investor would pick the alternative with the highest σ value, while a risk averse one would pick the one with the lowest σ value. A risk-neutral investor would be indifferent to all possible alternatives (Laux /M.Gillenkirch et al. 2012: 105).

Behavioral (descriptive) theories imply that people do not act rationally most of the time. Furthermore their risk attitude can strongly vary with the situation. (For instance same people often

buy insurance and play a lottery at the same time (cf. Hens 2016: 54)). Kahneman and Tversky's prospect theory was one of the first attempts to model how the individual's attitude toward risk can change when they make decisions under uncertainty. The theory implies that decision makers can act risk-loving and risk-averse at the same time, depending on their possible gains or losses in relation to their initial reference point. If people receive gains, they show a risk-averse attitude, (i.e. they prefer secure returns instead of high and risky ones) If individuals face losses, they show a risk-loving attitude; (i.e. they prefer risky returns instead of secure ones). (Laux /M.Gillenkirch et al. 2012: 168-169). The theory also implies that the greater the distance to the initial reference point, the more indifferently people feel towards further gains or losses (cf. ibid: 168). This explains why people are both willing to invest a small amount of money for uncertain, but high possible gains (=gambling, speculation) and at the same time willing to invest disproportionately high sums to prevent possible losses (=insurance, hedging).

We will come back to this differentiation once more, when we will deal with uncertainty from the perspective of Islamic finance.

2.5.3 Moral hazard

In chapter 2.3.1, we stated that hedging can significantly reduce or even completely eliminate company risk. In theory this seems plausible, however in practice there are many problems: What if an insurance company offers a health insurance plan but some clients live an unhealthy lifestyle, while others do not. Is it justifiable to charge the same premium for all participants? What if a company concludes a *long call* contract and the counterparty fails to hand over the underlying asset at maturity? Or what if the company owners insist on using derivatives for hedging but the managers use them for speculating instead? (cf. M. Stulz 2003: 107).

Moral hazard, also known as "principal agent problem" describes a "behavioral characteristic" (Doherty 2000: 63), where the agent acts adversely to the instructions of the principal, motivated by self-interest. Moral hazard is a widely discussed topic in the insurance business because the insurer has limited tools to monitor whether the insured acts properly or not. In an ideal world, all contracting parties have full information about the other and all participants act rationally so that insurance contracts could be tailored individually to the needs of the insured.

In reality this is not the case, because there are information asymmetries between the insurer and the insured. Since the insurer "anticipates that the insured will reduce his chosen level of

safety” (Doherty 2000:63), he will charge a higher insurance premium. In the derivatives business, moral hazard appears in the form of overpricing complicated financial instruments (cf. M.Stulz: 107). Risk sharing is one possible way to mitigate the problem. This is why insurance companies demand deductibles from their clients and the salaries are often complemented by bonus payments if certain performance criteria materialize. (cf. Doherty 2000: 71).

2.5.4 Adverse Selection

While moral hazard deals with a problem resulting from hidden actions, adverse selection is a societal /economic phenomenon, which results from the fact that one contracting party hides decisive information from the other. For example a seller of a second hand car probably has a lot more information about the quality of the item to be sold. (cf. Doherty 2000: 72-73). A potential buyer, who lacks information about the item will most likely orient himself to general market statistics(Akerlof 1970: 488) and he “will select his best action based on his private information” (Grinblatt / Titman 2002: 674). The problem arises when plenty of low-quality products are traded on a certain market, (e.g. the second market for cars, where owners rather tend to sell bad cars in the first year), where cars of the same model and roughly similar specifications are traded for the same price. How will a buyer know that the car for sale is a bad one or a good one? Why would he pay more for a potentially good car? As a result, sellers of good cars will withdraw their cars from the market, where only cars with lesser quality remain (Doherty 2000: 73).

Adverse selection is also a huge issue in the insurance and derivatives sector. (Akerlof 1970: 488f) proved that in the U.S., people with a poorer health are more likely to buy medical insurance than healthy individuals. The reason is that insurance companies, which are not informed about the real medical conditions of their clients will charge higher fees and therefore healthy people will cancel their contracts (cf.Akerlof 1970: 493). Adverse selection is also the reason why companies are more likely to use debt financing instead of issuing equities. Since investors lack the information of the real value of the company assets, they will be ready to pay less for them (Grinblatt / Tittman 2002: 676-677). Furthermore, adverse selection can be used as an explanatory formula for a multitude of other societal phenomena, e.g. underemployment of minorities in certain jobs (Akerlof 1970: 494).

The relevance of adverse selection for our topic manifests itself in the fact that option markets are largely dominated by standardized contracts, which often do not reflect the proper risk behind the underlying asset. Another problem was that OTC markets were often a legal grey zone. Since the financial crisis, there have been increased efforts to introduce new standards for derivative products. (Hull 2018: 184ff).

2.5.5 Zero sum games

In a previous chapter we have already mentioned that options and derivatives are zero sum games. Now we would like to explain the basic principle of zero sum games a little further. Zero Sum games are a sub-discipline of game theory, a “mathematical discipline which studies situations of competition and cooperation between several involved parties” (Peters 2008: 1).

We speak of zero sum games where the total sum of payoffs between all participants equals zero (ibid. 2). One of the most trivial forms of zero sum games is matching pennies between two players. This game has two outcomes: If “heads” appear, Player 1 gives 1\$ to Player 2; in case of “tails,” the contrary happens. No player can gain, without inflicting losses to the other player and every player gains the same sum that the other party loses. The total payoff of the game is zero, (i.e. the sum of both players’ profit or loss). In other words, the main characteristics of zero sum games is that “trying to maximize one’s own payoff is precisely the same as trying to minimize the payoff of the other player” (Friedman 1991: 43).

3 Key principles of Islamic finance

The previous chapter explained that conventional options are principally rights that can be traded independently from the base product on the secondary market. We will discuss Islamic options in detail later in chapter 5. For the moment, we dedicate ourselves to certain questions, coming up with the evaluation of conventional (financial) options in an Islamic context. Contemporary Islamic finance has laid down strict criteria for the form of contracts and their underlying assets. All goods have to be compatible with other provisions of the Islamic faith and should therefore on no account contain products classified as *ḥarām*¹².

- a) Some contemporary Islamic *fiqh* scholars criticize that in the secondary market options and futures sellers are not in a position of a real asset, in other words they receive money for something for which they do not reciprocate. This contradicts the interpretation of *ʿiwad*, which says that for every contract there has to be an adequate compensation.
- b) The actual market price of options is influenced by their time value and intrinsic value. The intrinsic value results from the difference of the price of the underlying asset and the strike price, when the option is “in the money.” The time value results from the time remaining until the expiration date. Under normal circumstances, the time span between contract conclusion and exercise period plays a crucial role in option pricing. Usually the longer the time distance until the expiration date and the higher the market interest rate, the smaller the actual price. In the view of some schools of thought, this involves *ribā*, which is prohibited according to some modern scholars.
- c) The next issue results from the high tradability of options. The contracting parties can change multiple times between the contract conclusion and the expiration date. The option price is highly variable and exposed to market fluctuations, making option trading very lucrative for speculative purposes (see chapter 2.3.3). Therefore, many contemporary Muslim scholars draw an analogy between option trading and gambling. (See the IFA resolution of 1983 on securities, further examined in chapter 5.1).
- d) We recall that the intrinsic value results from the difference between actual price and strike price of the underlying asset (when the option is in the money). The strike price is stipulated by the option contract and is invariable. On the other hand, the actual price of an asset can vary on a daily basis and involves a high level of market risk and uncertainty.

¹² We will discuss the following points more in detail in subsequent chapters. During the compilation we have oriented to Obaidullah 1998 (547ff) and Alamad 2017 (151ff)

According to some contemporary interpretations of Islamic law, making profit based on uncertainty is classified as *ḡarar* and is not allowed.

3.1 Fundamental principles of Islamic contract law

Before we take a closer look to these issues, we will explain major principles that lie behind the contemporary interpretation of Islamic contract law. The bulk of them result directly from the Quran and the sayings of Prophet Muḥammad and his witnesses (commonly known as hadith literature). Another part comes from the thorough intellectual and legal discussions that followed the death of the prophet, also commonly known as *fiqh*.

3.1.1 Ḥarām and Ḥalāl from an economic perspective

The validity and nullity of Islamic contracts and tradable goods is largely governed by the five religious qualifications (*al-aḥkām al ḥamsa*), that range from obligatory practices (*wāḡib, farḍ*) to forbidden activities (*ḥarām*). Activities that are not forbidden are subsumed as *ḥalāl*. (c.f. Schacht 1964, 1998: 120-121). Transactions shall not contain elements that are considered as *ḥarām*, i.e. products or contracts that are also banned by other provisions of Islamic legal principles. Depending upon interpretation, these may comprise for example

- a) Weapons of mass destruction
- b) Products that may contain or promote adultery, pornography or gambling
- c) Products that contain foodstuffs and beverages that are not compatible with Islamic traditions (e.g. pork or alcohol)
- d) Transactions that may involve *ribā* (see chapter 3.2) or *ḡarar* (see chapter 3.4)

Compilation on the basis of Vogel / Hayes 1998: 42.

3.1.2. ‘Iwaḍ

‘*Iwaḍ* is a key element of Islamic contract law. In an economic sense, it means, “substitute, compensation, return, equivalent” (Wehr 1979: s.v. ‘iwad). Thus it can be best defined as a value that is given for exchange for a certain item. Historically the term also encompassed unilateral transactions, such as onerous gifts and agreed repudiations (*ḥul’*). (de Bellefonds 2012).

According to modern interpretations, *ʿiwad* means “appropriate consideration or return service in a business deal”, whose absence may result in *ribā* (see chapter 3.2). For example the price (*taman*) can be counted as an appropriate consideration for the seller, whereas a product or a service ideally serve as *ʿiwad* for the buyer. According to classical *fiqh*, a business transaction lacking *ʿiwad* is considered as null and void. Some contemporary scholars even state that *ʿiwad* is a *conditio sine qua non* of a lawful sale (Rosly 2001: 192).

Nevertheless, there is a dispute among Islamic scholars regarding the exact nature of *ʿiwad*. How exactly should an appropriate compensation be measured? On the other hand, exactly what expenses or efforts should be included and regarded as “compensation”? It is a banal but a well-chosen example if we order a meal or even a glass of water in a restaurant. We not only pay the price for the ingredients, but also for the effort of the personnel that helped to prepare the food and put effort into it. Moreover, by paying the bill, we also contribute to the fixed expenses such as heating and electricity. In this light, the exact determination of *ʿiwad* in an Islamic sense is complicated and there are several contradictory opinions.

Rosly argues that *ʿiwad* consists of three elements:

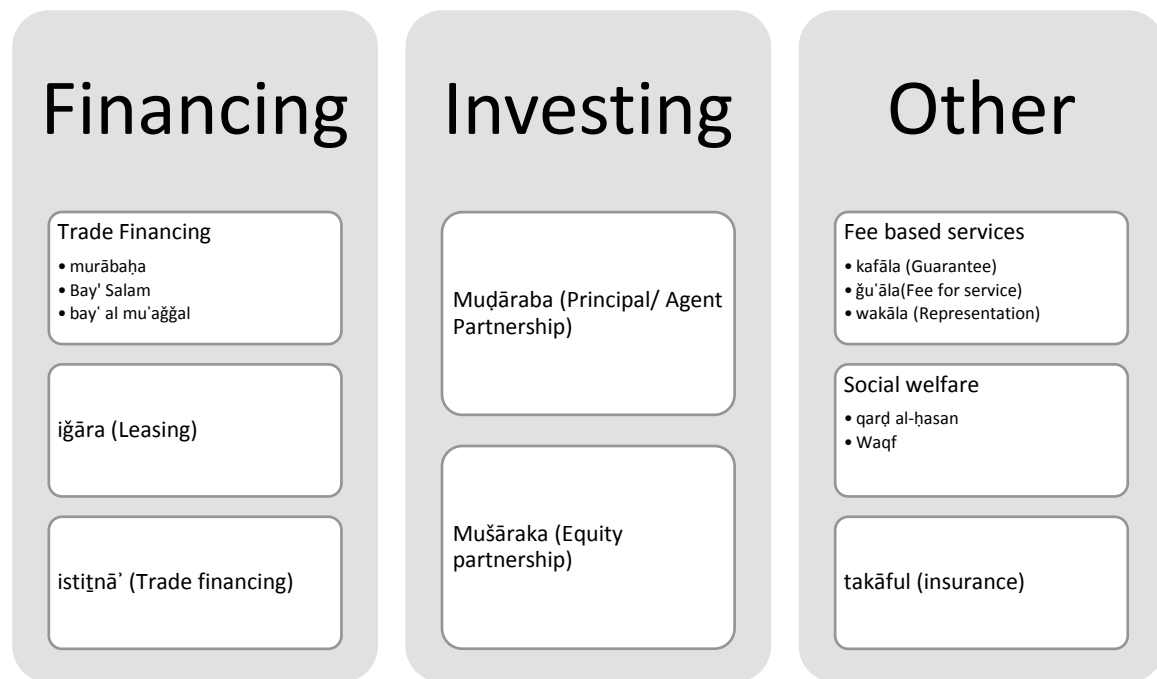
- 1) Market risk (*ḡurm*)¹³, or the possible financial loss, the vendor exposed himself
- 2) Effort or value added (*iḥtiyār*) - An adequate remuneration for the vendor’s hard work to prepare and arrange the object to be sold to the vendee.
- 3) Liability (*ḍamān*). The net value of the object to be sold (i.e. raw materials, parts, ingredients) (c.f. Rosly 2001: 194).

3.1.3 Main Islamic contracts and instruments

In this chapter we will outline the main features of Islamic contracts and products, which form a crucial aspect of the modern Islamic financial industry.

Van Greunig / Iqbal categorize Islamic contracts and instruments as follows:

¹³ We find the translation of *ḡurm* as “market risk” somewhat ambiguous. The Arabic term *ḡurm* refers to a possible damage or loss in an economic sense and therefore in its nature is completely different from “risk” in the sense of *ḥaṭar* or even *ḡarar* (see chapter 3.4)



(Own graph based on van Greunig / Iqbal 2008: 22)

Subsequently we will briefly handle the most popular contract types including *murābaḥa* and *muḍāraba*. *Bay' salām*, *Bay' istiṭnā'* and *takāful* are contract forms which basically create cash flow in exchange for rights and privileges and are in their character and payment structure the most similar to options. They will be covered later in detail in chapter five, when we will put Islamic time deals under scrutiny.

3.1.3.1 *murābaḥa*

Murābaḥa contracts are the most common financial instruments in Islamic banks. They are especially used in short term trade financing (van Greunig / Iqbal 2008: 21). Principally we distinguish three actors: The seller, the buyer and the bank, which also serves as the financier. During the first sale transaction, the bank buys a certain commodity from the seller for a price p . During the second sale transaction the bank resells the commodity to the buyer for the price p and a profit margin (*ribḥ*) $p+\pi$.

In modern practices the buyer and the seller negotiate the quantity and the price of the commodity and further details of the delivery, e.g. the delivery period. Subsequently the buyer con-

tacts an intermediary, usually a bank that finances the transaction and negotiates the profit margin and the schedule of the deferred payment (*bay' al mu'ağğal*). The bank does not usually buy goods from the seller before the seller and buyer agree on the details of their contract.¹⁴.

For a commercial bank a *murābaḥa* contract has several advantages. First and foremost, it profits directly from trading operations, without bearing the risks and costs thereof (i.e. resulting from shipping and storing of goods) (cf. Vogel / Hayes 1998: 142f)

On the other hand, the bank also bears a significant risk during reselling the commodities to the buyer, if the latter fails to honor the contract. Some critics also mention the overall reliance of modern Islamic banks on *murābaḥa* and their lacking diversification with other financing methods (Vogel / Hayes 1998: 143).

3.1.3.2 *iğāra*

If we compare *iğāra* to classical financial tools, its function resembles a conventional lease agreement. *Iğāra* contracts however envisage a more detailed stipulation of the contract period and the object of the contract. According to contemporary interpretations of Islamic commercial law, the benefits and burdens of the property must be defined more clearly between the lessor and the lessee than in the case of a lease agreement. For example, repair works and maintenance have to be performed by the lessor, since these expenses benefit him as the owner in the long term. Charging these expenses to the lessee is seen as *garar* (see chapter 3.4) since in the view of modern scholars this would unjustly enrich the lessor and make the lease amount undeterminable. Whether everyday upkeep and maintenance falls into this category is currently a matter of dispute in contemporary *fiqh* discussions (Vogel / Hayes 1998: 144).

Another issue arises from stipulations regarding transfer of ownership in the end of the contractual period. In conventional lease agreements this often happens by the means of futures or option contracts which some scholars say causes certain issues in an Islamic finance context. We will deal with these issues in detail later when we examine Islamic options.

¹⁴ Murābaḥa contracts, where the bank solely holds an intermediary position are also called *synthetic murābaḥa* contracts. (Vogel / Hayes 1998: 141)

3.1.3.3 *muḍāraba* and *mušāraka*

Muḍāraba and *mušāraka* are the most popular investment instruments within the Islamic contractual framework. *Muḍāraba* contracts are in their structure very similar to conventional limited partnerships¹⁵ and highly popular in mid-long term project funding. In the classical sense the general partner (*rabb al māl*) entrusts the limited partner (*‘āmil / muḍārib*) with capital required to execute a certain investment project, he is entirely liable for (c.f.Lohlker 1999: 59). In exchange, the limited partner uses his skills and competence to run the project without the interference of the general partner. The profit is distributed between the general and limited partners according to a prior agreement. A crucial dissimilarity between *muḍāraba* and the limited partnership is that it is not necessary to fund a separate corporation. While in the case of a *Kommanditgesellschaft (KG)* Austrian law envisages the funding of a separate joint company, in the case of *muḍāraba* this step is not essential (c.f.Vogel / Hayes 1998: 138).

In their structure *Mušāraka* contracts are similar to *Muḍāraba* but the boundaries of competence between both partners are less clearly defined. All partners have similar liabilities and responsibilities in managing the project and they share the profits or losses according to their participation in the project (van Greunig / Iqbal 2008: 24-25).

Now having briefly introduced the basics of Islamic contract law and financing instruments, we will move on to our next subject area, *ribā*.

3.2 Classical and contemporary understanding of *ribā*

3.2.1 The classical understanding of *ribā*

In classical Arabic, the root *r-b-w* connotes augmentation or increase, also in the sense of growing up or to swell, but also in the sense „to cultivate or “to rear”. In the Quran, the root also appears in the context *أَنْ تَكُونَ أُمَّةٌ هِيَ أَرْبَىٰ مِنْ أُمَّةٍ* (A community may be more numerous than another community)-(16:92) (Nadwi 2018: s.v.r-b-w). In its fourth form, in the sense of *arbaytu* it can be roughly translated as “I took more than I gave” (Lane 1863: s.v. r-b-w). The Arabic term for education, upbringing, instruction *tarbiya* also derives from the second pattern of this root.

There are several spelling forms for *ribā*. In the Quran, the expression can be found in the form *رِبَا*. In other literary sources following forms may also appear: *رِبَاء* or *رِبَوٍ*, *رِبَوًا*. The term connotes

¹⁵ Usually translated as *Kommanditgesellschaft* in German speaking countries.

an excess or an addition, predominantly in an economic sense. It has to be noted that the usual English translations “interest” and “profit” do not fully cover the Arabic word *ribā*, which can mean any addition over and above the principal sum (Lane 1863: s.v. r-b-w) According to Ibn Iṣḥāq, *ribā* can mean any payment, which exceeds the value of the actual consideration (c.f. Ibn-Manẓūr 1969: s.v. *ribā*).

In other Semitic languages, the word is primarily used in the meaning to gain, profit, benefit, to make money (𐤒𐤍𐤕-Ge‘ez) or make profit or gain (ʿarwah -Aramaic) (Leslau 1987: s.v. *rabḥa*).

In the Quran and the *kutub al-sitta*, *ribā* has a rather negative connotation, often in the sense of usury (Farid 2018: s.v. r-b-w) or “any unjustified increase of capital for which no compensation is given” (Schacht 2012a). The sentence “*ḥaṣṣala fī ribwan*” roughly means “He acquired in the practice of usury or the like” (Lane 1863: s.v. r-b-w). Furthermore, “eating”, or “consuming” is also frequently associated with *ribā*, in order to emphasize the greed and acquisitiveness practiced therein, for example in surah 2:275 *allaḍīna yaʿkulūna ar-ribā* (c.f. Lohker 1999: 24). Curiously, besides Arabic, Persian also often uses the same metaphor in connection with *ribā* (*ribā ḥordan*).

The Quran refers to *ribā* in four main places. The explicit ban on usury is in verses 2:275-280, which are also often referred to as *āyāt ar-ribā* (c.f. *ibid.*) As stated in 2:275:

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
مُوعِظَةٌ مِّن رَّبِّهِ فَانْتَهَىٰ فَلَهُ مَا سَلَفَ وَأَمْرُهُ إِلَى اللَّهِ ۚ وَمَنْ عَادَ فَأُولَٰئِكَ أَصْحَابُ النَّارِ ۖ هُمْ فِيهَا خَالِدُونَ

(Quran, 2:275)

Those who eat Riba (usury) will not stand (on the Day of Resurrection) except like the standing of a person beaten by Šaytan (Satan) leading him to insanity. That is because they say: "Trading is only like Riba (usury)," whereas Allah has permitted trading and forbidden *ribā* (usury). So whosoever receives an admonition from his Lord and stops eating *ribā* (usury) shall not be punished for the past; his case is for Allah (to judge); but whoever returns [to *ribā* (usury)], such are the dwellers of the Fire - they will abide therein.

(Quran, 2:275)

Regarding the time of revelation, there is a consensus that 2:275-280 belong to the latest revealed verses. Therefore, according to the tradition of abrogation, they have more importance than those verses revealed earlier. As in the case of many matters of public concern (e.g. alcohol consumption) we can observe a shift from a recommendation to abstain to a total ban. 30:39, which was revealed at an earlier time places *ribā* as a counterpart of *zakāt*:

وَمَا آتَيْتُمْ مِّن رَّبًّا لَّيْرُبُو فِي أَمْوَالِ النَّاسِ فَلَا يَرْبُو عِنْدَ اللَّهِ وَمَا آتَيْتُمْ مِّن زَكَاةٍ تُرِيدُونَ وَجْهَ اللَّهِ فَأُولَٰئِكَ هُمُ الْمُضْعِفُونَ

(Quran, 3:39)

And that which you give in gift (to others), in order that it may increase (your wealth by expecting to get a better one in return) from other people's property, has no increase with Allah, but that which you give in zakāt seeking Allah's Countenance then those, they shall have manifold increase.

(Quran, 3:39)

If we compare the two verses, we notice a much harsher tone used in *suratu-l-baqara*, referring to *ribā* as one of the deadliest sins, avenged by eternal punishment. The Qur'ān and hadith literature leave many questions regarding the exact scope of *ribā* unanswered, which has made *ribā* a subject of intense discussions between scholars since the early periods of Islam. Discussions in classical times revolved around the exact scope, the circumstances of revelation (*asbāb an-nuzūl*) and the level of punishment in case of a violation of the law. Social and economic aspects played a marginal role before the 20th century¹⁶.

Ribā in *fiqh* literature is defined as any kind of profit or gain without a corresponding counterpart (al-Ġazīrī 2003: 2/245, cited from Lohlker 1999: 116). Within this definition, the scope of interpretation is wide. According to the prevailing interpretations of the classical period, *ribā* referred to regulations on contractual provisions (*bay'*) of certain goods like gold and silver (*māl ar-ribā*), whose exchange was subject to strict regulations. Supporters of this interpretation were referring to the majority of hadith literature that predominantly deals with *ribā* in this specific context (ie. Exchange of certain goods) and less in connection with loans.¹⁷ In fact the ban on loans, which yield interest (*qarḍ ġarra manfa'a*) is not even explicitly mentioned in any of the six hadith collections, considered as authentic by the majority of Muslims.¹⁸

The hadith collection Ṣaḥīḥ Muslim says:

الذَّهَبُ بِالذَّهَبِ وَالْفِضَّةُ بِالْفِضَّةِ وَالْبُرُّ بِالْبُرِّ وَالشَّعِيرُ بِالشَّعِيرِ وَالتَّمْرُ بِالتَّمْرِ وَالْمِلْحُ بِالْمِلْحِ مَثَلًا بِمِثْلٍ سَوَاءٍ بِسَوَاءٍ يَدًا يَدًا اخْتَلَفَتْ هَذِهِ الْأَصْنَافُ فَبِيعُوا كَيْفَ شِئْتُمْ إِذَا كَانَ يَدًا يَدًا

(Muslim, Musāqā 102)

¹⁶ Among the exegetes of the classical period ar Rāzī (1149-1209) is considered the first scholar, who also approached the problem from an economic perspective. (Qureshi, A.I. Islam and the theory of interest. Lahore 1946, p.51- quoted from Lohlker 1999: 109). The majority of the 'ulamā' tended to a more conservative interpretation of *ribā*, using theological methodology, putting practical aspects into the background (c.f. Coulson 2011:138)

¹⁷ During the examination, we oriented ourselves to the Hadiths selected by Lohlker 1999:100

¹⁸ A statement which is partly questioned by Lohlker. For the discussion see Lohlker 1999:35 footnote.

Gold for gold, silver for silver, wheat for wheat, barley for barley, dates for dates, salt for salt, like for like, equal for equal, hand to hand. If these types differ, then sell them as you wish, if it is hand to hand. (Translation from Vogel / Hayes 1998: 73)

That means that gold, silver and some foodstuffs could be exchanged only in the same quantity and the exchange had to take place immediately (yad^{an} bi-yadⁱⁿ) (Schacht 2012a).¹⁹ As a result, in later times, scholars started to distinguish between two kinds of *ribā*: *ribā an-nasī'a* and *ribā al-faḍl*. While the first one referred to profit resulting from extension of payment, the second referred to (illegal) earnings resulting from differences in quantity or quality of the traded goods.

This interpretation of *ribā* is partly contradicted by the possible circumstances of revelation (*asbāb an nuzūl*) given by exegetes in the classical period. A significant increase of the debt (usually double) in exchange for an extension of the credit period was a usual practice among Meccans in times before the *hiḡra*. This kind of *ribā*, -which is more similar to today's definition of debt- is often referred to as *ribā al-ḡāhiliyya* in *fiqhī* literature. There are also several allusions to this practice in the Sunnah of the prophet. According to early exegetes, for example aṭ-Ṭabarī this practice also continued among the first Muslims. The *āyāt ar-ribā* were supposed to prohibit such practices for the future, but also to regulate existing debt arrangements, concluded before the conversion to Islam (cf. Lohlker 1999: 76). Schacht asserts that the *āyāt ar-ribā* clearly presented usury as a practice of unbelievers, but together with the *mušrikūn* they could also be interpreted as a message to Jews²⁰ (Schacht 2012a).

It is generally accepted today that the quranic term *ribā* solely referred to the *ribā al- ḡāhiliyya* at the time of revelations. All further interpretations that go beyond it can be seen as a product of later development (c.f. Schacht 2012a). It is also more or less acknowledged among scholars that the quranic definition of *ribā* is inadequate. Due to the fact that verses 2:275-280 are considered as the last verses revealed, some scholars account the early death of Muhammad for the incomplete definition. In this regard, they often quote the saying of caliph 'Umar b. Ḥaṭṭāb:

The last verse revealed was the verse of *ribā*, and [then] the Messenger of God was taken [in death]. He had not explained it to us. So leave *ribā* and doubt [*ribā*] (Ibn Māḡa; cited from Vogel / Hayes 1998: 63)

¹⁹ Coulson emphasizes some irrationalities of this practice in early Muslim economy: "It is difficult to see any point of purpose in a transaction where 'Umar takes 20lb. of Zayd's wheat in exchange for 20lb. of his own wheat in the same session" (Coulson 2011:42).

²⁰ A thesis which is picked up again by some contemporary Egyptian scholars. Lohlker mentions Abū Zahra by name (cf Lohlker 1998: 285).

3.2.2 The contemporary understanding of *ribā*

The understanding of *ribā* underwent several major changes during the 20th century. As with other aspects of Islam, exegetes and *fiqh* scholars sought to “update” it to the standards of modern times. To some extent many modern exegetes such as Maudūdi, Riḍā, ‘Abduh and Sayyid Quṭb broke with the analytical tradition of the classical exegetes and put philosophical, political and social matters in the foreground. They were largely influenced by non-Muslim thinkers of their time, trying to integrate their way of thinking into the terminology of Islam.

In the late 19th, early 20th centuries, rapid industrialization and social transformation laid a heavy burden on both the European and the societies dominated by Islam. While the Muslim world predominantly perceived this era as colonialism, foreign rule and oppression, European societies had to confront atomization of the society, class struggle and a shift in values. Many blamed liberalism, democracy and positivist thinking for the nuisance and called for a political entity, which would terminate social grievances and respect the real need of man²¹. In this context, the economy was considered as a tool to fulfill higher societal goals.

The theory that interest was not a productive element of the economy, and therefore parasitic-often embedded in a moral or even biological context- was a recurrent topic in Western discussions of that time in all parts of the political spectrum.²²

Hence it is not surprising that ideologists of the Arab revival examined the issue of *ribā* (and economic aspects in general) in this light. We think that the rather polemic interpretation of the *āyāt ar-ribā* formulated by Raṣīd Riḍā in the journal *manār* (see also Lohlker 1999:110) cannot be seen as a phenomenon solely true for the Muslim world only, but a reflection of the zeitgeist.

Quṭb’s vision of a corporatist state, based on equality and mutual aid is also found in the state doctrines of many authoritarian and semi-authoritarian regimes in southern Europe and Latin America- envisioned a rather utopian economic system, which Quṭb called *niḡām al iqtisād al-*

²¹ In his extensive work about the life and work of Oswald Spengler, Botermann precisely analyses the intellectual world of Wilhelmine Germany, which in some way, regardless of the specific historical context shows some resemblance to modern day discussions in the Muslim world. Botermann states: „Als Gegengewicht gegen die Atomisierung der modernen Gesellschaft wuchs das Bedürfnis nach einem neuen Synthesegedanken und einer harmonischen Volksgemeinschaft ohne sozialökonomische Gegensätze. Auf vielfältige Weise suchte man nach einer verloren geglaubten Totalität” (Botermann Spengler: 52)

²²The “new political economy” proposed by Lenin and the manifesto of the German National Socialist party- to mention the two “ends”.

islām.²³ According to him, the ground principles of this system were charity, mutual solidarity, and social welfare. *Ribā*, on the other hand, was used as an antonym, a characteristic of today's "rotten world," based on greed, ignorance and fraud.

The economic framework of the contemporary understanding of *ribā* was delivered by John Maynard Keynes²⁴. Keynes contradicted the dominating school of economic thought of his time and created an economic model, putting fiscal policy in the foreground. In his magnum opus, *The General Theory of Employment, Interest and Money*, he tried to put the role of savings and consumption in a national economy under scrutiny, introducing the definition of "marginal efficiency of capital". In basic terms, he assumed that the higher the interest rate in a national economy, the lower is the real output, as economic actors will tend to save more, rather than invest their capital into the real economy. Thus high interest rates result in low economic growth and lead to higher unemployment.

Influenced by the aforementioned schools of thought, today's intellectual discussions about *ribā* predominantly use the term as a synonym for interest. The self-defined goal of an "Islamic Economy" in basic terms is to establish an economic system based on solidarity (*takāful*), co-operation (*ta'āwun*) and *zakāt* (c.f. Lohlker 1999:309), where economic surplus is given to the poor, whereas *ribā* symbolizes exploitation, usury and greed (cf. Nienhaus 1982: 217ff). Notwithstanding criticism both from economic and *fiqhī* perspectives²⁵, current Islamic Finance seems to adapt a rather one-sided view on *ribā* that ostensibly neglects the complexity of the problem.

To demonstrate a widely accepted understanding of *ribā* in contemporary Islamic finance, we have picked an example from the popular literature. Faleel Jamaldeens's book "*Islamic Finance*" was published in the "For Dummies" series and according to the author primarily was dedicated to a non-Muslim audience. Jamaldeen states:

²³ In the discussion of the *ayāt ar-ribā* Quṭb states

"ومن ثم يتحدث عن آداب الصدقة. ويلعن الربا، ويقرر أحكام الدين والتجارة في الدروس الآتية في السورة. وهي تكون في مجموعها جانباً أساسياً من نظام الاقتصاد الإسلامي والحياة الاجتماعية التي تقوم عليها" (Quṭb 2018: 412)

²⁴ According some sources, Maudūdi used to refer to Keynes as the first Muslim economist (c.f. Jackson 2011:83ff). Modern time exegetes and scholars like e.g. aš-Ša'rāwī also often refer to Keynes (cf. Lohlker 1999:287ff).

²⁵ While the first point out the excessive reliance of an "Islamic Economy" on Keynesianism (in this regard see also Nienhaus, Volker. *Islam und Moderne Wirtschaft*. Graz: Styria Verlag 1982.: 216ff; Lohlker 1999 289-290), the second the complete disregard of different legal opinions and specific historical context. (Lohlker 1999: 287)

Riba (sic) is prohibited in Islamic law because it creates injustice in society and, as I note earlier in the chapter, Islam and social justice are inseparable. In a riba (sic) based transaction, the owner of the wealth gets return without making any effort. [...] From the Islamic point of view, in a riba (sic)-based transaction, the lender uses the misfortune of the borrower in order to acquire wealth, which is unjust. For these reasons, such a transaction *cannot be sharia-compliant* ([Highlighted by VF]!). (Jamaldeen 2012: 16)

Jamaldeen's further explanations are even more remarkable:

The prohibition against riba (sic)-based transactions means *that Muslims should not take out loans from conventional banks (!-[V.F].), invest in interest-based products (such as conventional certificates of deposit, savings accounts, and bonds), or invest in funds that purchase the equity of firms that promote interest-based products (such as conventional banks).* The birth of the Islamic finance industry in the second half of the 20th century provided modern Muslims with their *first access to financial products that respect such prohibitions* (ibid.)

3.3 Excursion: Gambling and the Quran

In the subsequent topic we will handle an issue that is not conventionally bound to the economy but is often brought up in connection with highly speculative businesses, such as derivatives.

The common Arabic expression for gambling is *qimār*. *Maysir* was the name of a highly popular game of chance in pre-Islamic Arabia. According to the encyclopedist an-Nuwayrī (1272-1332), it used to be a game where a number of people got together and bought a camel. After slaughtering the camel, the people divided it into 10 parts. Afterwards, one of the gathered men distributed 11-labeled arrows without heads or feathering. The parts of the camel were distributed among the men, accordingly which arrow they took (an Nuwayrī- cited from Huber 1883:4). Often the winner gave his part to the poor, demonstrating his generosity (Huber 1883: 4). Therefore not participating in the game was considered as a socially frowned upon behavior (ibid: 5). Notwithstanding, *maysir* was also a very risky game, where participants often lost their entire belongings and was also often a source of conflict among ancient Arabs.

There are two key spots in the Quran where *maysir* is mentioned. According to the time of revelation, 2:219 seems to be the older verse: (c.f. Nöldeke 1909: 134-135)

يَسْأَلُونَكَ عَنِ الْخَمْرِ وَالْمَيْسِرِ ۖ قُلْ فِيهِمَا إِثْمٌ كَبِيرٌ وَمَنْفَاعٌ لِلنَّاسِ وَإِثْمُهُمَا أَكْبَرُ مِنْ نَفْعِهِمَا ۚ وَيَسْأَلُونَكَ مَاذَا يُنْفِقُونَ ۚ قُلِ الْعَفْوَ ۚ كَذَلِكَ يُبَيِّنُ اللَّهُ لَكُمْ الْآيَاتِ
لَعَلَّكُمْ تَتَفَكَّرُونَ

(Quran, 2:219)

They ask you (O Muhammad SAW) concerning alcoholic drink and gambling. Say: "In them is a great sin, and (some) benefit for men, but the sin of them is greater than their benefit." And they ask you what they ought to

spend. Say: "That which is beyond your needs." Thus Allah makes clear to you His Laws in order that you may give thought." (Quran 2:219)

The second and supposedly the later revealed verse that deals with *maysir* in detail is 5:90:

يَا أَيُّهَا الَّذِينَ آمَنُوا إِنَّمَا الْخَمْرُ وَالْمَيْسِرُ وَالْأَنْصَابُ وَالْأَزْلَامُ رِجْسٌ مِّنْ عَمَلِ الشَّيْطَانِ فَاجْتَنِبُوهُ لَعَلَّكُمْ تُفْلِحُونَ

Quran, 5:90

O you who believe! Intoxicants (all kinds of alcoholic drinks), gambling, Al-Ansab, and Al-Azlam (arrows for seeking luck or decision) are an abomination of Shaitan's (Satan) handiwork. So avoid (strictly all) that (abomination) in order that you may be successful. (Quran 5:90)

In 5,90, *maysir* is mentioned in connection with *ḥamr*, *anṣāb* and *azlām*. *Ḥamr* can be interpreted as wine, but also as poison or toxin (Lane 1863: s.v. *ḥamr*). So there was a more or less a broad agreement among Muslim scholars that the term refers to alcoholic beverages in general. *Nuṣb* (pl.: *anṣāb*) is according to Hans Wehr a "statue", an "idol", a "graven image or a monument." Lane explains it as a stone of worship, where ancient Arabs used to sacrifice animals (Lane s.v. *nuṣb*). *Zalam* (pl.: *azlām*) is an expression for an arrow without head and feathers (Wehr 1979: s.v. *zalam*) that was used by the early Arabs for lottery purposes.

Similar to the aforementioned ban on *ribā*, we can recognize a tendency to a more stringent treatment in the later revealed verse too. It is noteworthy that in contrast to the previously mentioned *āyāt al ribā*, we find more indications both regarding the reason and the object of disapproval.

With the help of the broader context given in the verse, most exegetes came to the conclusion that the purpose (‘*illa*) of this verse was directed against items acquired easily without any effort like gambling and actions with an unpredictable outcome in general. Aṭ Ṭabarī gives us the following explanation:

وأما في الميسر فما فيه من الشغل به عن ذكر الله، وعن الصلاة، ووقوع العداوة والبغضاء بين المتبائسين بسببه

(aṭ-Ṭabarī 2:219)

And concerning *maysir* it distracts from the recitation of the name of God and prayer, furthermore it is a cause of enmity and hatred between those who gained [their wealth] with ease.

(aṭ-Ṭabarī 2:219)

Zamaḥṣarī suggests treating all types of games of chance like backgammon and chess (sic!) the same way as *maysir*. (Zamaḥṣarī, al-kaššāf ‘an ḥaḳā’iqi ‘t-tanzīl, Cited from: Huber 1883: 8)

The question, whether *maysir* is a specific game, or a synonym for all gambling activities is also seen by ar-Rāzī as a central question. He states the following:

كل شيء فيه خطر فهو من الميسر، حتى لعب الصبيان بالجوز

(ar-Rāzī 2018 [1209])

“Everything, where risk is involved is considered as *maysir*. Even when children are playing with nuts.”

For ar-Rāzī it is crucial whether money is involved in the game or not. He states, when chess is played without money or betting, it is not considered as *maysir*. Ar-Rāzī argues that if somebody earns his wealth without any effort, he becomes frustrated and does not appreciate the money he earned and this leads to enmity between people. From today’s point of view, it is remarkable that ar-Rāzī also exhaustively discusses the positive aspects of consuming alcohol and gambling. Alluding to the ancient Arab practices, he then mentions some gamblers, who distributed their wealth among those in need (ar-Rāzī 2018 [1209]).

The second half of verse 2:219 (وَيَسْأَلُونَكَ مَاذَا يُنْفِقُونَ قُلِ الْعَفْوَ) is also interesting for our purposes because some scholars assume there is an economic reference. In the following, we will put some exegeses of the classical and modern time under scrutiny.

In the Ayāt we can find two terms that are crucial to the meaning of the verse. While the meaning of *naḥḥa* is more or less clear (to be spent, to be exhausted), in the case of the word ‘*afw*’ there is some ambiguity. Hans Wehr translates the term as “pardon, forgiveness” (in the sense of ‘*afwan*’- “I beg your pardon”), but also “kindness, favor, or surplus.” Bravmann argues that ‘*afw*’ was a synonym for *faḍl* (i.e.: surplus, quantitative superiority-) (Bravmann 1963: 30). However the different interpretations of other verses where this word also occurs, contradicts the general acceptance of Bravmann’s assumption.²⁶ Most classical exegetes, who we analyzed, interpret verse 2:219 the same way, thus Bravmann’s assumption may be at least partially true. Aṭ-Ṭabarī clearly tends towards interpreting the verse in an economic sense, i.e. in the sense of surplus but he also exhaustively discusses other interpretations. Ar Rāzī also prefers an economic interpretation, arguing that the word ‘*afw*’ basically has the same meaning, no matter in

²⁶ Note the different English translations of verse 7:199 (خُذِ الْعَفْوَ وَأْمُرْ بِالْعُرْفِ وَأَعْرِضْ عَنِ الْجَاهِلِينَ):
Sahih International: Take what **is given freely**, enjoin what is good, and turn away from the ignorant.
Muhsin Khan: Show **forgiveness**, enjoin what is good, and turn away from the foolish (i.e. do not punish them)

which context. According to him, forgiving sins and helping people in need both provide a kind of relief or facilitation (ar-Rāzī 2018 [1209]).

Summing up, *maysir* was seen as an item or an advantage which is acquired easily without effort and work. The quranic context in which the word is mentioned clearly indicates a reference to games of chance. *Fiqhi* discussions also point in the direction of interpreting *maysir* as unjust enrichment.

3.4 ġarar

In recent literature on Islamic finance, the Arabic term *ġarar* and the English word “risk” are often used interchangeably.²⁷²⁸ Such an interpretation of *ġarar* is inaccurate. As we have seen in chapter 2.5.3, risk in finance terms usually connotes an objective measure of uncertainty.

On the other hand, *ġarar* in Arabic has a clearly negative connotation. In its basic form, the verb *ġarra/yaġurru* means to “mislead, deceive, beguile, to delude”. In the second stem it is also used in the sense, “to expose to danger, imperil, jeopardize” (Wehr 1979: s.v. *ġarra*). Lane also translates *ġarara* as “He (the devil) deceived him, beguiled him, made him to desire what was vain, or false.” (Lane 1863: s.v. *ġarra*). In this sense, the word appears in the Quran several times, as in verse 82:6:

يَا أَيُّهَا الْإِنْسَانُ مَا غَرَّكَ بِرَبِّكَ الْكَرِيمِ

(Quran, 82:6)

O man! What has made you careless²⁹ concerning your Lord, the Most Generous?

(Quran, 82:6)

3.4.1 ġarar in hadith literature

Unfortunately for us, *ġarar* in an economic sense (*bay‘ al-ġarar*-lit. *ġarar* sale) never appears in the Quran. Notwithstanding, we have many records from the hadith literature where *bay‘ al-*

²⁷ The London based Institute of Islamic Banking and Insurance (IIBI) defines *ġarar* as follows: uncertainty, hazard, chance or risk.(IIBI 2018)

In his book “understanding Islamic finance” Muhammad Ayub defines *ġarār* as hazard, chance, stake or risk (p.58)

In chapter 3.3.3 we will deal with the contemporary understanding of *ġarar* more in detail

²⁸Rosenthal argues that the European term risk has its origin in the Arabic word *rizq* (property, wealth, fortune). There is no clear scientific evidence for that argument however. (Serjeant 1975)

²⁹ In other English translations also „what has deceived you“

ġarar is explicitly or implicitly mentioned. In the following we will pick several hadiths from all major hadith collections that significantly shaped the legal interpretation of *bay‘ al-ġarar* in later times.

We will start our analysis with Ṣaḥīḥ al-Buḥārī. Within the extensive volume *Book of Sales and Trade* (*kitāb al-buyū‘*) Buḥārī devotes an entire chapter (*bāb* =lit. entry, doorway) to *ġarar* which carries the full title “*bābu bī‘i-l ġarari wa ḥabali-l ḥabalat,i*” (chapter about the selling of *ġarar* and unborn livestock). Admittedly Buḥārī does not give us a further definition of *ġarar* but in this context he mentions several trading practices from pre-Islamic times that may be interpreted as *ġarar*. One of them was *ḥabali-l ḥabalati* a trading practice where unborn camels were bought and sold. *Munābaḍa* and *mulāmasa* were further trading practices which Muḥammad explicitly forbade. Both referred to business transactions where the vendee had limited possibilities to examine the goods to be bought (al-Buḥārī, buyū‘).

The hadith collection of Muslim b. al-Ḥaǧǧāǧ, (widely known as Ṣaḥīḥ Muslim) deals with *ġarar* in connection with *ḥaṣā* transactions (*bay‘ al-ḥaṣā*), a fairly popular practice in pre-Islamic Arabia, where the subject and extent of a bargain were often decided randomly by throwing pebbles. In other respects, he dwells on the trading practices *ḥabali-l ḥabalati*, *munābaḍa* and *mulāmasa*, which we have discussed above. (Muslim, buyū‘)

Similar to al Buḥārī and Muslim, the *Musnad* of Abū Dawūd also dedicates a whole chapter to business and trade. In addition to the aforementioned trading practices, he states:

وَقَدْ نَهَى النَّبِيُّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ عَنْ بَيْعِ الْمُضْطَرِّ وَبَيْعِ الْغَرَرِ وَبَيْعِ الثَّمَرَةِ قَبْلَ أَنْ تُدْرِكَ

(Abū Dawūd, buyū‘ 57)

And he (the Messenger) forbade forced contract, one which involves *ġarar*, and the sale of fruits before they are ripe.

(Abū Dawūd, buyū‘ 57)

As for *bay‘ al-muḍṭarra* (lit. forced sale), the probable meaning of the word is the coercive selling of certain goods far below their actual price. This hadith is especially interesting for us because it also forbids the sale of unripe fruits. Contemporary *fiqh* scholars often interpret this hadith as a ban on vending of all kinds of items that are not yet at the sellers’ disposal, as a consequence justifying the ban on future and option contracts (See chapter 5.2)

Among all main hadith collections we have dealt with thus far, Tirmidī gives us the most exact definition of *garar*. He aims to define the *ḥabali-l ḥabalati* sale, clearly classifying it as a *garar* transaction:

وَحَبْلُ الْحَبْلَةِ نِتَاجُ النَّجَاحِ وَهُوَ يَبْعُ مَفْسُوحٌ عِنْدَ أَهْلِ الْعِلْمِ وَهُوَ مِنْ بَيُوعِ الْغَرَرِ

(at- Tirmidī, buyū‘ 29)

Speaking of the *ḥabali-l ḥabalati* it is the product (offspring) of a product (offspring) [of an animal], whose selling is invalid according to scholars. Moreover it is a [kind of] *garar* sale.

(at- Tirmidī, buyū‘ 29)

His further explanations are even more interesting for us, as they may be understood as a possible indication to an early form of a “time contract”:

قَالَ الشَّافِعِيُّ وَمِنْ بَيُوعِ الْغَرَرِ بَيْعُ السَّمَكِ فِي الْمَاءِ وَبَيْعُ الْعَبْدِ الْأَبْقَى وَبَيْعُ الطَّيْرِ فِي السَّمَاءِ وَنَحْوُ ذَلِكَ مِنَ الْبَيُوعِ.

(at- Tirmidī, buyū‘ 30)

Aš-Šāfi‘ī said: "*garar* sales include selling fish that are in the water, selling a slave that has escaped, selling a bird that is in the sky and [kinds of] sales in this direction. (at- Tirmidī, buyū‘ 30)

Further on, in the context of the transparency of business transactions, he states:

وَالْعَمَلُ عَلَى هَذَا عِنْدَ أَهْلِ الْعِلْمِ كَرِهُوا بَيْعَ الْمُحَفَّلَةِ وَهِيَ الْمَصْرَاةُ لَا يَحْلُبُهَا صَاحِبُهَا أَيَّامًا أَوْ نَحْوَ ذَلِكَ لِيَجْتَمَعَ اللَّبَنُ فِي ضَرْعِهَا فَيَعْتَرَّ بِهَا الْمُشْتَرِي . وَهَذَا ضَرْبٌ مِنَ الْخَدِيعَةِ وَالْغَرَرِ

(at- Tirmidī, buyū‘ 70)

And to *muḥaffala* sales, refused by scholars, following is applied: It is a milk producing animal, which is not milked by his owner for days to accumulate milk in his udder with the intent to deceive the buyer. And this is a form of fraud and *garar*.

(at- Tirmidī, buyū‘ 70)

Summing up, the definition of *garar* in hadith literature is vague. All main transmitters of the sayings of the Prophet agree on the bad character of *garar* and that it is to be avoided. Very often, the term is used in connection with dubious business transactions of the time, i.e. *bay‘ al-muṣṭarra*, *munābaḍa* and *mulāmasa* that may damage one of the business parties, and banning those practices might promote good business morals.

While they were often alluding in their traditions to time deals, it is still questionable whether Muḥammad’s sayings on *garar* can be interpreted as “risk” or “uncertainty” in modern finance terms. Within the framework of contemporary financial terminology, the ban on *garar* in the sunna is closer to the principle of minimizing asymmetric information and moral hazard. *Fiqh*

literature is probably more informative in this regard. In the following, we will turn our attention to some main works of traditional *fiqh* literature concerning *ġarar*.

3.4.2 *ġarar* in *fiqh* Literature

First we will analyze the relevant chapters from al-Ġazīrīs al-*fiqh* ‘ala l-maḏāhib al-arba’, an extensive reference literature for all four main Sunni schools of jurisprudence. Subsequently, we will put the law book of Mālik ibn Anas under scrutiny. Mālik’s magnum opus, widely known as *Muwaṭṭa’*, deals very exhaustively with *ġarar*, specifying its further characteristics with examples from the hadith literature and subsequently giving a detailed interpretation of it. It is worth mentioning that al-Ġazīrīs work had an enormous impact on later scholars like Ibn Taymiyya and Ibn Qayyim, so we will deal with *Muwaṭṭa’*’ explanation of *ġarar* in greater detail.

Firstly al-Ġazīrī mentions *ġarar* in connection with “selling birds in the sky”. Ġazīrī mentions that according to the šāfi‘ī school this was not permissible since the result of the transaction cannot be determined (*maġhūl al-‘āqiba*). Nobody can guarantee that he can catch a bird in the sky. Unlike bees, birds are not bound to a particular permanent location (al-Ġazīrī 2003: 2/209).

Ġazīrī defines *ġarar* in greater detail in the subsequent chapter, where he examines contract conclusions prior to the seizure of goods (ibid 2/210 ff). Ġazīrī speaks of a *ġarar* sale, either when both parties of contract agree on concluding a deal and the exchange value is unknown or the realization of the delivery is dubious. As a typical example of the latter case, Ġazīrī mentions the sale of fish in the water, or birds in the sky. Albeit Ġazīrī interpretations on *ġarar* are vague, they give a certain reference to “short sales”, i.e. where one contract party sells an item that he does not physically possess.

Mālik ibn Anas’ interpretation of *ġarar* is far more exhaustive. Anas’ main work *Muwaṭṭa’* is considered as one of the first legal works of Islam, emerging in the early ‘Abbāsīd period. The main characteristics of this extensive work is that it combines both *hadith* and *fiqh*, aiming to establish a practical legal framework based on the Quran and *sunna*. With his opus, Mālik aimed to consolidate the very diverging legal opinions regarding the most elementary questions, which is also reflected in the choice of the name of the book, (*muwaṭṭa’* = smoothed path) (Schacht 2012b).

First Mālik puts *muzābana* and *muḥāqala* transactions in the context of *ḡarar*. Both transactions were mentioned in the *hadith* literature and connote the sale of goods for items of lesser value. While *muzābana* and *muḥāqala* meant originally the exchange of specific items³⁰, Mālik argues that the *hadith* could be applied for all kinds of products in order to guarantee the cleanness of business transactions. Furthermore Mālik defines *muzābana* as a lump sale (*bayʿ al-ḡuzāf*), where the buyer lacks the information regarding both the quality and the quantity of the goods bought. In its character, *muzābana* could be a typical case of asymmetric information in modern terms, where one of the contracting parties has less information about the product than the other. In connection with such transactions Mālik states:

فَلَيْسَ ذَلِكَ بَيْعًا وَلَكِنَّهُ الْمُخَاطَرَةُ وَالْغَرَرُ وَالْقِمَارُ يَدْخُلُ هَذَا لِأَنَّهُ لَمْ يَشْتَرِ مِنْهُ شَيْئًا بِشَيْءٍ

(Mālik, buyūʿ 1318)

This is not a sale, as it is risky (*muḥāṭira*), *ḡarar* (fraudulent) and gambling like (*qimār*), therefore it cannot be considered as a valid transaction.

(Mālik, buyūʿ 1318)

This statement is remarkable, because it puts *ḡarar* into a direct connection with gambling (*qimar*). The central message of Mālik in this connection is clearly directed against fraud and less against risky transactions, where the outcome of the transaction highly depends on external factors, unalterable by either of the contracting parties. To highlight the conceptual difference we will give another example from Mālik:

قَالَ مَالِكٌ وَمِنْ الْغَرَرِ وَالْمُخَاطَرَةِ أَنْ يُعْمِدَ الرَّجُلُ قَدْ ضَلَّتْ ذَابْتُهُ أَوْ أَبَقَ غَلَامُهُ وَتَمَسَّ الشَّيْءُ مِنْ ذَلِكَ خَمْسُونَ دِينَارًا فَيَقُولُ رَجُلٌ أَنَا أَخْذُهُ مِنْكَ بِعِشْرِينَ دِينَارًا . فَإِنْ وَجَدَهُ الْمُبْتَاعُ ذَهَبَ مِنَ الْبَائِعِ ثَلَاثُونَ دِينَارًا وَإِنْ لَمْ يَجِدْهُ ذَهَبَ الْبَائِعُ مِنَ الْمُبْتَاعِ بِعِشْرِينَ دِينَارًا

(Mālik, buyūʿ 1365)

[...]And following [types of transactions] belong to *ḡarar* and risky transactions: A man intends to set the price for a stray animal or an escaped slave at fifty dinars. A[nother] man says, ‘I will take him from you for twenty dinars. [This means] if the buyer finds him, the seller loses thirty dinars , and if he does not find him, the seller takes twenty dinars from the buyer’

(Mālik, buyūʿ 1365)

In contrast to these cases, this one clearly reflects a situation, where risk is involved in the transaction. We have two possible future outcomes, with two different revenue structures for the participants. In scenario A) if the buyer finds the lost item with the probability p and B) if

³⁰ *muzābana* was selling fresh dates for dried dates. *muḥāqala* was buying unharvested wheat in exchange for threshed wheat and renting land in exchange for wheat (Mālik, buyūʿ 1317)

he does not find it with the probability 1-p. Moreover we have two possible actors with different profit expectations. The Seller (Buyer) has a yield of +50 (-50) (purchasing price)-30 (+30) (finding fee to the buyer), total=+20 (-20) Dinar in Scenario A. In scenario B he has a revenue of +20 (-20) Dinar. Thus both actors show risk-averse behavior since they prefer secure payments rather than insecure payments with a higher volatility. If they had not concluded the transaction, they would have a revenue of -50 (+50) in scenario A, and -50 (0) in scenario B.

Mālik's argumentation against such practices is that the goods to be sold may have decreased in value by the time of contract performance, i.e. it may have acquired some kind of disease or other flaws. In order to stress his concerns, he gives another example:

وَالْأَمْرُ عِنْدَنَا أَنَّ مِنَ الْمَخَاطَرَةِ وَالْعَرَرِ اشْتِرَاءَ مَا فِي بُطُونِ الْإِنَاثِ مِنَ النِّسَاءِ وَالذَّوَابِّ لِأَنَّهُ لَا يُدْرَى أَيُخْرَجُ أَمْ لَا يُخْرَجُ فَإِنْ خَرَجَ لَمْ يُدْرَ أَيَكُونُ حَسَنًا أَمْ قَبِيحًا أَمْ تَامًّا أَمْ نَاقِصًا أَمْ ذَكَرًا أَمْ أُنْثَىٰ وَذَلِكَ كُلُّهُ يَتَغَايِلُ إِنْ كَانَ عَلَىٰ كَذَا فَقِيمَتُهُ كَذَا وَإِنْ كَانَ عَلَىٰ كَذَا فَقِيمَتُهُ كَذَا

(Mālik, buyū' 1365)

We argue that *garar* and risk (*muḥāṭira*) are involved, when somebody sells the fetus of a woman or an animal, since one does not know whether he comes into the world. If he succeeds, one does not know, whether he is going to be beautiful or ugly, whether sane or disabled, whether male or female. And all these things make a difference in the price.

(Mālik, buyū' 1365)

This case is clearly directed against transactions involving uncertainty albeit it is highly arguable whether Mālik or classical *fiqh* in general forbid risk (*muḥāṭira*) in business transactions as such. In this connection Ibn Taymiyya (1263-1328) claims:

و اما المخاطرة، فليس في الأدلة الشرعية ما يوجب تحريم كل مخاطرة، بل قد عُلِمَ أن الله ورسوله لم يحرم كل مخاطرة، ولا كل ما كان متردداً بين أن يغنم أو يغرم أو يسلم. وليس في أدلة الشرع ما يوجب تحريم جميع هذه الأنواع نصاً ولا قياساً. ولكن يحرم من هذه الأنواع ما يشتمل على أكل المال بالباطل. والموجب للتحريم عند الشارع: أنه أكل مال بالباطل، كما يحرم أكل المال بالباطل وإن لم يكن مخاطرة، لا أن مجرد المخاطرة محرم.

Ibn Taymiyya (cited from As-Suwailem 2000: 65)

And concerning risk (*muḥāṭira*), there is no evidence in the sharia that everything is forbidden that involves risk. After all we have been taught that Allah and his Messenger did not outlaw risk and every dubious transaction which may result in profit, loss or zero balance. And there is no evidence in the sharia that all these kinds [of transactions] shall be forbidden and there is no analogy. However according to the sharia, it is necessary to ban things that include making illegal profit [lit. Eat wealth for nothing]. It is also forbidden to make illegal profit, if there was no risk. *Risk as such is not forbidden.* (cited from As-Suwailem 2000: 65)

Summing up, the explanations about *garar* given in the *fiqh* literature only partly correspond to our modern understanding of risk and uncertainty. We have analyzed merely a small fraction

of the exhaustive *fiqh* literature produced during the history of Islam. On the basis of this material, we can more or less draw the same conclusion as in the hadith chapter. The guiding principles of the arguments given against *garar* are founded on the protection of both of the contracting parties against fraud or malevolent business behavior. Thus, the prevailing objections against *garar* seem not to concern performing risky transactions *per se*, but the application of risk and uncertainty in order to increase one's wealth at the cost of other contracting parties. The argument that the execution of the contract lies in the future, and therefore risky is untenable from a *fiqhī* perspective, considering the fact that classical *fiqh* knows a wide spectrum of time deals and other transactions that bear considerable risk. We will also cover these issues in more detail in a later chapter but next we will scrutinize some aspects of the contemporary discourse on *garar*.

3.4.3 The contemporary understanding of *garar*

First we will start our examinations with some sources from the non-scientific or semi-scientific literature, in order to get a rough picture on the popular understanding of *garar*. Subsequently we will put some contemporary scholars under scrutiny and try to recapitulate the key points of the current discussion.

In the first category, we have picked two scholars who both teach introductory classes about Islamic finance to the general public. The first is Mr. Almir Colan, director of the Australian center of Islamic finance. According to his own words, he is “also an adviser to number of institutions that provide Islamic finance and member of a working group at AAOIFI” (Colan 2017). Parts of Mr. Colan's online classes are also available online and according to the number of views on YouTube, they enjoy high popularity (approximately 20,000 hits). Mr Colan defines *garar* as “showing something, what it is not”. Subsequently he gives some examples of contemporary finance practices, which may be considered as *garar*: Among others these are: 1) transactions involving ignorance and lack of transparency; 2) collateralized debt obligations (CDOs) 3) derivative transactions (forwards, futures and options). As an explanation Mr. Colan states that “these things are built for people who really *don't want to engage in real life, just want to speculate*” (Colan 2018: 38' 58"). In the following he aims to prove his arguments with rather trivial newspaper articles about the global financial crisis, whose portrayal is of lesser relevance for our current purposes.

The second scholar is Mr. Faleel Jamaldeen, assistant professor of Islamic and conventional finance, author of the introductory book *Islamic Finance for Dummies*. Jamaldeen classifies *ġarar* contracts as “transactions based on speculation, which were generally prohibited under sharia” (Jamaldeen 2012: 341). He argues they were prohibited- - because they were not transparent and neither party had complete information about the quality and the quantity of the items sold. (ibid: 85). Subsequently he deals with *ġarar* in connection with insurance products and states that “The elements of uncertainty (*gharar-sic*), gambling (*maysir-sic*), and interest (*riba-sic*) make conventional insurance products prohibited risk-sharing instruments for Muslims” (ibid: 294).

Although scientific literature is more diversified, the contemporary interpretations of *ġarar* seem to point towards one direction most of the time (i.e. interpretation of *ġarar* as risk). For the purposes of the current paper, we have examined three scientific articles.

The first article written by Sami al-Suwailem (as-Suwailem) embeds *ġarar* in a context of game theory. He argues that in modern terms, *ġarar* could be best possible described as a zero sum game. As we recall from chapter 2.5.4, a zero sum game is an archetypical game model, where one participant can only gain advantage at the cost of another, while the overall welfare remains the same. According to al-Suwailem (as-Suwailem), the zero sum model could be helpful to Muslim jurists in order to distinguish tolerable risk from excessive *ġarar*.

The second article, written by Mahmoud A. El-Gamal, advocates translating *bay‘ al-ġarar* one to one as *trading in risk*, because risk in European languages this also connoted “danger or loss” (El-Gamal 2001: 5). El Gamal disagrees with Suwailem inasmuch as *ġarar* covers a high variety of transaction types, considered as zero sum games. Instead, he integrates *ġarar* into the framework of prospect theory (chapter 2.5.3) whereby individuals seem to engage in risky transactions if their overall expected gain was low, but their potential gain was high. El Gamal asserts that this was true not only for gambling, but also for concluding insurance contracts and trading with derivatives (Ibid.: 25). El Gamal argues for a ban on such transactions and claims that prohibiting such transactions would be at “worst efficiency neutral, and at best efficiency enhancing” (ibid.).

The third scholar, Abdul-Rahim Al-Saati also argues in favor of interpretation of *ġarar* as risk and states that “The Muslim jurists’ perception and implication of risk and uncertainty is not far from those of economists” (Al Saati 2003: 5). Al Saati argues that the term *taġrīr* meant deception and misinterpretation that also embraces exposing oneself and others to jeopardy.

(Ibid: 4). Subsequently Al-Saati mentions some examples from the hadith literature in order to justify the ban on *ġarar*. Al Saati distinguishes between *ġarar* that is tolerable and *ġarar* which is not tolerable. He argues that consistent with the Islamic principle of *maṣlaḥa* (public interest), *ġarar* in transactions with derivatives could be reduced and risky transactions could be tailored to the needs of the Muslim community and this was primarily the task of modern Muslim jurists. Although he does not further explain the exactly how this can be done (c.f. Ibid 15).

Summing up, the term *ġarar*, -similarly to *ribā*-underwent substantial reinterpretation. While nonscientific literature often tries to place the obscure term in an ideological context, modern scholars attempt to integrate it into the framework of modern economic thought, as we have seen in the case of game theory and prospect theory. Vogel and Hayes speak of “Simplification and Rationalization” and the “adoption of Western terminologies and Western intellectual tools and methods” (Vogel / Hayes 1998: 44). In this context, *ġarar* has widely become a synonym for risk and uncertainty, often in connection with “speculative businesses” as in our special case, derivative trading.

4. Current state of research

In the last two decades, the list of books, scholar works and other publications on Islamic finance has grown to a vast quantity. With the worldwide spread of Islamic financial institutions and the global financial and economic crisis, the propagation of the “Islamic economy” gained a new momentum and many publications were published in order to make the topic familiar to laymen. The scientific quality of these works is highly questionable. Instead of an analytical and critical approach, a many of these works simply follow the principle to prove the moral superiority of Islamic economy and finance in a comparative way with current speculative and thus morally condemnable “Western” practices³¹. Often apologetic aspects come to the foreground at the cost of scientific reasoning.

Many authors adapt the thesis of a continuity of an “Islamic Economy” from the Medinan times to the 21st century without reflection. For example, Jamaldeen, the Author of the introductory book *Islamic Finance for Dummies* states: “*Although the modern system of Islamic finance is young, the true history of Islamic economics dates back about 1,400 years to the time of the Prophet Muhammad (pbuh) and the birth of Islam*” (Jamaldeen 2012: 43). Unfortunately we can find such generalizations very often, not only in the popular literature.

Despite its increasing relevance, “Islamic economy” and “Islamic finance” falls outside the main field of interest of Western Islamic studies. Nonetheless, many important aspects of the “Islamic Economy” have been mapped by the 1990s. Among them we would especially highlight the work of Volker Nienhaus. In his book *Islam und moderne Wirtschaft* (Islam and the Modern economy), Nienhaus, who is himself an economist, outlined the basic features of an Islamic economy as early as 1982 and undoubtedly played a pioneer role in this field.

As a result of the fall of communism, Islamic finance gained a new thrust which at that time took the place as a real alternative to the predominant neoliberal economic model. While until the 1980s there were many attempts to formulate Islamic principles on a theoretical level, (primarily as a result of the prevalence of political Islam in Iran and Pakistan), in the 1990s many pivotal practical aspects of Islamic finance have been formulated. One example is Presley’s and

³¹ In this respect we tend to agree with the observations of Lohlker (1999) and Mallat (1993): “[...] *many of the works tend to dabble in generalities and to err in a lack of rigour which prevents the emergence of a serious and systematic literature. The recent “fad” of “Islamic economics” has impressed the production with an urgency that has kept the literature produced so far to a superficial and repetitive standard*” (cited from Lohlker 1999:9)

Sessions's (1994) article dwelling on the economic aspects of Islamic profit and loss sharing (*muḍāraba*) (Presley / Sessions 1994).

Not of less relevance were the new scientific approaches to *ribā*. As we have outlined in the previous chapter *ribā*, the key element of any Islamic banking operation, was widely shaped by the Muslim theorists and renovators in the first half of the 20th century. Until the early 1990s, the topic was studied mostly by Muslim economists, who often adopted the Quranic expression in order to draw parallels to contemporary economic practices³².

In the 1990s, the rapid development of Islamic banking demanded a more diversified approach in this matter. In his 1994 statement ("Elimination of Riba, Concept and Problems"), the Pakistani economist Khorshid Ahmad already used a more sophisticated argumentation and revealed a possible distinction between interest and usury (*ribā*) (Ahmad 1994: 89). At the same time the topic has awakened some interest among Western scholars predominantly from the domain of legal sciences³³. While Wichard Johannes Christian's work "Zwischen Markt und Moschee" (Between Market and Mosque) (1995) was an aspiring attempt to examine the Islamic law of sale from a historical, analytical perspective (Krawietz 1996), Florian Amereller's "Hintergründe des 'Islamic Banking'" (Backgrounds of Islamic Banking) has examined the topic from the perspective of current legal practices of the Arab states. Similarly to the both mentioned works, Rüdiger Lohlker's "Das Islamische Recht im Wandel" (Islamic Law in Transition - 1999) also examined the issue of *ribā* from a legal perspective. Lohlker focused on the transformation of the term *ribā* since the era of classical Islam. During this ambitious endeavor, he compared several important thinkers of the four main schools of Islam with contemporary discussions in Egypt.

The 1990s were also the time when through the divulgence of *takāful* and *ṣukūk* products the growth of Islamic capital markets accelerated. Muslim scholars started to deal with a possible development of Islamic capital markets (and as a result also with options and derivatives) in a more scientific manner in the end of 1990s. Obaidullah (1998), Al-Suwailem (1999,2000), and

³² For instance Fazlur Rahman, leading Pakistani scholar on Islamic matters at the conclusion of his extensive work on *ribā* and interest (1962) stated: "As long as our society has not been reconstructed [...], it would be suicidal for the economic welfare of the society and the financial system of the country and would also be contrary to the spirit and intentions of the *Qur'ān* and *Sunnah* to abolish bank-interest. [...] It would be necessary for every citizen of Pakistan to work arduously and with an untiring zeal to reach the desirable goal of reducing bank-interest to the zero point." (Rahman 1962:62)

³³ We have to admit, because of our location, German literature is disproportionally represented in our reference list.

El-Gamal (2001) were three of the first scholars, who have also seriously studied Western option evaluation theories and made the first attempts to design possible evaluation methods for Islamic options and *ġarar*. On the other hand Hāšim Kamālī's *Islamic commercial law- An analysis of Futures and Options* (2006) was a decent endeavor to approach the problem from an Islamic legal (*fiqh*) perspective. In contrast to its title, the book almost exclusively focuses on futures. Despite its high scientific quality, judging from a sheer quantitative perspective, the 279 page book deals with options on only 23 pages. In our opinion these four works remain the most sophisticated scientific elaborations on the subject and their findings also form the backbone of our current thesis.

Since the mid 2000ies, the scientific process on Islamic options and derivatives has seemingly stalled. Notwithstanding several attempts from Muslim scholars to draw the attention of the public to the issue. Sherif Ayoub's *Derivatives in Islamic Finance: Examining the Market Risk Management Framework* (2014) and Samir Alamad's "*Financial Innovation and Engineering in Islamic Finance*" (published by Springer Verlag in 2017) were promising attempts, which summarized the current state of research well, yet they barely offered any new findings in the area. Both works failed to shake off the common apologetic bias towards Islamic Finance, which in our view seriously hinders an earnest scientific approach to the subject³⁴.

Currently, financial options do not belong to the main research field of Islamic finance. In the *Sammelband*, edited by M.Kabir Hassan and Michael Mahlknecht, *Islamic Capital Markets* (2011), there are only sort 14 pages about this topic³⁵, which is in our view- given the entire book has 428 pages- is somewhat meager.

Moreover a real scientific discussion is also further complicated by the fact that Western scientific and scholarly literature seemingly ignores this subject. John Hull's commonly acknowledged standard work on the topic *Options, Futures and Other Derivatives* (whose 10th edition published in 2018) does not handle Islamic Options even in a footnote, not to mention other acclaimed standard works on options and derivatives.

Nevertheless, we hope that there will be positive changes soon and a sophisticated standard literature will be released in the near future. Alamad's (2017) excuses why Islamic scholars are reluctant to deal with the subject are that the complexity and diverse practices of modern options

³⁴ Admittedly an "objective" analysis on a scientific basis wasn't the designated goal of the two authors either: Alamad (2017) states in the introduction of his book that his work aimed "to explore what constitutes a religiously guided process towards financial innovation and engineering" (p.6)

³⁵ Written by Valentino Cattelan „A New Model for Options in Islamic Law“ (p.201-219)

would pose a challenge for the average *fiqh* scholar and secondly that derivatives in general are still associated with a negative bias in Islam finance (Alamad 2017: 149)) are no longer acceptable, given the fact that in the meantime many Islamic research institutions specialized on capital markets globally. A few of them are:

The Bahrain-based Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI). The organization was established in 1991 and meanwhile has grown into the most significant benchmark institutions for Islamic financial products and institutions. The AAOIFI organizes annual Sharia conferences and regularly releases publications and statements primarily on accounting standards and Islamic product evaluation (Homepage: www.aaoifi.com). Although there has been news regarding the AAOIFI establishing standards on Islamic derivatives (Marsh 2009), there has been no actual news on the internet about this matter since then.

The Islamic Research and Training Institute IRTI is a department within the Islamic Development Bank and its primary organizational unit is Islamic Finance research. Its main profile includes advisory training services and development of Islamic Finance products (Homepage: <http://www.irti.org/English/AboutIRTI/Pages/default.aspx>).

The International Islamic Fiqh Academy (IFA), based in Jeddah (Ġidda), primarily deals with Islamic legal matters. It periodically releases resolutions concerning all main areas of civil and economic matters. Homepage: <http://www.iifa-aifi.org/>.

Moreover, there are several institutions in other parts of the Muslim world. To mention a few of them: The Malaysian-based International Shari'ah Research Academy for Islamic Finance (ISRA), the Persian government institution Markaz-e Taḥqīqāt-e Eqteṣād-e Eslāmī (Islamic Economy Research Center- (Homepage: <http://ierc.sbu.ac.ir>) and also the Iran-based Securities & Exchange Organization (Homepage: <https://en.seo.ir/>), not to mention the large number of Pakistani institutions which are devoted to this field of research.

5. Options in Islamic Finance

5.1 The IFA Resolution of 1983 on stock exchange operations³⁶

Source: IFA 1983

There are several official statements from Muslim scholars on options and derivatives. Within the framework of this paper, we will only deal with the IFA Resolution of 1983 more in detail. Firstly in our view it fairly well represents the restrictive stance of contemporary Islamic finance towards derivatives that has not significantly changed since the 1980s³⁷. Secondly the resolution is still widely debated in the latest expert discussions and literature plus it still shapes modern discussions about stock exchange derivatives in Islam (e.g. in Alamad 2017: 145).

The Islamic Fiqh Academy (IFA) Saudi Arabia is one of the most influential institutions on the Arabian Peninsula dealing with Islamic legal matters. The academia was founded in 1981 with its headquarter located in Jidda (Ġidda). The IFA releases official statements on societal, economic and also cultural matters on a regular basis.³⁸

The resolution we will deal with is divided into four parts. In the first part the Islamic Fiqh Academy defines the group of instruments in detail to which the resolution applies. In the second part it specifies the positive economic aspects of stock market instruments, and in the third part, the document discusses its negative characteristics. In the fourth and last part the authors draw a conclusion.

First the IFA defines the following products and market operations they examine:

- buying and selling stocks and company shares on the stock exchange
- Commercial and governmental bonds and commodities.

³⁶ The resolution is part of a bundle, which can be downloaded under <http://www.iifa-aifi.org/rr>. We have enclosed the relevant pages in the appendix of this paper.

³⁷ During our research, we could monitor an even more restrictive tendency. For example El Gari's (Al-Qarī) paper "Shari'ah position of derivatives" released in the wake of the global financial and economic crisis states: *"The name derivatives are now infamous due to their perceived role in the current crises. Derivatives contributed significantly in the process of "financialization of economy" where the financial sector dominated the whole economy and forced the real sector to change its way of doing business just to meet the requirements of the financial market. The real sector shrinks in terms of rate of growth and profits and contribution to the total income. In the United States the size of the derivative market reached \$56 trillion when the GDP itself is a mere \$14 trillion"*. al-Qarī, Muḥammad 'Alī. Shari'ah position on derivatives. In: Oxford round table (14th -15th April 2009). 2009.-page 6

³⁸ Official link: <http://www.iifa-aifi.org/>

- Derivatives (*'uqūd al mu'ağğal*)³⁹
- Time deals, e.g. forwards and futures (*'uqūd al mu'ağğal*)

In the second part the resolution presents the positive aspects of such operations:

- Derivative, bond and stock markets establish a permanent trading platform, which facilitates the convergence between sellers and buyers.
- They facilitate the financing of industrial, commercial and governmental institutions by offering shares and bonds for sale.
- They facilitate the sale of shares, bonds and loans to others. Furthermore they increase the company value as the shareholders may sell their shares on the market instead of distributing the entire profit to the owners.
- Through supply and demand mechanisms, they also enhance information exchange regarding prices and fluctuations on stocks in bonds and commodity markets.

In the third part of the document, the members of the academy dwell on the negative aspects of trading on stock markets:

- Derivatives whose exchange takes place in such markets are neither real sales nor real purchases, because no real exchange of counter values (*'iwaq*) materializes between the two contracting parties.
- The seller often sells currency forwards, shares, bonds or goods on the forward market, hoping that he can acquire them later for a more favorable price on the spot market at maturity.
- The buyer often sells the item he bought to another market participant before he actually takes control over it, who resells the item again under the same circumstances. Consequently, the sale and purchase of the same item will be repeated until the last buyer purchases it and seizes the good from the seller who sold the good in the first place. Technically the last buyer could have bought the item directly from the first seller. All sellers in-between have sold something they are not in possession of and charged a margin in order to make a profit. This is usually what gamblers (*muqāmirūn*) do.
- Financiers who monopolize stocks, bonds and goods often abuse other market participants. Monopolists influence small traders on derivative markets to sell their assets in

³⁹ Admittedly the terminology structure used by the IFA slightly differs from what we are used to in conventional finance. *'uqūd al mu'ağğal* refers to time deals including earnest money. Thus it can both refer to any long position in both futures and option contracts. On the other hand *'uqūd al mu'ağğal* can refer to all kinds of deferred payments and may include futures and option contracts in a short position. In order to simplify the reading flow, we have translated *'uqūd al mu'ağğal* mostly with “derivatives” and *'uqūd al mu'ağğal* with “time deals”.

order those with great market power can buy the derivatives for a lower price before their expiry date.

- Prices on stock markets are not entirely determined by real supply and demand mechanisms. Instead they can be easily manipulated by market makers, monopolists and dealers by spreading false rumors. This leads to abnormal price fluctuations that have a bad impact on economic life. For example powerful financiers tend to possess a large number of securities or bonds. Because of the large supply, the prices of those assets start to drop and smallholders start selling their assets quickly as they fear that the prices of their assets will fall even further, increasing their losses. As a result, the price of the assets start to drop even further and the powerful financiers will buy these assets for a low price, inflicting heavy losses on the vast majority of traders. As a result, many participants are deceived by false market mechanisms. Similar practices also often occur on commodity markets.

Because of these reasons, the stock market has caused big debates among economists, as in certain periods of the world's economic history it has resulted in the huge loss of wealth in a short time for the vast majority, while others gained an immense amount of wealth, inflicting an enormous damage on the economy.

In the last part, the resolution summarizes the decision of the council in five points:

- Ideally the main objective of a stock market is to create a continuous and permanent place for commercial dealings, where supply and demand converge and the traders buy and sell. This is good and useful. It prevents the exploitation of small traders, who need to sell their goods to make their livings. However in reality, stock markets look different. They pursue outrageous practices, partly prohibited by law like gambling, exploitation of the weak and gaining wealth at the cost of others (literally: consuming other people's wealth). Therefore it is not possible to apply a general rule to stock markets; each case has to be examined separately, whether it is compatible with the rules of Islam or not.
- In deferred transactions (*'uqūd al 'āğila*), the commodities have to be present and available at the seller in order to consider them as his possessions. In order to consider a contract *šarī'a* conforming, the transfer of goods has to be specified during the conclusion of the contract.
- Deferred transactions (*'uqūd al 'āğila*) are permissible on company shares according to *šarī'a*, when such shares are in the seller's possession. Companies or institutions that

pursue activities considered as *ḥarām*, (e.g. banks that follow *ribā*-based transactions or companies that produce or sell alcoholic beverages) are not included.

- Options and future contracts on various kinds of stocks bearing interest are not permissible according to *ṣarīʿa*, because they are *ribā* based transactions.
- All short maturity futures contracts (i.e. on shares and goods that are not in the possession of the seller) usually practiced in stock markets are not permissible according to *ṣarīʿa* rulings. This is because the contract involves a contracting party who does not hold the asset at the time of sale. At this point the authors refer to different hadiths, saying that the Prophet forbade the selling of goods until they were bought by the merchants, as a justification to approve this statement.
- *ṣarīʿa* conforming transactions such as *salām* contracts do not belong to time deals on financial markets (stock exchange), because there are several differences between the two forms of contract. (We will examine *salām* contracts more in detail in chapter 5.2.1).

Based on these findings the Islamic Fiqh Academy came to the conclusion that officials in Islamic countries *should not leave stock markets unrestricted in their countries* (accentuation by the author). They shall not allow price manipulators to operate freely. On the contrary, they should require that contracts and transactions entail legitimate methods and prohibit those that do not conform to *ṣarīʿa* rulings. This is necessary in order to prevent financial crises which destroy the general economy and cause calamities for many people.

Summing up, these arguments against stock markets are presented from a standpoint of moral economy and not from classical *fiqh*. Examples from Quran and hadith or classical *fiqh* literature are rare. Looking into the contents from today's viewpoint, the resolution contains many prophetic elements which come to the surface if we consider them in the light of modern economic discussions. In large part such speculative transactions were indeed the cause of the recent financial and economic crisis that undeniably caused the loss of many jobs and had a devastating impact on many economies in the Islamic world. Since the points are presented in a very emotional manner, they lack the required scientific basis both from an economic and also partly from a *fiqhī* perspective. For example the authors of the resolution did not touch on hedging and risk management methods that are also a key area of application of derivative contracts; (see chapter 2.3). In addition, the document also lacks arguments from a *fiqhī* and does not have a theological basis. Aside from a few examples from the Quran and hadith literature, the resolution does not refer to any of the aspects of classical *fiqhī* debates and also the authors fail to include time deals and options from the classical period.

Unfortunately we do not have the resources to discuss all aspects of the resolution within the framework of this paper. Instead we will have a closer look at what kind of possibilities remain for time deals and options within the framework of Islamic finance.

5.2. Time bargains in Islamic finance

In this chapter we will continue examining forms of Islamic contracts started in chapter 3.1.4. This time we will focus on time bargains, particularly on two special forms, *salām* and *istiṣnāʿ* contracts.

5.2.1. Salām

A *salām* contract could be best described as a forward purchase in exchange for an advance payment. Today *salām* contracts are mostly applied on fungible goods, (Schacht 1964, 1998: 153) in a stricter sense, they are popular in the trade of agricultural products (Vogel / Hayes 1998: 145).

In current Islamic finance practices, the cash is paid in full before delivery. Therefore in their payment structures, *salām* contracts are very similar to those of futures. *Salām* sell or *bayʿ as-salām* was already a known institution in the classical period of Islam. The majority of classical jurists vindicated this contract form in order that small traders could acquire their goods in time and guarantee a continued supply of their clients (Latham 2012).

However medieval Muslim scholars raised their voice against the implementation of *salām*. Critics often referred to the hadith prohibiting the selling of unripe dates (c.f. Schacht 1964, 1998: 147), which we discussed more in detail in chapter 3.4.1. According to them, *salām* contracts infringed on two basic principles of Islamic contract law, *ribā* and *ḡarar* (ibid.). Regarding the former the main objection was that the exchange of goods and the payment did not occur simultaneously. Regarding the latter, the realization of the contract bore significant uncertainty and had the possibility of fraud.

Because of these objections, *salām* contracts were often subjected to a number of strict rules, for example the objects of exchange had to be defined precisely. Historically certain goods, e.g. silver and gold, were excluded from the range of available goods for trade. Another peculiarity of this form of contract in comparison with contemporary forwards and futures contracts is that

it does not permit the deferment of *both* delivery and payment to a future date (c.f. Kamali 2000: 25) (accentuation by the author).

In modern discussions, especially illiquidity of the vendor raises many questions. In some cases, contracting parties address this problem by taking security from the seller, which can be either a pledge or a guarantee. It has to be noted that many *fiqh* scholars have objections against this practice (Vogel / Hayes 1998: 145). Another issue arises, when the seller cannot fulfill his part of the agreement, - i.e. cannot produce the goods, or cannot obtain them on time. In this case, the buyer basically has two options: Either he can take back the purchase money unaltered or wait until the seller delivers the goods (ibid: 146). This substantially disadvantages the seller, whose opportunity costs remain unconsidered.

Other discussions point towards the question of to what extent *salām* contracts are able to replicate futures contracts. In fact a significant number of contemporary authors use “*salām*” and “futures” interchangeably. The main question here revolves around the issue of whether the selling of goods before their transfer (*qabḍ*) was legal (Kamali 2000: 127, 172). Although most contemporary scholars reject it⁴⁰, there are also some proponents of this practice. This would make futures contracts compatible with Islamic law. However at present there is a strong opposition among Muslim scholars against this line of thought.

As-Suwailem (Al Suwailem) argues that classical forward⁴¹ and *salām* contracts are in fact zero sum-games, therefore they should be clearly classified as a *ḡarar* transactions. He sees the current regulations insufficient and opts for a transparent compensation mechanism between buyer and seller at maturity date in order to account fluctuations between forward and spot prices (As-Suwailem 2000: 84).

5.2.2 Istiṣnāʿ

Istiṣnāʿ contracts are a special form of trade financing. Usually they are used when a client commissions a manufacturer to fabricate a certain product specified in the contract. A special feature of this form of contract is that traditionally it binds neither party until the goods are produced and accepted by the buyer (Vogel / Hayes 1998: 146). Due to this fact, many scholars consider *istiṣnāʿ* as a grey zone and partly because of this reason all main legal schools (apart

⁴⁰ We have tried to outline some of those discussion points in chapter 3

⁴¹ In this regard As-Suwailem doesn't explicitly mention futures, but on the basis of their similarity to forward contracts, we assume that his statement is also true for futures.

from the Hanafi) do not consider it as legal. Even at the Hanafi School, a minority view seems to prevail, after which *istiṣnāʿ* shall bind both parties from the start (ibid.: 147). Albeit within this given framework, the contracting parties have a large freedom in designing the contract both regarding performance and price. For that reason, contracting parties sometimes have the possibility to reflect possible opportunity costs of money in their markup, taking into account interest rates such as LIBOR or EURIBOR (ibid.).

In their structure, *istiṣnāʿ* contracts are very similar to *salām*, in the sense that both contracts are time bargains, where payment and transfer of goods do not occur simultaneously. As *fiqh* scholars have noted, *istiṣnāʿ* shows also some similarities to classical *iğāra* (lease) contracts, since the work to be delivered (*al-ʿamal*) has to be clearly defined in both forms of contract (Markaz al-fatawī 2001).

There are also several differences between these contract forms. One is that the contract is usually considered as fulfilled when the ordering party receives the manufactured goods from the commissioner (ibid.). Another peculiarity of *istiṣnāʿ* is that in contrast to classical *salām*, both delivery and payment can be deferred to a future date (Kamali 2000: 25).

5.2.3 Conclusion: Time bargains in Islamic law

In classical *fiqh* there is an ambiguity regarding time contracts in Islamic law. While some sources, like the frequently cited hadith quotation about unripe dates strictly disclaim their widespread use in modern Islamic finance. On the other hand, some scholars justify their implementation, mostly grounded on a hadith from Ṣaḥīḥ al-Buḥārī:

فَقَالَا كُنَّا نَصِيبُ الْمَغَانِمَ مَعَ رَسُولِ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ فَكَانَ يَأْتِينَا أَنْبَاطٌ مِنْ أَنْبَاطِ الشَّامِ فَتَسْلِفُهُمْ فِي الْحِنْطَةِ وَالشَّعِيرِ وَالزَّيْبِ إِلَى أَجَلٍ مُسَمًّى.
قَالَ قُلْتُ أَكَانَ لَهُمْ زَرْعٌ، أَوْ لَمْ يَكُنْ لَهُمْ زَرْعٌ قَالَا مَا كُنَّا نَسْأَلُهُمْ عَنْ ذَلِكَ

(Buḥārī, buyūʿ 15)

We used to get war booty while we were with Allah's Messenger and when the peasants of *šām* came to us we used to pay them in advance for wheat, barley, and oil to be delivered within a fixed period." I asked them, "Did the peasants own standing crops or not?" They replied, "We never asked them about it."

(Buḥārī, buyūʿ 15)

Previously time bargains were very well known and practiced in classical Islamic finance. Within the scope of this brief analysis we could not cover a great part of time bargains even though many different types are described in Islamic contract law. To mention a few more,

there is the *bay‘ al-‘ina*, a kind of credit sale, which is often used as an evasion of the prohibition of *ribā* (Schacht 1964, 1998: 153). Other examples are the *tawliyya* resale at a stated original cost, or the *waḍi‘a* or *bay‘ mu‘aḡḡad*-which is a kind of delayed sale (Kamali 2000: 25).

Scholars who reject contract forms solely based on the argument that payment and delivery do not happen simultaneously do not conform to either the classical *fiqhī* discussions, nor the current Islamic business practices.

For the time being, we will put the discussion aside and go ahead with Islamic options.

5.3. Options in classical fiqh

5.3.1 Overview

Arabic authors often refer to options in the Western sense as *‘amaliyyāt šarṭiyya āḡila* (lit. “deferred conditional transactions”). When they mean simple options, (i.e. calls and puts in their standard form), they sometimes use the term *‘amaliyyāt šarṭiyya basīṭa*, in the case of double options they use the term *‘amaliyyāt šarṭiyya murakkabah* (Kamali 2000: 191). Some scholars prefer the term *ḥiyār* or *iḥtiyār*, which is undoubtedly closer to the Latin based European equivalent. In earlier literature we find *iḥtiyār aṭ-ṭalab* for call options and *iḥtiyār al-daf‘* for puts (Sulaymān / Ibrāhīm 1992 cited from Obaidullah 1998: 74). In more recent literature we find the term *ḥaqq at-tamalluk* (lit. “right of taking possession”) for call options and *ḥaqq al-bay‘* (lit. “right to sell”) for put options (abū Mu‘nas 2014: 11).

The current Arabic terminology on this topic is to a large extent inconsistent. Some scholars, like Kamali claim that the reason for this was due to the lack of extensive research of financial options in an Islamic context (c.f. Kamali 2000: 191).

This is not the case for *ḥiyār* in a *fiqhī* sense. By the term *ḥiyār*, stemming from the same Arabic root as the aforementioned *iḥtiyār*, - Islamic contract law describes several more or less well defined legal instruments. In Western translations they often appear as “Islamic options”. In the current chapter, we will analyze them in a more detailed manner. Our compilation is largely based on Ġazīri’s work who delivered a detailed collection of classical Islamic options.

Ḥiyār (plural form *ḥiyārāt*) has a long tradition in Islamic contract law. Most of them can be traced back to early hadith literature⁴². Al-Buḥārī states:

الْمُنْبَاعِانِ كُلُّ وَاحِدٍ مِنْهُمَا بِالْخِيَارِ عَلَى صَاحِبِهِ مَا لَمْ يَتَقَرَّقَا، إِلَّا بَيْعَ الْخِيَارِ

(Buḥārī, buyū‘ 64)

Both the buyer and the seller have the option of canceling or confirming a bargain unless they separate, or the sale is optional. (Buḥārī, buyū‘ 64)

Joseph Schacht defines *ḥiyār* as “right of rescission (*optio*)”, i.e. the right “unilaterally to cancel (*fash*) or to ratify (*imḍā*) a contract.” In case the option is not exercised within a given time period it expires and the sale is completed (*tāmm*) (Schacht 1964, 1998: 152).

As we will discuss later, the most crucial difference between Islamic and options in the western sense is that they are inseparable from the underlying contract (Arbouna 2007: 7-8) and in most of the cases do not require a separate agreement. In short options in the western sense are treated and traded separately from the underlying asset, while for Islamic options, this is never the case. Islamic options are therefore inevitably part of the deal and concede certain rights to both buyers and sellers in connection with the transaction. These can manifest themselves in a right of return in case some circumstances become apparent that were not obvious at the time of conclusion of contract, (e.g. errors or defects)

Classical Islamic contract law mentions five kinds of options (Obaidullah 1998: 75). We will examine four of them.

- Option for defect (*ḥiyār al-‘ayb*)
- Option for determination or choice (*ḥiyār at-ta’yīn*)
- Option for inspection (*ḥiyār ar-ru’ya*)
- Option of acceptance (*ḥiyār al-maḡlis*)
- Condition or stipulation (*ḥiyār aš-šart*)

5.3.2 The option for defect *ḥiyār al-‘ayb*

The option for defect comes into effect when the object of the contract has some flaws or shortcomings (Arabic *‘ayb*, plural *‘uyūb*). It is basically a right of the buyer to annul the contract if

⁴² And accordingly can also be found in al-Ġazīrīs opus magnum al fiqh ‘ala-l maḍāhibi-l arba‘a

the material defect becomes obvious after the transaction has happened. Al-Ğazīrī distinguishes two kinds of defects (source: al-Ğazīrī 2003: 2/171):

The first case is when the defect is caused by the malevolent and fraudulent behavior of the seller, e.g. if he deceives the buyer by pouring water in milk or mixes butter with olives or feeds a farm animal with nutrition in order to make her udders look larger.

The second case is when the defect is not caused by the fault of either contracting parties (due to natural circumstances- *‘ayb ṭabī‘ī*). If a pack animal is unable to carry the goods as a result of a physical inability, or in case walnuts or water melons are rotten from inside which would not be obvious immediately.

As a conclusion, Ğazīrī argues that the buyer has the right to return the goods if one of the following circumstances occurs: 1) Reduction of price (= value) happens because of the defect. 2) When the object of sale fails to serve the designated purpose. However Ğazīrī argues that the right to the option has to be proportionate, meaning if the purchased item is functional, (or in the case of multiple items the vast majority of the items is intact), the buyer cannot exercise the option. This is also the case when the buyer destroys or consumes the purchased item, (e.g. in case he kills or manumits the slave or eats the food he has bought (Schacht 1964, 1998: 153). This is also true for minor defects which can be easily fixed. Ğazīrī mentions as an example a chipped sword, which can regain its functionality by twisting it (al-Ğazīrī 2003: 2/173).

Schacht points out that the option for defect gives only the right of rescission, not of abatement. Rescission is only possible in cases where the return of the object became impossible either by loss or by other damage (Schacht 1964, 1998: 153).

5.3.3 The option for inspection (*ḥiyār ar-ru‘ya*)

The option for inspection concedes an option for the buyer to rescind the contract within a given period of time in case he buys something he has not seen before at a later time. Ribāḥī states that a person who buys something in a shop but is not able to inspect the item on site and realizes later that he isn't satisfied with it. (Ribāḥī 2007: 2). Scholars also stress that inspection embraces the detailed examination of the goods with all four senses, not by sight. This includes purchases where the buyer cannot smell or touch the item (Ribāḥī 2007: 3).

There are different opinions among scholars regarding the case where the seller resells something which he has bought from a third party.

Ḥiyār ar-ru'ya does not require a separate agreement between buyer and seller. This idea is closely related to the principle of the examination of goods when a transaction takes place both regarding price and quality. We have partly discussed *garar* that there seemed to have been a demand among early Muslim scholars that contracting parties should design their contracts as transparently as possible.

Ğazīrī points out that the four main legal schools by no means agree on the exact implementation of those principles (al-Ğazīrī 2003: 2/193). While Hanafi scholars seem to accept this option type, Shafiites and Malikis tend to take a more reluctant stance (Obaidullah 1998: 101), (Ribāhī 2007: 2). Critics claim that contracts where one contract party does not have the full information about the price and the features of the object to be bought should not be allowed in the first place (ibid: 3).

5.3.4 Option for determination or choice (*ḥiyār at-ta'yīn*)

The buyer is subject to protection in the next option form, as in the case of the aforementioned *ḥiyār ar-ru'ya*. *Ta'yīn* can be translated into English as “specification”, “particularization” or “itemization” (Wehr 1979: s.v. *ta'yīn*). The option for determination is applicable when the buyer has the choice between more homogenous articles. The option is not permitted in the Shaffiite school on the same grounds as in the case of the option of inspection, namely that any contract involving the possibility of fraud or uncertainty is classified as *garar*- thus null and void. According to the Hanafi School, the number of items is limited to three and the option period shall not exceed three days. Nonetheless the exact specifications of the option details is currently a matter of discussion among scholars (Obaidullah 1998: 101).

5.3.5. Condition or stipulation (*ḥiyār aš-šarṭ*)

Ḥiyār aš-šarṭ is a special option form that allows either the buyer the seller or even a third party the right to either accept or annul an otherwise binding contract within a certain period of time (c.f. Schacht 1964, 1998: 153). The main difference to the previously discussed option forms is that it does not require an external circumstance (e.g. defect) for one of the parties to assert their right to annul the deal. Unlike the case of the previously discussed option types, under normal circumstances the benefits of *ḥiyār aš-šarṭ*, do not materialize automatically, but are rather negotiated between both contracting parties and stipulated in the contract itself.

From a historical perspective, the concept of *hiyār aš-šarṭ* can be traced back to the main hadith collections, although the name of this option form has been defined later in the *fiqh* literature. Scholars often refer to the following hadith, verifiably reported by Ibn Māḡa (Obaidullah 1998: 77):

Due to a physical disability, a man called Munqid b. ‘Amr was often a victim of fraud. Therefore he went to Muḡammad and sought advice from the prophet, whereupon Muhammad gave the following answer:

إِذَا أَنْتَ بَايَعْتَ فَقُلْ لَا خِلَافَةَ . ثُمَّ أَنْتَ فِي كُلِّ سِلْعَةٍ ابْتَغَتْهَا بِالْخِيَارِ ثَلَاثَ لَيَالٍ فَإِنْ رَضِيتَ فَأَمْسِكْ وَإِنْ سَخِطْتَ فَأَرُدْهَا عَلَى صَاحِبِهَا

(Ibn Māḡa, Aḡkām 48)

In case you buy something, be confident and assert that for every item you buy, you have an option for the duration of three nights. If you are pleased with it then seize it, if you are not satisfied with it then return it.

(Ibn Māḡa, Aḡkām 48)

This hadith implies that the main concept of *hiyār aš-šarṭ* is to protect market participants with weaker power against fraud and deception. As in the case of the other option forms, there is a dispute among the main juridical schools on how to implement the option in practice. Quoting hadith, the Shafiites limit the option time to three days, whereas the Hanbalites and some Hanafi scholars do not have any restrictions regarding duration. (al-Ġazīrī 2003: 2/158), (Vogel / Hayes 1998: 155).

There is also a disagreement among the four main schools of jurisprudence regarding option maturity and time of delivery. While the Hanafis insist on an immediate exchange of goods after concluding the contract, according to the Hanbalites the exchange may take place by the maturity date (ibid.: 155).

Another crucial difference to options in the Western sense is the fact that in most cases it is not permitted to require an additional charge for a *hiyār aš-šarṭ*. The prevailing opinion among modern *fiqhi* scholars is that options are basically promises and “a promise cannot be the subject matter of a sale or purchase” (Obaidullah 1998: 76). However there are still several disputes among modern Muslim scholars. Kamali claims that a contract stipulation which may be advantageous for one contracting party and disadvantageous for the other may be monetarily compensated within the *fiqhī* framework of *ḡamān* (Kamali 2000: 193) (see also chapter 3.1.2).

Existing *ḡarar* and *ribā* provisions pose an additional issue in connection with *hiyār aš-šarṭ*, since the option binds only one contracting party to fulfill his contractual obligations while it

does not bind the other. If the buyer purchases land by the means of an option he may fully profit from its cultivation until the maturity date. At the maturity date he may exercise the option and demand the entire purchasing price back from the seller. Because of these practices some scholars argue for enforcing strict restrictions on tradable goods and also imposing restrictions on some contract types in connection with *ḥiyār aš-šarṭ* (e.g. *salām*). (Vogel / Hayes 1998: 156).

Summing up, among all Islamic option types the *ḥiyār aš-šarṭ* shows the greatest similarities with Western options. One of the main reasons for this is that both contracting parties have the freedom of choice whether they intend to include the option into the contract or not. That is not the case in other classical *fiqhī* option forms where the option execution depends on external circumstances. Similarly to Western options, a *ḥiyār aš-šarṭ* enables both parties to re-evaluate the deal within a given period of time. (regarding similarities western option *ḥiyār aš-šarṭ* see (Arbouna 2007: 7). Before we examine the scope of hedging possibilities with Islamic financial tools, we will examine another remarkable type of contract, which is also traceable back to classical *fiqh* and has some similarities with options in the western sense.

5.4 The ‘*urbūn*’ sale- a special case

Bay‘ al- ‘urbūn or ‘*urbūn*’ sale (in some sources also mentioned as *bay‘ al- ‘arabūn*) is often translated as “down payment” or “earnest money” in European languages (Wehr 1979: s.v. ‘rbn). In practice an ‘*urbūn*’ contract enables the buyer of a certain commodity with a price “p” to deposit a percentage (p*d) of the original sum as a down payment. When the exchange of the commodities takes place, the buyer pays the residual amount (p*[1-d]) to the buyer. If the buyer cancels the purchase, the seller may retain the advance payment (c.f. Vogel / Hayes 1998: 156).

Similarly to *ḥiyār aš-šarṭ*, the ‘*urbūn*’ sale is also a conditional sales contract. Despite some resemblances, classical *fiqh* does not consider an ‘*urbūn*’ sale as an option in the narrow sense.⁴³ This is partly based on the vast differences between the purposes of the two transaction forms. Some scholars argue that possible analogies between options and ‘*urbūn*’ sales were entirely misplaced and according to Islamic legal traditions would fall into the category of *qiyās ma‘ al-fāriq*, (discrepant analogy); (see also Kamali 2000: 193)

⁴³ At least according to Ġazīris extensive reference work on *fiqh*, where ‘*urbūn*’ sale is not recorded as such.

Furthermore the vast majority of scholars also question its legitimacy, mostly based on the following hadith, reported by Imām Mālik, in which Prophet Muḥammad forbade ‘*urbūn*’ sales:

، أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ نَهَى عَنْ بَيْعِ الْعُرْبَانِ .

(Mālik, buyū‘ 1)

According to his line of thought in Muwaṭṭa’, Mālik justifies his statement with the argument that within an ‘*urbūn*’ sale the buyer delivers the seller an amount, for which the latter does not deliver an adequate compensation (‘*iwaḍ*’). Therefore an ‘*urbūn*’ sale bears high uncertainty regarding the actual performance of the transaction and could be easily used as an evasion of existing *ribā* and *ḡarar* provisions. Due to this reason, all main schools of Islamic jurisprudence except the Ḥanbali do not consider ‘*urbūn*’ contracts as valid.

Nonetheless, a significant number of contemporary scholars including El-Gari (al-Qarī) try to legitimate ‘*urbūn*’ sales and argue that many contract types stipulated in classical *fiqh*, e.g. *iḡāra* also bear a high uncertainty yet they are still permitted (al-Qarī 2015: 3). Moreover El-Gari (al-Qarī) claims that notwithstanding the judgment of many critics, the down payment is part of the price (*taman*) and not handled separately as in conventional call options. If the buyer opts to buy the goods defined in the contract, the seller will not receive any compensation before the delivery (‘*iwaḍ*’ *an al-intiḍār*) and therefore ‘*urbūn*’ would not infringe on *ribā* provisions. (ibid: 5). Referring to criticism on the violation of *ḡarar* regulations, El-Gari (al-Qarī) comes up with the argument that at the time of the conclusion of the contract, both the seller and the exact price (*taman*) are known, therefore those apprehensions are unfounded. (ibid: 6).

El Gari (al-Qarī) further points out that the resemblance of an ‘*urbūn*’ sale to an option is obvious. This is substantiated by the fact that both types of contract concede the buyer a right of choice whether to carry out the bargain or not (ibid 10). In this regard it has some similarities to western call options in its payoff structures, where the deposit charge could be interpreted as the option price in the western model and the time span between the discharge of the down payment and the time of transaction could serve as an analogy to the option duration

Because of these resemblances, some modern *fiqhī* scholars, like El-Gari (al-Qarī) see a possibility to permit some types of western options⁴⁴ within the framework of ‘*urbūn*’. This view was also backed up by the International Islamic Fiqh Academy that endorsed ‘*urbūn*’. Notwithstanding some similarities, for the time being drawing an analogy between call options and ‘*urbūn*’

⁴⁴ As El Gari (al-Qarī-2015) stresses that this would only concern call options. He further urges for the creation of a sharia compatible product that could substitute puts (page 6)

is tricky from a financial perspective. While the basic motivation that lies behind financial options is hedging against price risks, the one behind *‘urbūn* is to give the buyer more incentive to commit himself to the contract provisions⁴⁵. Of course that does not mean that in the future a new contract type for hedging price risks may not be designed based on an *‘urbūn* sale. Consequently in the next chapter we will discuss how price risk can be managed with the tools known by Islamic finance.

5.5 Possible hedging strategies within the framework of Islamic finance

Hypothetically we have the same initial situation as in chapter 2.2.2. Our company manager seeks to hedge possible price risks on January 1st and intends to do so within the Islamic framework. He could only do that by utilizing *ḥiyār aš-šarṭ* or an *‘urbūn* sale.

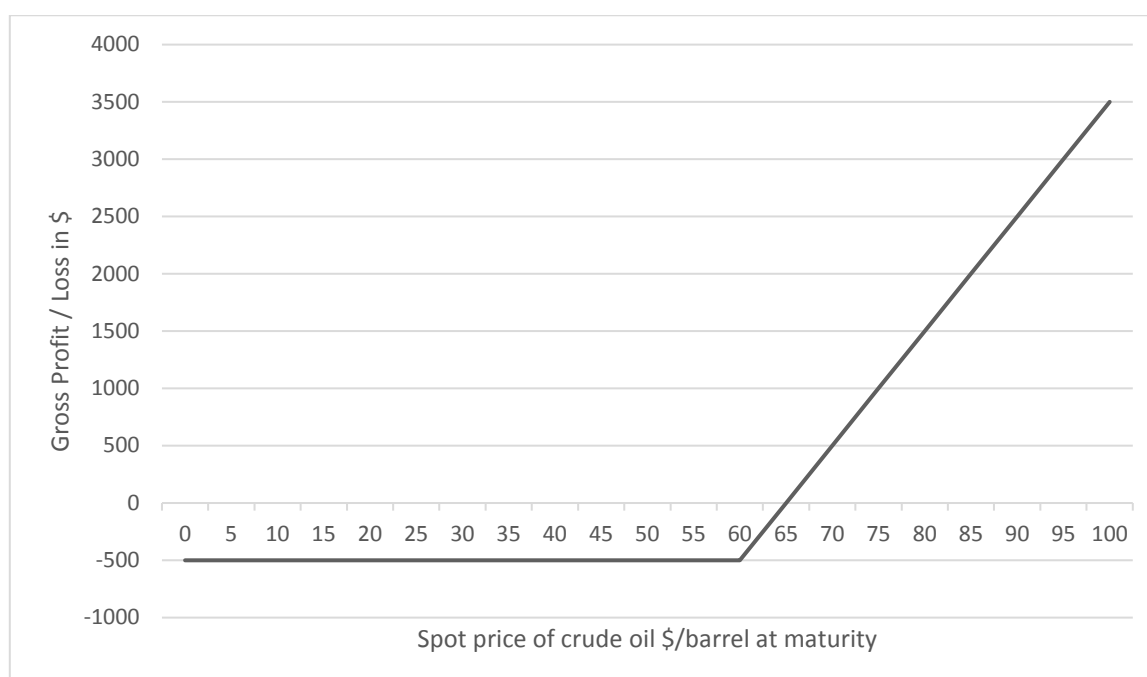
By using the *ḥiyār aš-šarṭ* framework he may buy crude oil today and agree on a delivery date on 1st of July. As part of a *salām* contract he may agree to pay the price of the underlying (\$60) on the delivery date. Let us assume that for a *ḍamān* (=additional compensation) of \$5 he acquires the right to cancel the contract at will on the delivery date.

By using an *‘urbūn* sale, he may agree on 1st of January to buy crude oil for \$65 from the seller. From this sum he pays \$5 of earnest money and the rest is due on the delivery date of 1st of July. For the company, both *ḥiyār aš-šarṭ* and *‘urbūn* would result in a cash flow of \$-5/ barrel on January 1st. His cash flow on 1st July strongly depends on the spot price of oil. If it is below \$60, he would cancel the contract, because he could buy crude oil cheaper on the spot market. Then his total loss would amount to \$5 / barrel (value of *ḍamān* in *ḥiyār aš-šarṭ* or the earnest money in *‘urbūn*). When the oil price exceeds \$60, he will perform the contract, because he will be better off with it than purchasing the underlying asset on the spot market. His total gains can be described by the following formula: (Actual spot price-contract price- *ḍamān*/ *‘urbūn*).

By using *ḥiyār aš-šarṭ* and *‘urbūn*, the payoff structure of the company is theoretically identical to that of a call option:

⁴⁵ The key differences between financial options and *‘urbūn* on a practical level were fairly well illustrated by Arbouna (2007), p.14:

- “In the case of *‘urbūn* the down payment is in part of the price, whereas an option premium is an additional fee that entitles the option holder to either buy or sell the underlying asset
- According to the prevailing opinion among modern Muslim scholars an *‘urbūn* sale fulfills the criteria of an Islamic contract, while a financial option would fall into the category of a promise.
- An *‘urbūn* sale is by no means tradable, while this is true for financial options” (Arbouna 2007:14)



5.6. Discussion

This hedging strategy on the basis of conventional financial options presented above is purely theoretical. In reality it encounters a lot of difficulties and it is hard to implement. In our view, this can be traced back to a variety of reasons:

The first one does not have to do with options in the narrow sense, but the generally cautious attitude of contemporary Islam towards everything that may contain interest and risk. This is a result of the considerable efforts of modern Muslim intellectuals to create an Islamic economic system and position it as an opposite pole to what is perceived as the “Western economy”. Within this framework, *ribā*, *maysir* and *ḡarar* have acquired new meanings. *Ribā* has become a widely used synonym for interest, exploitation, usury and greed. *Maysir* (a term whose economic origin is questionable), has become a synonym for speculative businesses and *ḡarar* has become a synonym for risk and uncertainty in the widest sense.

There is a tendency among modern scholars to brighten up this conservative point of view. As-Suwailem (Al Suwailem) argues that *ḡarar* would refer only to zero sum games, where one party can only make profits at the cost of the other. Within this framework, risk would be actually desirable if it “stimulates productive efforts and value adding activities” (As-Suwailem 2000: 64). On the other hand *ḡarar* as a result of moral hazard and asymmetric information is undesirable according to *fiqhī* tradition. As-Suwailem defines two kinds of options: real options

and financial options. While real options, like the ‘*urbūn*’ sale were regularly connected to a real asset, financial options were not. The reason is that financial options are suitable for misusing market imperfections and therefore particularly prone to additional risk generation and *ḡarar* (c.f. ibid. 87). Obaidullah argues that *ḥiyār aš-šarṭ* embedded in a contract could be a suitable instrument to minimize *ḡarar* and protect one contracting party in case the other fails to honor the agreement (Obaidullah 1998: 91).

It remains to be seen, whether during the discussion of the topic takes the hedging potential behind conventional options into account or not. In this light, the contemporary definition of *ḡarar* can have an entirely new meaning.

We think that it is neither *ribā*, nor *ḡarar* but the widespread assumption among Muslim scholars that derivatives (and stock exchange operations in general) represent a grey area of economy, prone to speculation and hazardous businesses which is the primary reason for their reluctant stance against derivatives.. Resolution No65/1/7 on financial markets fairly well reflects the general view of contemporary *fiqhī* scholars on the matter. The resolution suggests imposing strong regulations on transactions considered as speculative, if not prohibiting them completely. It is noteworthy that the arguments rather come from a perspective of moral economy rather than classical *fiqh*.

Admittedly the restrictive stance of modern *fiqh* leaves little room for effective hedging strategies. From the late 1990s there has been an increased effort by Islamic scholars to redesign classical Islamic contracts and make them suitable for managing price risk. As a result *salām* and *istiṣnāʿ* contracts are able to replicate future and forward sales in some way.

We have a slightly different situation with options. Their basic feature of acquiring a right in exchange for monetary compensation constitutes a virtually insurmountable obstacle for most Muslim scholars. They opine that only commodities classified as *māl* (roughly translated as “wealth”, “property”, “tangible asset”) can be an object of trade. A right “pure and simple” (*ḥaqq al-muḡarrad*) is not considered as such because it obviously lacks a tangible or material quality. Hence something considered to be granted cannot be an object of buying and selling (Obaidullah 1998: 76, (al-Qarī 1993: 16).

Islamic contract law clearly distinguishes a contract (‘*ʿaqd*’) from simple promises (‘*ʿidāʾ*’) and allowances (*ibāḥāt*) (Chehata 2012) While all three obligations have a binding character for both contract parties, only a subject of a contract can be sold or purchased (Obaidullah 1998: 548). As contracts in classical Islamic law envisage an immediate transfer of the ownership of

the object (Chehata 2012) ⁴⁶, options are generally classified as promises by modern Muslim scholars. As a result the benefit of the high tradability of options, (a feature that has vastly contributed to their proliferation in conventional finance), cannot be achieved within the scope of Islamic finance.

In current discussions there is no consensus about the exact scope of *māl*. While the Shafiite and Hanbali schools assert that usufruct also falls under its scope, the other main schools of legal thought tend to disagree (Kamali 2000: 194). Malaysian⁴⁷ scholars evaded the problem of tradability of options by classifying them as benefits (*manfaʿa*). According to their interpretation, call warrants were permissible because they have the characteristics of an asset, implying that they “satisfy the concept of a tangible right (*haqq mālī*) and the right of ownership (*haqq tamalluk*). Hence they are transferable”. (Alamad 2017: 145).

The vast majority of contemporary scholars agree that option trading separate from the underlying asset is not compatible with the key principles of Islamic finance. Whether there is still room for risk reduction is highly questionable. The hedging strategy presented in the previous chapter could be somewhat suitable for reducing price risk in theory; however there is no clear consensus regarding the legitimization of the instruments used.

Of all Islamic financial instruments, *ḥiyār aš-šarṭ* and *bayʿ al-ʿurbūn* are most similar to conventional options. *Ḥiyār aš-šarṭ* can be traced back to classical *fiqh*, which is partly the reason why it enjoys high legitimacy among scholars. However there are serious disputes between the main schools of jurisprudence regarding its implementation into practice. When the original *ḥiyār aš-šarṭ* was created during the time of classical Islam, the environment it was designed for was totally different from today’s highly volatile economy, where the prices of commodities may change significantly within minutes. If modern *fiqh* would depart from the conservative stance and enable a more flexible interpretation, the *ḥiyār aš-šarṭ* could become a suitable hedging tool.

Possible adaptations may concern the possibility of extension of the duration period of three days and the possibility to include the option price in the contractual price. The latter is justifiable from an economic perspective since such a guarantee on the part of the option writer is

⁴⁶ This principle has been breached several times though- as we have seen in the case of time bargains.

⁴⁷ With the Securities Commission Act 1993, Malaysia was one of the first Muslim countries trying to make options compatible with Islamic canonical law.

associated with a high contractual risk. Within the scope of Islamic finance, this could be done within the framework of *ḍaman*.

The second alternative to replicate western financial options is through an '*urbūn*' sale. If we observe '*urbūn*' sales solely from the perspective of their payoff structure, they certainly remind us of call options. Vogel / Hayes claim that if Islamic law is to tolerate options, it will likely be through the medium of the '*urbūn*' contract (Vogel / Hayes 1998: 156). Admittedly this approach contradicts the entirely different purpose of '*urbūn*'. Unlike options, the primary objective of '*urbūn*' contracts is not to reduce price risk, but rather to protect the seller in a transaction against contract risk. Another issue is the scarce support from the majority of *madāhib* for this type of contract.

Currently there is a discussion among Muslim scholars as to which of the two contract types is suited better for replicating western financial options. Al-Qarī (El-Gari) clearly prefers '*urbūn*' sales, while Kamali prefers to utilize the theory of *ḥiyārāt* as a juridical premise for validating options because their "unequivocal support in the Sunna" (Kamali 2000: 205). In our view, in the current state of research this debate is somewhat misplaced. As pointed out by Alamad (2017) , the differences to Western options enormously outweigh their similarities (Alamad 2017: 143), not to mention the fact that for some Western options, e.g. put warrants, there are no close equivalents in Islamic finance.⁴⁸

The last possible route to implement financial options within an Islamic context is within the framework of the *maṣlaḥa*. The legal concept of *maṣlaḥa* can be translated as "general good" or "public interest" (cf. Khadduri 2012). Citing Ġazālī, *maṣlaḥa* was "the ultimate purpose of the Sharia, consisting of the maintenance of religion, life, offspring, reason and property. Anything which furthers these aims, is *maṣlaḥa*, and anything which runs contrary to them is *maf-sada*" (cited from Khadduri 2012)). Given the high economic relevance of options of derivatives, the issue could also raise the question of to what extent they contributed to the overall welfare of the community. This approach would push traditional *ribā* and *ḡarar* aspects into the background and make room for a more elastic perception of contemporary financial instruments.

⁴⁸ Hayes argues that Islamic finance could replicate put options by the means of third party guarantees. Vogel, Frank E. / Hayes, Samuel L. Islamic Law and Finance. Religion, Risk and Return. The Hague: Kluwer Law International 1998.p 228. However judging by the current discourses this would be nothing more than a mere theoretical possibility.

Proponents of this point of view often back their arguments with quotes from the Quran, emphasizing that God created man to not lay burdens on him.

يُرِيدُ اللَّهُ أَنْ يُخَفِّفَ عَنْكُمْ ۖ وَخُلِقَ الْإِنْسَانُ ضَعِيفًا

Allah wishes to lighten (the burden) for you; and man was created weak. (Quran, 4:28)

فَأَمَّا مَنْ أَعْطَىٰ وَاتَّقَىٰ ۖ وَصَدَّقَ بِالْحُسْنَىٰ ۖ فَسَنُيَسِّرُهُ لِلْيُسْرَىٰ

As for him who gives (in charity) and keeps his duty to Allah and fears Him, and believes in Al-Husna, we will make smooth for him the path of ease (goodness). (Quran, 92:5-7)

(Quotes from the Quran compiled on the basis of Kamali 2000: 72.)

Within the high variety of positions ranging from total rejection to a possible adoption of financial options, we will now see how they work in practice in the countries of the Gulf.

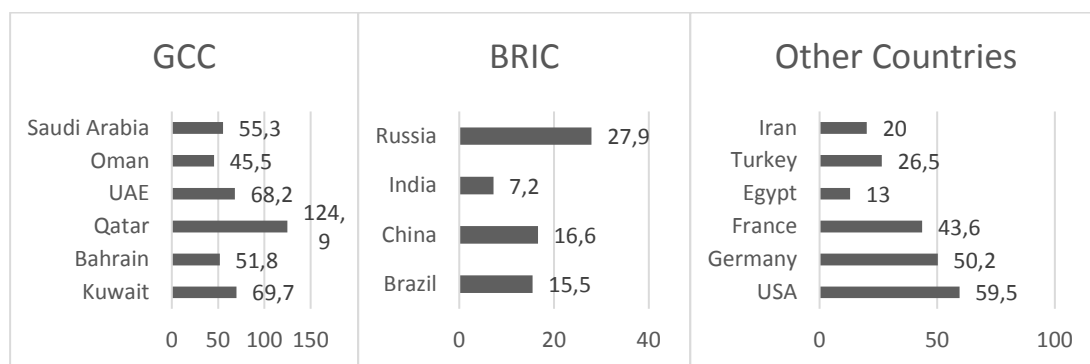
6 CCG Market analysis

6.1. General overview

In the next chapter we will examine the financial markets of the Gulf Cooperation countries. In this context we will also try to find an answer to the question, to what extent derivatives and financial options are present in these markets. Using the suggestions and methods given from *fiqhī* scholars, it is interesting to explore to what degree “Islamic derivatives” are used in these countries, if they are used at all.

The wide scope of Islamic finance and product development greatly exceeds the GCC region and the Arab world. Nevertheless the GCC area⁴⁹ has a high economic significance within the Arab countries. With a total GDP (on purchasing power parity) of 3,382.3 billion US dollars (2017 data), the six gulf countries provide nearly 50% of the total GDP of the Arab League (CIA factbook 2018c). This figure is remarkable if we take into consideration that these countries account for only ca. 12% of the total population of the Arab world.

If we compare their GDP / capita with other emerging and developed countries, we get the following picture (on purchasing power parity, 1000 US dollars) (Own graph based on data provided by the CIA factbook- (CIA factbook 2018d).



The GDP / capita of the Gulf countries fairly matches the figures of the most developed countries in the world. Qatar has even the second highest GDP / capita in the world.

⁴⁹ A transnational cooperation of Gulf countries established in 1981 with the goal to further integrating the Gulf Economies and to establish a common market in the long term. Taking the example of the European Union, the GCC established a free trade area and a customs union thus far, in order to enable the free flow of goods, services, capital and citizens. In the near future the project also envisages the introduction of a common currency. Cited from: Secretariat General of the Gulf Cooperation Council The Cooperation Council for the Arab States of the Gulf GCC, 2018, from <http://www.gcc-sg.org/en-us/Pages/default.aspx> (09.02.2018). Currently the GCC has six member states: Kuwait, Bahrain, United Arab Emirates, Qatar, Oman and Saudi Arabia.

One of the key reasons for their enormous economic wealth are their massive hydrocarbon resources (primarily crude oil). According to the BP statistical review of World energy (from June 2017) estimated that 496.4 thousand million barrels, nearly 30% of the world's total oil reserves is located in the GCC (BP 2017: 12). However these reserves made these countries' economies highly dependent on oil and therefore they are greatly exposed to oil price fluctuations. While in the 2000s oil prices were constantly growing, this trend seems to have turned around since the global economic crisis. In 2016 oil prices recorded a sharp decline again and it is doubtful, whether they reach their pre-crisis level. Simultaneously last year's economic growth has come to a halt in these countries and their public deficit started to rise rapidly.

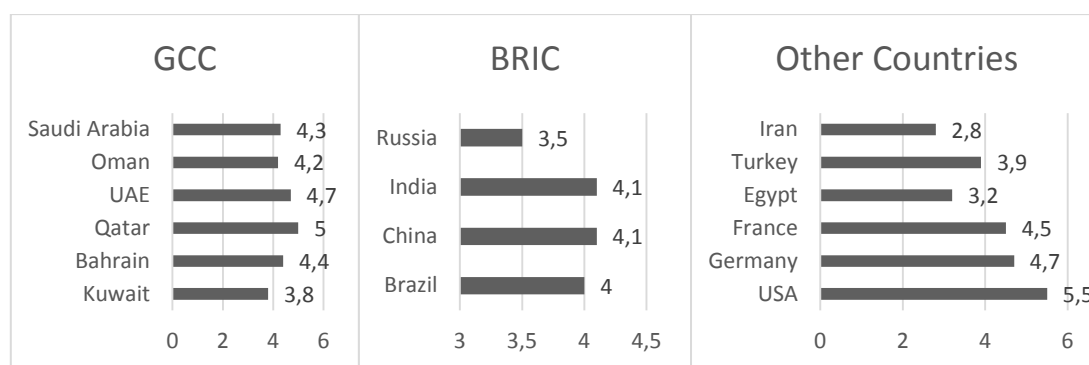


Development of oil price/ barrel in the past 10 years: Source: (macrotrends.net 2018)

These unfavorable circumstances made the GCC rethink their economic policies, which was more or less based on extractivism until the late 2000s. GDP based revenues from hydrocarbons have grown compared to total GDP in GCC countries since 2006 when economic reforms started to materialize; now the trend seems to be gradually turning around (Kern 2012: 7).

Since 2005 and especially since the global economic crisis, the governments of the Arab Gulf have spent a significant amount of their budgets to diversify their economies (Grant Thornton 2008: 2) (See also (Grant Thornton 2017)). One of the main goals of these countries (e.g. Saudi Arabia and UAE) is to boost their private sector and help local enterprises to develop and a flourishing private sector needs sources of financing with a diversified range of hedging instruments to face possible financial risks.

Therefore the transfer the Gulf countries' vast financial resources to an attractive financial sector seemed to be necessary. Not only are financial markets a highly productive economic sector with high skilled jobs, they also help to stimulate business activity in other economic branches. Therefore many Gulf Cooperation countries have set their national focus on the development of their financial markets. According to the data of the World Economic Forum (WEF), the current stage of the development of the GCC financial markets in a regional and global comparison looks as follows (2015 data):



Graphic based on (Kern 2012: 34) with updated data from (Schwab 2015: 91ff)

Depending on the country, the total weight of the local financial sector varies strongly. While in Bahrain the total share of financial and insurance services comprises about a quarter of total GDP, in Saudi Arabia this figure is a mere 3% (Kern 2012: 10).

Another important reason for choosing the GCC region for our analysis was its pioneer role in the development of Islamic Finance. Apart from the fact that the first financial institution embracing Islamic financial services was the “mīt ġamr savings bank” in Egypt (established in 1963), the Gulf region was the key area for its development.

The crucial role of GCC in Islamic finance is shown by the fact that in 2015, 30% of the global *ṣukūk* outstanding was traceable to the GCC region (IIFM 2016: 43). Moreover in 2016, nearly 40% of the world wide *ṣukūk* were issued in one of the countries of the Gulf Cooperation (Othman /Abdallah et al. 2017: 1). Finally, about two thirds of the global Islamic Banking assets is found in the GCC region (2015 figure) (Qattan 2015)

The GCC region has the highest overall percentage of Islamic banking assets in comparison with conventional ones in the Arab world. While in the Middle East this figure averages 14%, in the GCC it amounts for more than a quarter of the total banking assets (Basu /Prasad et al. 2015: 4).

6.2 Kuwait

6.2.1. Economic and political snapshot

Despite its small territory, Kuwait has a relatively powerful economy with its GDP per capita of \$71,900 (2016 est.) the country ranks the 11th highest on the globe (CIA factbook 2018a). The country owes its wealth largely due to its vast oil reserves which comprise 6% of the world's total reserves of crude oil. More than half of the country's GDP results from oil or businesses directly related to oil. 92% of all export revenues come from petroleum, while the percentage of petroleum related revenues comprises 90% of total government income (ibid.).

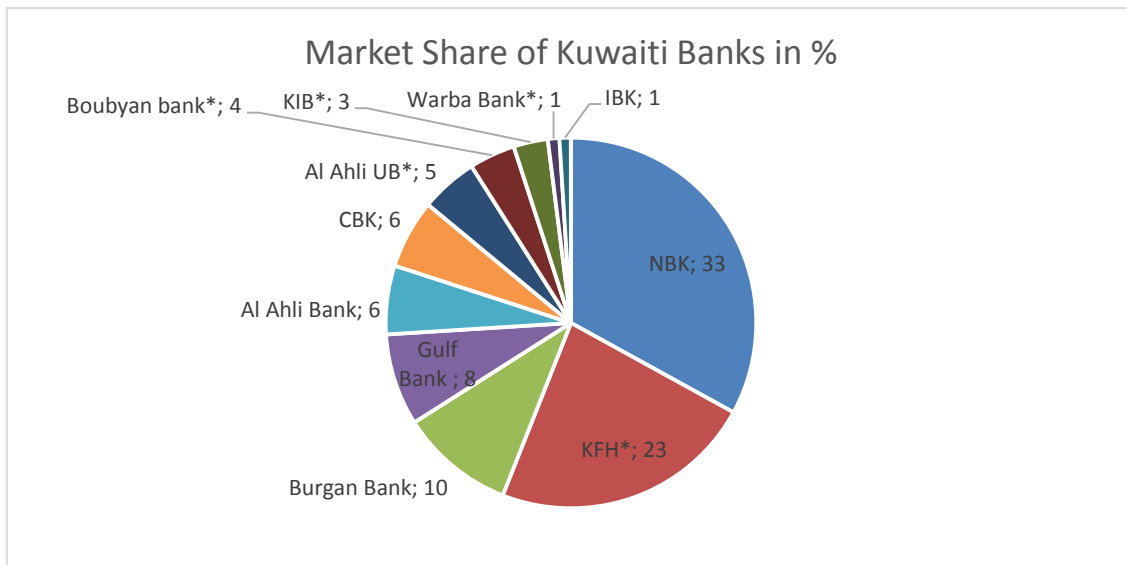
The high reliance of the country's economy on oil is also the cause of several issues. Critics claim that despite the prosperous development plans in the 1990s, Kuwait has failed to diversify its economy, which is still exorbitantly reliant on oil (ibid.). While due to the high world market price of oil in the years between the millennia and 2014 the country had a vast budget surplus every year, until 2015 when the oil price slumped. Since then Kuwait has relied on external creditors. In 2015 the budget surplus of ca. 2.4% of the previous year turned to a budget deficit of 18% of the GDP (IMF 2017a: 5).

Despite the growing public dissent and the permanently low oil prices, each year the Kuwaiti establishment commits 10% of all state revenues to the Future Generations Fund (FGF) in order to build up a financial buffer. The amount accumulated in the FGF is mostly invested in long-term financial and real estate investments (IMF 2017: 5). The latest IMF country report says that the main aims of these measures are to promote private sector development and enhance business environment. Furthermore future development plans also include a serious boost of the public infrastructure by involving private investors. Parts of these measures are the ambitious development of the rail network both within the city of Kuwait and within the GCC region. Moreover they also envisage an extension of the Kuwait airport. (ibid. 57)

6.1.2 Financial sector and legal environment

Kuwait has a dual financial system, both comprising conventional financial institutions and companies operating following the principles of Islamic finance. According to the 2017 IMF report, banks represent round 80% of the Kuwaiti financial sector (IMF 2017a:22). Seven of

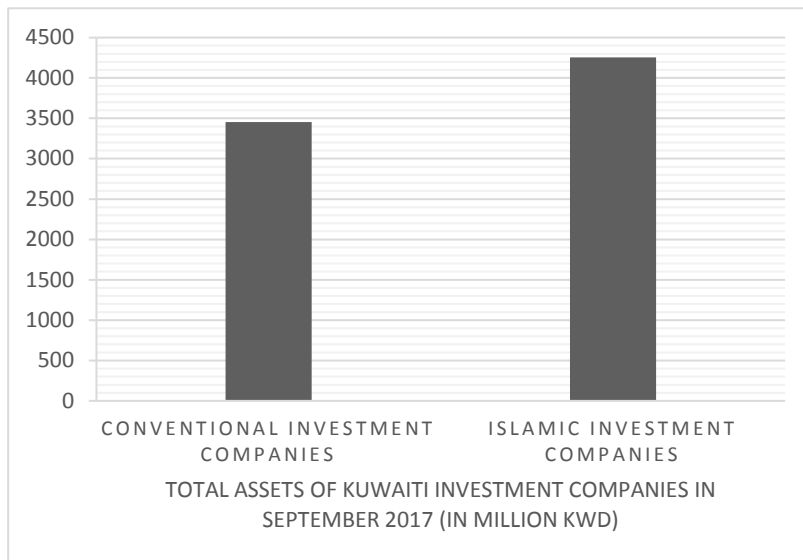
the eleven operating Kuwaiti banks claim to be Islamic (Central Bank of Kuwait 2018a). The following diagram shows their total market share:



Market shares of Kuwaiti banks. (* indicates that the bank is “sharia compliant”). Source: IMF 2017a:35, graphic slightly modified and complemented by the data of the Central Bank of Kuwait (2018)

This diagram shows that compared to their relatively high absolute number, Islamic banks have a comparatively small market share on the Kuwaiti market (about 36%). If we compare the foreign banks operating in Kuwait, only one bank out of 12 conducts its business in accordance with Islamic finance (Central Bank of Kuwait (2018a)). According to their internet profiles, the bulk of Kuwaiti Islamic banks focus on *murābaḥa*, *istiṣnāʿ* and *iğāra* transactions.

There are currently 70 investment companies operating in Kuwait, and a significant number conduct their businesses in accordance with Islamic finance. This graphs shows the total sum of liabilities and assets and the allocation of conventional and Islamic investment funds companies in September 2017: (Source: CBK (2018a):



According to their homepages, the portfolios of most Islamic Investment companies correspond to those of conventional ones. They mostly operate in the areas asset management, advisory primarily in the areas M&A and initial public offerings. Apart from their product portfolio, the most crucial difference

from conventional investment companies is that usually Islamic ones have a separate Sharia audit and/or an internal fatwa committee (Central Bank of Kuwait 2018b).

Kuwait's trading platform for stocks, bonds and securities is the Kuwait Stock Exchange, founded in 1983. Since 2014 it has been officially operated by the private company *būrṣa kuwait*. According to the monthly report of the company, in September 2017 the value traded on the Kuwaiti Stock exchange was 426.5 Million Kuwaiti Dinars (About \$1.413 Million USD) (Boursa Kuwait 2017). Banks comprise nearly half of the total market capitalization, followed by financial services (10%) (Boursa Kuwait 2017b: 24). According to the data compiled by the World Economic Forum,⁵⁰ the Kuwaiti financial center ranked in 73th place, producing the poorest figure in the CGG region (World Economic Forum 2017) (2015 figure).

The Kuwaiti legal system on the whole is as a mixture of English common law, French civil law, and Islamic religious law (c.f. CIA factbook 2018a). References to property rights and basic freedoms also appear in various places in the fundamental law. Although the constitution stipulates that Islam is the state religion and the *ṣarī'a* the main source of legislation (Constitution of the State of Kuwait, Article 2), compared to other countries in the Middle East region the religious element in lawmaking is less relevant.

⁵⁰ Taking various factors into account as „Availability of financial services, financing through local equity markets, ease of access to loans, venture capital availability, soundness of banks, regulation of security exchanges and legal rights index” (Kern 2012:34, - World Economic Forum: 36)

Islamic traditions shape economic legislation because every company located in Kuwait is obliged to contribute to *zakat*, which is calculated as 1% of its annual profit (Ministry of Finance resolution No. 58/2007 effective from 10 December 2007).

Until 2011 the Central Bank of Kuwait (CBK) was in charge of the regulation of investment companies. In 2010 a new law established a body to supervise the new capital and all regulatory functions were transferred from the CBK to the Capital Markets Authority of the State of Kuwait (CMA). (Central Bank of Kuwait 2018b)

The new regulating body is supposed to regulate and supervise any corporate enterprise or natural person who trades with securities. According to Article 1 of Law No. 7 of 2010 (Capital Market Authority Law-CMAL), a security is defined by following criteria:

- Shares issued or proposed to be issued in the capital of a company
- Any instrument that creates or acknowledges a debt issued or to be issued by a company
- Loans; bonds; *Sukuk*; and other instruments that can be converted to shares in the capital of a company
- All public debt instruments that are tradable and issued by the various government entities or public institutions and authorities
- Any right, option or derivative relating to Securities

(Kuwait Capital Market Authority 2018)- (2010 Law No.7, Article 1)

6.2.3 Options and derivatives in Kuwait

Apart from forward contracts, which were already practiced as early as the 1970es in Kuwait, large banks and investment companies could also use currency and interest rate swaps (Abumustafa / Al-Abduljader 2011: 4).

Since the late 1990s the Kuwait Stock Exchange (KSE) introduced futures trading, followed by the first introduction of option transactions in 2005. Despite the fact that option trading in Kuwait was introduced early, compared to other Gulf Cooperation Countries, it was subjected to strong limitations from the beginning: The range of exchange has been limited to a small number of listed companies and foreign investors had limited access to the trading platforms. The most crucial regulation was the restriction of option trading to call warrants only, meaning that puts and combined option forms were not permitted at all (Abumustafa / Al-Abduljader 2011: 4).

The Central Bank of Kuwait (CBK) has explicitly advised local financial institutions to use options only for hedging purposes. If a Kuwaiti based bank or investment fund intended to enter an options contract, considered as speculative by Central Bank officials, it had to obtain the prior consent of the CBK. If that did not happen and CBK officials discovered any activity involving speculative options, the trading company had to face severe sanctions (Al Tamimi & Co. 2017).

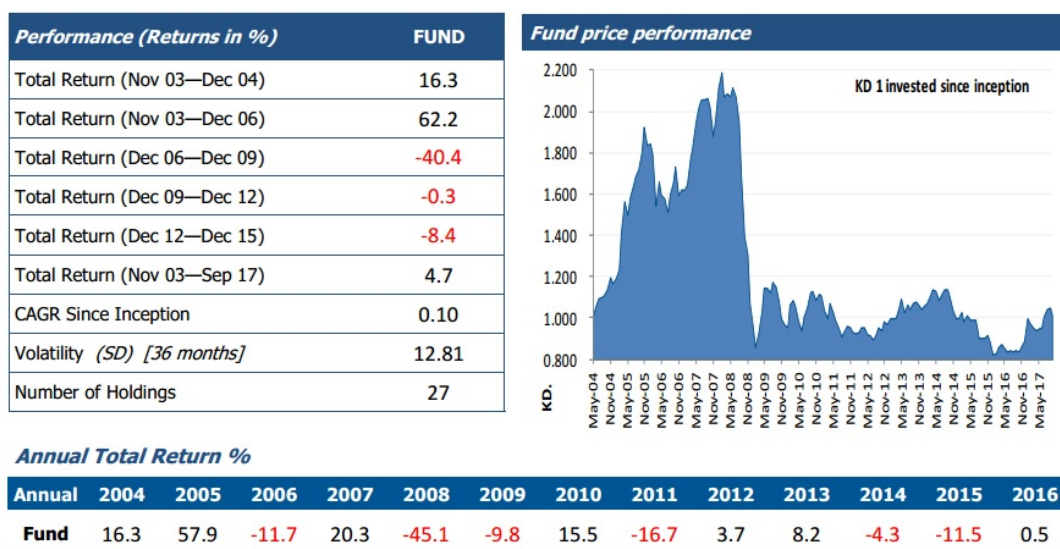
According to Kuwaiti law, the basic regulations concerning options and derivatives belong to the sphere of action of the CBK. The first attempts to introduce derivatives in the Kuwaiti Stock Exchange (KSE) dated back to 2005. As a result of the global financial crisis, derivative transactions were suspended both by the KSE and major Kuwaiti Banks (Central Bank of Kuwait 2008). This was partly explained by the major losses, the KSE had suffered (Oxford Business Group 2016).

The second major attempt dated back to 2013, when the Kuwait Bourse announced that it would introduce derivative trading in 2014 (gulfbusiness.com 2013). However after two years, this attempt was annulled by a government directive⁵¹, arguing that derivatives were greatly responsible for major financial losses the Kuwait Stock Exchange had to face, implying that they had a negative impact on the economy of the gulf country (Kuwait News Agency 2016). Despite the suspension of option trading, judging by the previous statements of the Kuwait Stock Exchange and future development plans, it can be assumed that after severe technical upgrades derivative trading will be resumed at some point (Oxford Business Group 2016).

For the time being, the only Kuwaiti based institution that has an active option related funds is the asset manager, Markaz, established in 1974. According to the company's own description it established the first trading platform for "issuing and selling derivative instruments (call options) on Boursa Kuwait listed stocks" (Markaz. Kuwait Financial Centre 2018). Until recently, the company's only option related product was the Forsa financial fund, operating since 2004. According to the fund's description, mentioned in the "Articles of Association" (available only in Arabic), the "fund aims to raise capital by investing money for the benefit of Kuwaiti citizens, citizens of the Gulf cooperation countries and other natural and legal persons in accordance with the law" (Markaz. Kuwait Financial Centre 2017a: 6). According to the document, the

⁵¹ Resolution No. (76) of 2016 Regarding Ceasing the Financial Derivatives (Options, Futures and Forward) - See more at: <https://www.cma.gov.kw/en/web/cma/cma-board-releases/-/cmaboardreleases/detail/440460#sthash.UcZF1WKf.dpuf>

fund currently includes American call options on “shares of companies listed on the Kuwait Stock Exchange” (ibid:7).



Fund performance of Forsa 2004-from (Markaz. Kuwait Financial Centre 2017b).

After an initial rapid increase, the fund faced a rapid downturn during the global financial crisis and has failed to gain momentum since then (Source: Markaz. Kuwait Financial Centre 2017b).

According to the company’s website, Markaz has also developed a separate option trading system at the Bursa Kuwait, which enables investors to buy call options on Kuwaiti based stocks (Markaz. Kuwait Financial Centre 2017c). Options could be purchased on 57 listed stocks, with contract sizes varying from 1,000 to 100,000 shares of the underlying stock (Markaz. Kuwait Financial Centre 2017d). According to the website, the last six options expired on the 29.12.2016. Since then, Markaz seemed to seize option related business activities (Markaz. Kuwait Financial Centre 2017d).

6.3 Bahrain

6.3.1 Economic and political snapshot

With a population of nearly a million and a half, Bahrain has the lowest population among the GC Countries. Identically to all Gulf Cooperation countries, Bahrain is a monarchy, with the Ḥalīfa dynasty governing the country since 1783. The current ruler, Ḥamad bin ‘Īsā, has been

in office since 2002. His reign is connected with the transformation of the political system of Bahrain from an absolute to a constitutional monarchy.

Notwithstanding its severe political problems in the past years, since the “Arab spring” the economy is considered to be dynamic, with a GDP / capita of \$50,700 (CIA factbook 2018b)(2016 data). The country ranks one place behind the Netherlands in a worldwide comparison. According to the data of the heritage foundation, a conservative think tank based in the US, Bahrain is the second freest economy in the entire Middle East (after the United Arab Emirates) (Heritage foundation 2017: 2,299). In fact in the past years, Bahrain made increased efforts to improve its prestige and brand itself as a country with a free and interconnected economy and low taxation. The Bahraini government has also launched a PR campaign in 2017 with the motto “Business friendly Bahrain” (Bahrain EDB 2017).

The annual GDP growth is a solid 2.5%, whereas the non-hydrocarbon sector- especially tourism, transportation, banking and finance greatly contributes to this figure (Bahrain EDB 2017: 2). Due to the low oil prices, the hydrocarbon industry produces growth figures near zero. Unemployment has also shrunk significantly from 2013 onwards but with an estimated unemployment of 3.7% (2016 data), the Bahraini figure is the second highest among the GCC (after Oman) (CIA factbook 2018b).

Similarly to all GC countries, the Bahraini economy also suffers from permanently low oil prices, which made the government introduce austerity measures including major cuts to subsidies on numerous consumer goods (ibid.). On the other hand the Bahraini government has emphasized diversifying its economy and it is making massive efforts to increase public spending, mostly investing in public infrastructure. Current and future infrastructure projects include a massive development of the country’s aluminum producing industry (Alba project- (Alba 2018)), the expansion of the Manama Airport and the improvement of the land connections to other GCC countries including the construction of a new railway network. Moreover the country has also made massive investments in health care and education (Bahrain EDB 2017: 23). Although some progress was made in this direction, critics claim that despite these efforts, about 80% of Bahrain’s revenues result from oil and connected industries. (Bertelsmann Stiftung 2016a: 4)

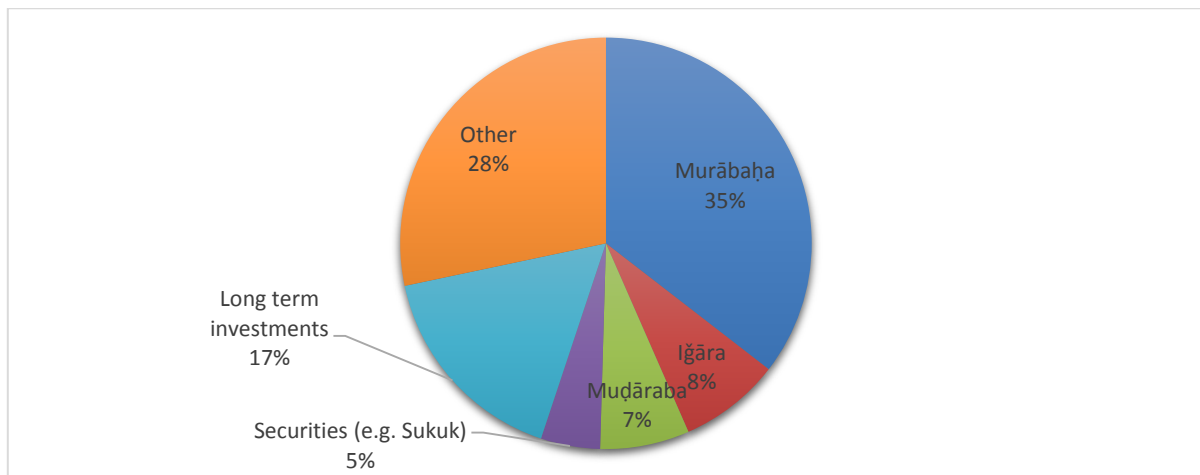
6.3.2 Financial sector and legal environment

The central regulatory body of the Bahraini financial market is the Central Bank of Bahrain (CBB), whose predecessor was established in 1973, when Bahrain gained independence. The current regulatory body was created as a result of the Financial Institutions Law in 2006 whose main goal is to establish an appropriate environment for the financial sector, including banking, insurance and capital market activities (Article 3) (Central Bank of Bahrain 2018a). In order to operate in the Bahraini financial market, a person or a company is obliged to obtain a license from the CBB. Supervision activities for the capital markets are carried out by the CBB's Capital Markets Supervision Directorate

Today the financial sector in Bahrain is heterogeneous and plays a crucial role in the country's economy, contributing more than a quarter to the monarchy's GDP. Compared to other sectors, it is dominated by nationals, with Bahrainis representing about 65% of the workforce (Central Bank of Bahrain 2018b). Moreover the financial sector in Bahrain is largely dominated by banks, who are responsible for over 85% of the financial assets (Central Bank of Bahrain 2018c). Similarly to the other Gulf Cooperation countries, the banking system is dual, i.e. it has both conventional and Islamic banks.

Bahrain is considered as one of the global centers of Islamic finance. The gulf monarchy hosts several important international organizations, including the two main standard setting bodies of Islamic financial services IIFM (International Islamic Financial Markets) and AAOIFI (Accounting and Auditing Organization for Islamic Financial Institutions). Moreover Bahrain is also the headquarters of the Islamic International Rating Agency (IIRA).

In the past two decades, the Islamic financial sector in Bahrain underwent serious growth making the country one of the market leaders of Islamic Finance products globally. Moreover the gulf monarchy claims that it had the largest concentration of Islamic Finance Institutions in the world (IIRA 2016: 3). In fact since the millennia the total assets of the Islamic Finance segment grew from \$1.9 Million to 26.2 Million in 2017 (Central Bank of Bahrain 2018d: 33). A diverse assortment of Islamic financial products is available: While the market is widely dominated by *murābaḥa* and long-term investment products, the market share of *muḍāraba* and *iğāra* is also significant. The market share of other Islamic financial products, e.g. *salam*, *istisnā'* is negligible, because we could not find any information about Islamic options.

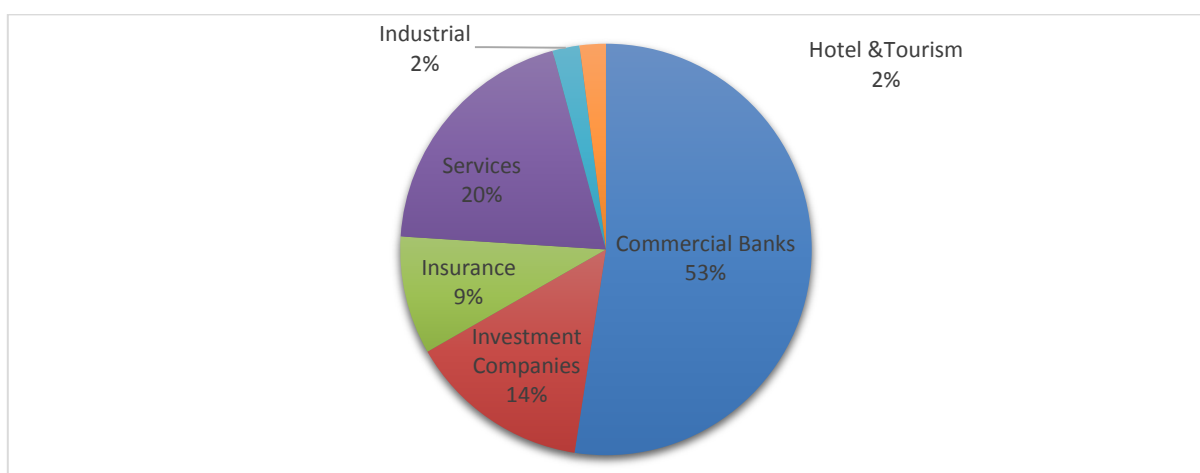


Market Share of Islamic finance products in Bahrain (Data November 2017). (Central Bank of Bahrain 2018d)

Similarly to Kuwait, the greater part of Islamic financial services is conducted by 6 Islamic banks, compared to 22 conventional banks. Islamic banks account for 43% of the overall banking assets though (IIRA 2016: 3).

The trading platform for stocks and Islamic bonds (*ṣukūk*) in Bahrain is the Bahrain Bourse (BHB), established in 1987. In 2010 new legislation transformed the BHB into a shareholder company (Bahrain Bourse 2017), supervised by the Central Bank of Bahrain. Currently the main profile of BHB consists of trading in Stocks, *ṣukūk*, mutual funds and Real Estate Investment trusts (REIT). Moreover, BHB plans to introduce Exchange-Traded Funds (ETF) in the near future (Bahrain Bourse 2017: 3).

By the end of 2016, the total value of shares traded at the BHB was 124.5 Million Bahraini Dinars. Broken down into economic sectors, we see the following picture:



(Value of shares Traded by Sector at the Bahrain Bourse. Source (Central Bank of Bahrain 2018e: 45):

Banks trade more than half of the shares, followed by services, which are a fifth of the total amount. The percentage of investment companies trade 14% of the shares and insurance companies trade 9%. Since 2015, the Bahrain Bourse has been operating a separate Islamic Index, including the stocks of companies, operating according to the principles of Islamic finance. In January 2018, the index offered stocks of 14 companies (Bahrain Bourse 2018).

The CBB's annual report for 2016 said they will seek to further develop the Islamic finance sector. The main areas needing improvements in the near future include the strengthening of regulatory policies, e.g. the implementation of Basel III⁵² provisions. Moreover the CBB also plans to establish a standardized regulation framework for Sharia boards (Central Bank of Bahrain 2017i: 12ff) and a new sharia governance module for Islamic banks (ibid. 15).

6.3.3 Options and derivatives in Bahrain

According to the information of the Bahrain Bourse, currently there is no active trading platform for options and other derivatives in the country. The "Bahrain financial exchange"- a separate trading platform was established in 2010 as a subsidiary of the Indian Financial Technologies. It was founded as a "multi-asset exchange to list derivative and cash instruments on multiple asset classes such as currencies, commodities, and securities related products for trading." (Central Bank of Bahrain 2018f). Its derivative division provided the trading of swaps, futures and also options. According to all indications, the company has been shut down recently (Bloomberg 2018) and its internet presence is no longer available.

Although for the time being there are no active institutions providing the exchange of derivatives, option trading is technically possible according to the rulebook of the Central Bank of Bahrain. Bahraini law classifies option trading as a "regulated service", which requires a special license from the Central Bank (Article 40 of the Central Bank of Bahrain). After receiving the special license, the company or natural person may operate as licensed brokers or licensed broker dealers. Moreover license holders are required to pay a fee for every single derivative transaction, which may vary according to the trade volume, which is determined in the rulebook of

⁵² Basel III is a regulatory framework that aims to establish capital adequacy obligations for banks and financial institutions, in order to improve their risk management. Bank for International Settlements, Basel III: international regulatory framework for banks 2018, from <https://www.bis.org/bcbs/basel3.htm> (09.02.2018)

the Central Bank (Market Infrastructure Rulebook -MIR 2.8 1C) (Central Bank of Bahrain 2018g).

Currently there are four licensed brokers and seven broker dealers operating on the Bahraini financial market (Central Bank of Bahrain 2018h). The information provided by these firms about their profiles is very scarce. Their homepages are mostly not available. The only listed company with an active internet presence we could find was the “Tradeline Securities W.L.L.”. Based on the vague information the company provided on its web presence, option and derivative trading in general is not part of the company’s profile.

6.4 Qatar

6.4.1 Political and economic snapshot

The State of Qatar is located on a narrow isthmus on the northeastern part of the Arabian Peninsula. On land it borders only Saudi Arabia, which is also one of the major trade partners of this small Gulf monarchy. Its population is 2.3 Million (CIA factbook 2018e) (estimation), with ethnic Qataris making up only 11.6% of the total population. Qataris represent only the third largest ethnic group in the country after Indians (around 25%) and Nepalese (13.5%) (Snoj 2017).

The current ruling dynasty, the *Tānīs*, have been governing the country since the mid 19th century, when the British installed Muḥammad b. *Tānī* as their monarch. Formally the country gained independence in September 1971 (Johnstone 2012). Due to its vast natural resources, Qatar has seen a stunning development since the 1940s with its capital city Doha (lit. ad-Dawḥa) emerging from a fishermen’s village into a modern throbbing metropolis. Although under the rule of emir Ḥamad b. Ḥalīfa Āl *Tānī* Qatar introduced a basic law in 2004, the emirate remained de facto an absolute monarchy where even the ruling dynasty is fixed by the constitution (Constitution of Qatar 2018: Article 8).

The constitution also defines the Sharia as the main source of legislation and according to the country report of the Bertelsmann Foundation, local authorities apply a relatively strict interpretation of the Hanbali School. The report mentions harsh penalties for “apostasy” from Islam and proselytizing by non-Muslims. Furthermore the state recognizes only Abrahamic faiths as official religions. Thus a large share of the Indian and Nepalese minorities are excluded from religious freedom (Bertelsmann Stiftung 2016b: 7). In order to face its adverse demographic

development and the overwhelming presence of foreigners, Qatari authorities also introduced different measures to accentuate local identity (e.g. appeal to modest clothing). The activity of the existing Sharia courts is mostly limited to dealing with family matters.

Despite the strict religious orientation of its civil life, the economic legislation has a rather neoliberal orientation. Taxes on personal and corporate income and Value Added Taxes are nearly nonexistent.

At present Qatar is one of the richest countries in the world, and Qatari nationals possess one of the largest incomes globally. The HDI figure of 0.856 (2014 data) is also very high, the best in the Middle East (UNDP 2016). The GDP growth is a solid 2.5% (CIA factbook 2018e: 2017 data). Thanks to its vast wealth and extended social system for its citizens, the Gulf Emirate has been saved from the upheavals of the Arab Spring which started in 2011.

Similarly to the other Gulf Monarchies, the Qatari government has put in increased efforts to diversify the country's economy to transform it from a rent based to a knowledge based one. These goals have been formulated in Qatar's "National Vision Strategy 2030". As a result of these measures, the share of the non-hydrocarbon sector increased from 40% in 2011 to nearly 70% in 2016, on the basis of annual GDP growth (Qatar Financial Centre- Regulatory Authority 2017: 26). However non-Qatari institutions have not yet acknowledged these successes. The International Monetary fund critically notes that the Qatari fiscal policy is still highly dependent on hydrocarbons and notices that in the years between 2004 and 2013 the share of hydrocarbon revenues compared to total government revenue was still up to 86% (IMF 2017b).

6.4.2 Financial sector and legal environment

According to Qatari law, there are currently three regulatory bodies for the financial sector: The Qatar Central Bank (QCN), the Qatar Financial Markets Authority (QFMA) and the Qatar Financial Centre Regulatory Authority (QFCRA).

The supreme authority for all businesses, markets and financial activities is the Qatar Central Bank (QCN) (Qatar Central Bank 2018), whose main task is to frame policies for the entire Qatari financial sector and enhance financial stability. There is also a separate regulatory body for the supervision of capital markets, the Qatar Financial Markets Authority (QFMA) (Law No. 8 2012, which expanded the sphere of activities of the FMA compared to previous legislation) (Qatar Financial Centre- Regulatory Authority 2017: 20). The expansion of its competence

primarily concerned adjustments to international standards in the field of mergers and acquisitions and bonds and *ṣukūk* listing (ibid.27). While the QCN is primarily responsible for the regulation of domestic and foreign banks, finance and investment companies and the entire insurance sector, the QFMA is responsible for the supervision of listed financial service firms. The third regulating body is the QFCRA, whose main task is to supervise the on-shore financial sector, including corporate banks, national businesses and advisory firms.

Currently the Qatari financial sector is large, with the banking sector accounting for 200% of the total GDP (IMF 2017b: 19). As the IMF report points out, a large amount of these revenues are from the hydrocarbon sector.

Future development plans envision a further liberalization of the financial markets. A new law has also increased the possible limit of foreign ownership in listed companies from 25% to 49% (Qatar Financial Centre- Regulatory Authority 2017: 27).

Development plans also include further harmonization of the Qatari financial market with international standards. These measures include the introduction of Basel III standards. Many measures regarding leverage ratio and the liquidity coverage ratio have been already implemented (IMF 2017b) (Qatar Central Bank 2017).

Further plans envision the adaptation of IFRS 9, primarily targeting accounting standards for financial instruments. In Qatar this measure would primarily affect the bonds market, since a derivative market is practically nonexistent. In the past few years, the state has both issued (conventional) Treasury bills and Islamic *ṣukūk*, which have to be listed on the Qatar Exchange. Over the Counter Trade is currently not permitted in Qatar (IMF 2017b).

Qatari legislation also imposes limitations on trading with legalized financial instruments (mostly T-Bills) for foreign firms, which can theoretically do so only via registered brokerage firms at the Qatar Exchange (QE). As the IMF report points out, few foreign firms make use of this option.

Currently there are 19 firms on the Qatari market, which provide financial services. According to their company profiles on the internet, they are primarily involved in trading with securities (i.e. bonds and *sukuks*) (Qatar Financial Markets Authority 2018). Unfortunately we have no information whether these firms were engaged in trading with other financial products, e.g. derivatives.

Qatar's primary trading platform for stocks and securities is the Qatar Stock exchange, officially established in 1995 and operating since 1997. In 2009 it was partly privatized and reestablished as a holding with the NYSE Euronext, a global company which also operates the New York Exchange (Qatar Stock Exchange 2018a). Currently the QSE is supervised by the Qatar Financial Market Authority. Prior to 2005, non-Qatari firms (i.e. firms whose foreign ownership exceeded 25%) were restricted to investing in Qatari stocks (ibid.). There are 45 companies listed on the exchange according to the information of the QSE. Banks and the finance sector trade 35.55% of shares, followed by the industrial sector (24.34%) (Qatar Stock Exchange 2017: 12,16). Since 2013, the QSE has also been operating a separate Islamic index, with only Sharia compliant stocks where "traditional" non-sharia business sectors e.g. , alcohol and gambling are not represented. A brochure from the index notes that other usually "sharia compliant" industries like hotel business, music and cinema are also excluded from the portfolio (Qatar Stock Exchange 2018b).

6.4.3 Options and derivatives in Qatar

According to the most recent information there is neither an active trading platform nor firms actively trading with options or derivatives in Qatar. Recent discussions revolve around the Qatari *ṣukūk* market, which gained importance since the global decline of the oil prices because states and companies are seeking for new means of debt financing (Al-waṭan 2016)

In 2016 there was news about the establishment of a new trading platform for energy derivatives, which is supposed to enable the trading of energy swaps, futures and options. However we could not find any further news about the fate of this endeavor (thetradenews.com 2016).

6.5 United Arab Emirates

6.5.1 Political and Economic snapshot

The United Arab Emirates emerged in their current form in 1972, when the seven former British protectorates, formerly the "Trucial states" or "Trucial Oman," gained independence and formed a state confederation. With its 83.6 thousand square kilometers, the UAE is the third biggest country within the GCC group. The population of the UAE is roughly 6 Million people but only 11.6% consider themselves Emirati. Sixty percent of the population are immigrants

from Southern Asia and Indians are 38.6%. The population is heavily concentrated in three Emirates, (Abū Zābī, Dubay, and aš-Šāriqa) on the northeast of the Musandam peninsula, while the rest of the country is sparsely populated (CIA factbook 2018f).

The United Arab Emirates are a federation with the seven sub states enjoying a high level of autonomy. In fact they only share a common foreign policy, security policy and a constitution. Both state income (especially from hydrocarbons) and economic policy, e.g. fiscal policy and debt issuance are managed locally within each emirate. This high level of decentralization is shown by the fact that the military was put under a central command as late as 1997 (Bertelsmann Stiftung 2016c: 3). Many authorities, e.g. the entire judicial system are not managed centrally even today although there are ongoing discussions about harmonizing it.

The current legal system of the country is a mixture of Islamic law and civil law (CIA factbook 2018f). The constitution of 1996 states that Islam is the official religion of the country and the Islamic Sharia is the main source of legislation (*maṣḍaru ra 'īsī-t tašrī'*) (Constitution of the United Arab Emirates 2009: Article 7). While the economic sphere is vastly dominated by civil law, comparable to those in Western countries, Sharia courts are primarily competent in personal affairs. Sporadically they also deal with labor and commercial disputes (Bertelsmann Stiftung 2016c: 6).

Although the federation is an uncommon state form in the modern Arab world⁵³ it has remained intact thus far. This is also partly due to the fact that the country possesses the seventh largest oil reserves on the planet and the third largest oil reserves within the CCG region (BP 2017: 12). Its vast hydrocarbon reserves have largely contributed to the massive growth of the economy. While in 1995 the total Gross Domestic product of the UAE was to 46 Billion US Dollars, in 2016 this figure increased almost fifteen fold to \$671.1 billion (CIA factbook 2018f).

The GDP per capita of the UAE is \$68,100, the 14th highest in the world and the third highest among the countries of the Gulf after Qatar and Kuwait (according to 2016 data. Its real GDP growth is 3%, which is the third highest within the Gulf after Qatar and Oman. A further peculiarity is the uneven distribution of wealth between the individual emirates: Abu Dhabi and Dubai have more than 85% of the country's total GDP.

Similarly to the other five Gulf countries, the government has made increased efforts to diversify the monarchy's economy in order to make it more independent from hydrocarbons. This

⁵³ Similar attempts were also made in the former British protectorate Aden in 1962, but the experiment fails after only five years.

goal has been partly accomplished since today about 75% of the Emirate's GDP comes from the non-hydrocarbon sector (c.f. Bertelsmann Stiftung 2016c: 4).

The country's main strategic objectives were formulated in 2010 in a government program called "UAE Vision 2021". The program has four key topics: identity politics, reform of the juridical system, economic reforms and improvement of the social system (Vision 2021 2018a). The economic policy primarily aims to develop small and medium sized enterprises with massive investments in research and development (R&D) (Vision 2021 2018b). The government intends to vastly increase investments in R&D from the current 0.5% to 1.5% of the GDP (Bertelsmann Stiftung 2016c: 7). The ultimate goal of the government is to transform the country into a knowledge-based economy and simultaneously reduce the contribution of oil to the economy to 5%.

6.5.2 Financial sector and legal environment

As a result of the business friendly reforms of the past years, the UAE has succeeded in creating a (neo) liberal economic sector. According to the 2018 "Ease of Business report" by the World Bank, the country ranks 21st among 190 listed countries (World Bank 2018: 7). Subsidiaries of many foreign banks e.g. Deutsche Bank, HSBC, UBS, BNP Paribas now operate in the UAE. (IMF 2017c: 17)

The rapid fall of the oil prices to the half of their 2014 level caused serious difficulties in the capital markets. The banking sector has had to struggle with smaller deposits from the public sector. A possible solution would be the development of the underdeveloped local money market to increase the liquidity of the country's financial institutions (ibid.22).

The money market in the UAE has three main trading hubs: the Abu Dhabi Securities Exchange (ADX) and the Dubai Financial market. Their market capitalization is about 50% of the country's GDP. There is a third stock exchange, Nasdaq Dubai, which operates in the Dubai International Financial Centre.

The Abu Dhabi Securities Exchange has been operating since 2000 and is currently the biggest stock exchange of the country. Its main trading profile includes equities, funds and bonds (including *ṣukūk*). In 2017, the total trading volume of the ADX was about \$13 billion US Dollars (round 48 billion AED) with banking being the most capital intensive sector, followed by real

estate (ADX 2018). Based on trading volume, the energy sector (including the hydrocarbon industry) ranked in fourth place.

An interesting curiosity of the ADX is that of all stock exchanges we examined, it is the only one which provides detailed statistics of the nationalities of the trading persons and institutions. Almost half of its trading volume was from UAE nationals, (ca. 27 billion AED) Companies and nationals from the UK each trade around 4 billion, while the trading volume of citizens from other Gulf countries is relatively low at 3.3 billion (ADX 2018).

The second main financial hub in the UAE is the Dubai Financial Market (DFM), also established in 2000, initially as a state owned enterprise. In 2005 the DFM was transformed into a shareholder company (DFM 2018a). Currently only 20% of DFM is state owned, while Bourse Dubai, a private company owns the rest of the shares (DFM 2018b). The DFM mainly focuses on equity shares and debt instruments (conventional bonds and *ṣukūk*). According to the homepage of the DFM, the possible range of financial instruments will increase in the near future but they do not plan to introduce financial derivatives.

The Dubai Financial Market presents itself as the “first market in the Middle East and the world, which is compliant with Islamic Sharia principles”(DFM 2018c). This statement is hard to verify as the company only publicizes publishes a fraction of its data. DFM has established an own Fatwa and Supervisory board which is supposed to develop standards for Islamic financial products. For the time being it solely focuses on *ṣukūk* trading in association with the Bahrain based AAOIFI (DFM 2018d).

These two trade exchanges are supervised by the Securities and Commodities Authority (SCA), the main financial regulatory body of the United Arab Emirates. The SCA is primarily responsible for issuing licenses for listed firms and brokers, and charging fees for conventional debt instruments and *ṣukūk*. The activity of the SCA does not supervise the Nasdaq Dubai. That is done by a separate market body, the Dubai Financial Services Authority.

The third stock exchange of the country, Nasdaq Dubai, enjoys a higher autonomy than the other two because it operates in an economic free zone. In addition to the “classical” market segments, equities, classical bonds and *ṣukūk*, the Nasdaq Dubai also lists financial futures on the shares of seven companies listed on the three UAE stock exchanges. The futures market in Dubai is very small compared to the total market value (Nasdaq Dubai 2017).

There is no official market for other types of derivatives (e.g. options) in the UAE according to information available from local authorities and investment firms.

6.6 Oman

6.6.1 Political and economic snapshot

The Sultanate of Oman is the second largest country in the Gulf region with 309,500 square kilometers. Its population of roughly 3.5 Million (the third largest within the GCC) consists of 45% immigrants, mostly from the Indian subcontinent (CIA factbook 2018g). The current ruler of Oman, Qābūs b. Saʿīd, succeeded his father after a successful coup d'état in 1970. At that time, Oman was an extremely underdeveloped country which relied on external aid, mostly from the United Kingdom and the country was torn by the Ḍufār war and local unrest in the Hagar region. During 40 years of autocratic rule, Qābūs succeeded to modernize the Sultanate, which now ranks 52nd on the Human Development Index and now has a high life expectancy of 77 years, an increase of nearly 30 years compared to the 1970 figure (UNDP 2016), (2016 data). With its progress in HDR, Oman was the fastest growing country between 1970 and 2010 according to UN data (UNDP 2010: 39,41).

The GDP / capita of Oman is \$46,700, nearly equal to Austria and Denmark, which places the country on the list of the world's richest economies. However the Arabic sultanate still lags behind its GCC counterparts. This has partly because Oman has smaller oil reserves than the other Gulf countries, "only" 5.4 thousand million barrels in 2016, compared to UAE's 97.8 and Saudi Arabia's 266.5 (BP 2017: 12). Nevertheless oil remains a key income source, accounting for 45% of the country's GDP and making up 86% of total government revenues (Bertelsmann Stiftung 2016d: 24).

This is why the current fall in oil prices has seriously hurt the Omani economy. While in 2015 the real GDP growth rate was 4.2%, in 2016 it slowed down to only 3%, and in 2017 the Omani economy stagnated. The government has a record budget deficit of 13% of total GDP (CIA factbook 2018g). To counter this problem, the government has developed programs to diversify its economy and attract foreign investors. One of these measures was the equal treatment of foreign companies with national ones and the reduction of corporate tax to a 12% for all firms (Bertelsmann Stiftung 2016d: 19). The government has also abolished ownership caps for non-nationals in several key economic sectors, e.g. banking, insurance and tourism (ibid.). Oman

has also committed itself to significantly lower its tariffs and also elaborate industrial regulations and labor laws within the scope of GCC integration and its admission to the WTO admission in 2000 (WTO 2018) (Bertelsmann Stiftung 2016d: 19).

To face the future challenges resulting from sustained lower oil prices, the Omani government has elaborated a program called “Oman Vision 2040” subdivided into five year plans. The sultanate aims to further diversify its economy away from excessively relying on hydrocarbons. The current five-year plan envisions extensive development strategies for the business sector in form of further privatizations and stimulation of foreign investments, plus the development of small and medium sized enterprises (SME). (Sultanate of Oman- Supreme Council for Planning 2016: 57-58)

6.6.2 Financial sector and legal environment

The Omani financial sector is regulated by the Central Bank of Oman (CBO), established in 1974. Apart from “traditional central bank activities” (e.g. monetary policy, regulation of the local currency and supervisory), the profile of the CBO also includes advising the government. In contrast to Western practices, the CBO is not an independent institution because Sultan Qābūs is also the head of the Central Bank.

Oman has a dual financial sector, comprising conventional and Islamic financial institutions. There are currently 470 branches of conventional banks, compared to 70 branches of Islamic banks. Since 2013, the number of Islamic banking branches has doubled while the the number of conventional banks remains about the same. Experts claim that despite the low oil prices, the Omani banking system has remained more or less stable in the last two years based on some selected indicators, (e.g. the capital adequacy ratio) (Bertelsmann Stiftung 2016d: 20) (CBO 2017: 68). The main aims of the CBO in the near future will be further adaptation of international standards (e.g. Basel provisions) and international accounting standards for financial products⁵⁴.

There are also several other financial institutions operating on the Omani market, e.g. leasing firms, pension funds and a number of insurance and brokerage firms, which - - operate mostly in a conventional manner, according to their online profiles. Only a few firms offer Islamic

⁵⁴ As noted in the latest report of the Central Bank (CBO 2017).

products and services. Islamic Finance operations are a somewhat new phenomenon in Oman. They were embraced as late as 2012.

Omani law requires each Islamic financial institution to have its own Sharia supervisory board. There is also a state Sharia supervisory institution overseeing Islamic financial operations. This institution operates within the framework of the CBO. CBO officials have also elaborated their own Islamic banking regulatory framework encompassing provisions ranging from risk management to accounting standards. Oman has the most extensive framework for Islamic finance products of all Gulf countries (see also: CBO 2018).

The direct regulator body of the capital market is the Capital Market Authority (CMA), whose primary objective is to monitor the issuance of securities and other finance service companies, (including money exchanges and the entire insurance sector) (CMA-Sultanate of Oman 2018). The central framework for trading on the capital market is given by the Capital Market law, which was adopted in 2015 by Sultan Qābūs.

The only stock exchange operating in Oman is the Muscat Securities Market (MSM), established in 1988. The bulk of trading is in company shares and bonds (including Islamic *ṣukūk*). In 2017 there were 120 listed firms operating on the market, providing a total market capitalization of 17.95 Billion Omani Riyals (circa \$46.67 Billion US Dollars).

The MSM keeps record of four indexes, which can be divided by economic branches into financial and industrial services. The MSM has its own Sharia Index, comprising firms operating according on the principles of Islamic Finance. The Sharia index's trade volume was marginal compared to the three other three conventional ones according to recent data of the MSM. The criteria for trading within the Sharia index are broadly based on the practices of the AAOIFI. In addition to industry restrictions, (e.g. alcohol, weapons production, etc...) the companies listed in the Sharia index have to meet certain liquidity criteria, e.g. Interest bearing debts not exceeding 30% of the average market capitalization in the last 12 months (Muscat Securities Market 2017).

There are is no active market for financial options (and derivatives in general) in Oman according to official data of the Central bank and the Capital Market Authority.

6.7 Saudi Arabia

6.7.1 Political and economic snapshot

The Kingdom of Saudi Arabia is the last country we will deal with. The absolute monarchy occupies a large part of the Arabian Peninsula and is the largest territory of the GCC with the largest economy. Its exceptional position in the Muslim world as the location of the main sanctuaries of Islam is also worth mentioning. Saudi Arabia emerged officially in 1932 from two historical regions *ḥiǧāz* and *naǧd*. Today the country is home of the Wahhabi Islam, a fundamental religious movement imposing strict regulations on the everyday life of individuals and civil society.

This strict civil control is less apparent in the economic orientation of the country, which has embraced an increased neoliberal economic policy since the millennia. The Saudi monarchy's accession to the WTO in 2005 can be seen as a milestone in this regard, as it has also led to a massive reduction of trade tariffs and has gradually opened the country to foreign investors. Apart from a symbolic zakat, which is not raised on a regular basis, also there is no income tax imposed on nationals and corporations (Bertelsmann Stiftung 2016e: 17).

With a GDP/ capita of \$55,300 (2017 data) the country ranks 4th within the Gulf Cooperation and on the 21st place globally (one place behind the United States) (CIA factbook 2018d). The country has several structural problems, with high unemployment and a domestic workforce lacking qualifications. That is the reason there are circa 6 million foreign workers in the country, even though unemployment is 25%, (33% of women!) (CIA factbook 2018h).⁵⁵ (IMF 2015: 71). Saudi Arabia shares some similarities with other Gulf countries having a disproportionally high percentage of domestic workers employed in the public sector.

Another issue results from the overall oil dependence of the Saudi Arabian economy, given that Saudi Arabia has nearly 16% of the world's total oil reserves and has the second highest reserves of crude oil globally (after Venezuela) (BP 2017). The petroleum sector provides 87% of the state income and 42% of total GDP, and 90% of the total export revenues (CIA factbook 2018h).

In its 2015 country report, the IMF illustrated the overall dependence of certain factors of the Saudi economy on oil price. The result was not unexpected: In the years between the Gulf War

⁵⁵ Official Saudi figures published an unemployment rate of 5.6%, however this figure is highly dubious as it does not take e.g. women into account. (CIA factbook 2018h)

and the millennia, when oil prices were relatively low, the public debt reached record dimensions growing up to 100% of the GDP. Whereas in the first decade of this century when oil prices started to rise rapidly, public debt also started to sink until it was nearly reached zero in 2013 (IMF 2015: 6). Thus it is not surprising that the currently low oil prices have a massive impact on the Saudi economy: In 2016, when oil prices started to fall again, the public debt rose to 22.3% of the GDP, while in 2017 it is estimated to be 30%. Simultaneously the real growth of the economy has come to a halt, from a growth rate of over 4% in 2015, (CIA factbook 2018h).

To meet these challenges from the civil unrest in the aftermath of the “Arab spring” and the sustained low oil prices, the Saudi government elaborated a program called “Vision 2030”. The program focuses on society, economy and governance (Vision 2030- Kingdom of Saudi Arabia 2018b). Parts of the reforms have materialized since the millennia, including a national housing program and the implementation of unemployment benefits. Since 2010 there has been an incentive to raise the share of Saudi nationals in the private sector, with variable results so far. Although several new jobs were created, the wages in these new positions remain relatively low (Bertelsmann Stiftung 2016e: 15).

The government launched a Fiscal Balance Program, which envisions an extensive privatization program (e.g. the partial privatization of the state owned oil company ARAMCO) and a significant cut in salaries in the public sector. The government also plans to introduce new taxes, e.g. VAT and also a major reduction of subsidies for energy prices (Vision 2030- Kingdom of Saudi Arabia 2018a: 12).

6.7.2 Financial sector and legal environment

According to 2016 data, the non-oil sector made up 55.7% of the total GDP of Saudi Arabia. The finance and insurance sector was only 6.3%. The Saudi financial sector contributed less to the non-oil GDP than in other GCC countries. Government services made up about a quarter of the Saudi non-oil GDP, wholesale manufacturing 16.1% and non-oil manufacturing 14.9% (Jadwa Investment 2017: 10). Nevertheless the financial sector is showing a dynamic growth, which might gain a further momentum from the government’s fiscal balance plan and 5-year private sector incentive program (ibid: 16)

The central supervising body of the finance sector in Saudi Arabia is the Saudi Arabian Monetary Authority (SAMA), which is also responsible for central bank activities. Similarly to all Gulf countries, the banking sector in Saudi Arabia is dual, with both conventional and Islamic financial institutions. Unfortunately the SAMA did not publish the data regarding the exact relation between conventional and Islamic banks. Most Islamic banks offer *murābaḥa* loans and *iğāra* constructions, according to their online profiles,. A number of financial institutions also offer a broad range of *takāful* (Islamic insurance) services.

The regulatory body of the Saudi capital market is the Capital Market Authority, which is also the supervision authority of the Saudi Stock Exchange (SSE), the monarchy's only trading platform for shares, bonds and other financial instruments. The Saudi Capital Market Law (2005) defines the key functions of the CMA to “*create a regulated, fair and transparent financial market that protects all investors from illegal practices or those that include fraud, manipulation and deceit.*” (CMA-Saudi Arabia 2018a: 3). Hence, the CMA has following key responsibilities: supervision and development of the Saudi capital market, monitoring of bond and *ṣukūk* issuance, regulation and monitoring of business activities on the capital market and safeguarding the full disclosure of information about traded securities and their issuers. (Capital Market Law: Article 5).

Within the framework of the “Vision 2030” program, the CMA plans to boost the Saudi capital market sector significantly. The main goal of the “strategic plan 2020” is to “make the Saudi capital market the leading market in the entire middle east and one of the top capital markets in the world” (CMA-Saudi Arabia 2016: 29). To accomplish this ambitious goal, the CMA aims to deepen the possible range of finance instruments and *ṣukūk* and improve Capital market governance and transparency (ibid. 29). In the long term the plan also envisions increasing literacy and awareness among citizens about financial issues (ibid. 30).

With the gradual development of the financial sector, the Saudi government hopes to facilitate the funding of private companies, especially small and medium start-ups which are especially in need of external financial sources (SAMA 2017: 3). The World Economic Forum says the stage of development of the Saudi financial sector fairly corresponds to those of the other Gulf countries and the IMF and other observers even lauded the resilience of its banking sector against external shocks (IMF 2015: 24) (Bertelsmann Stiftung 2016e: 18).

In the long term the Saudi government is endeavoring to integrate the Saudi economy into world market by deregulating the financial sector and adopting international financial regulatory

frameworks (e.g. Basel III). It is gradually opening its financial sector to foreign investors to stimulate FDI (Vision 2030- Kingdom of Saudi Arabia 2018a: 76). In 2015 the Saudi Capital Market Authority allowed foreigners to invest in the local stock market (Bertelsmann Stiftung 2016e: 19). In the future it is a goal of the CMA to increase “market attractiveness to investors” (CMA-Saudi Arabia 2016: 29). Thus we can expect further steps to liberalize the Saudi stock market.

Within the framework of the “Vision 2030” program, the Saudi Stock Exchange (Tadāwul) has also established a parallel market in 2017 with the aim to “broaden the source of capital funding for issuers to access capital” and “to diversify and deepen the capital market.” The new market will impose lighter listing requirements on firms. Therefore it will be accessible to a broader public (Tadawul 2018). This applies to foreigners but joint stock companies are required to have GCC majority shares (ibid.).

6.7.3 Options and derivatives in Saudi Arabia

There is no public market for financial options and other derivatives in Saudi Arabia for the time being⁵⁶. There are private funds investing in hedging instruments and derivatives (CMA-Saudi Arabia 2016: 73). In 2017 the CMA reported that there were three such funds operating on the Saudi market (CMA-Saudi Arabia 2018b). All three companies were local branches of international investment funds including a Saudi subsidiary of Goldman Sachs. Unfortunately neither company provided further information about their fund performance and the kinds of derivatives they were using. The information of the CMA’s latest annual report could serve as guidance: While in 2015 all hedge funds had a total assets of 2,220.2 Saudi Riyal, in 2016 their total value declined to SR 658.2. Also these funds saw a rapid decline in the number of their subscribers from 193 in 2015 to only 10 subscribers on year later (CMA-Saudi Arabia 2016: 73). We could not determine the reason for this fall, but given the Saudi authorities efforts to introduce neoliberal reforms, this may have been caused by external market factors and not the legal and institutional framework.

There is a commitment from official side to “pave the road for financial derivatives” in the near future (Vision 2030- Kingdom of Saudi Arabia 2018a: 77) within the framework of the fiscal

⁵⁶ According to the information provided by the Saudi Stock Exchange (tadāwul) (Data from CMA-Saudi Arabia 2016:73)

balance program. The first steps for establishing a legal and institutional framework were announced in May 2016 by the CMA (argaam.com 2016), followed by an agreement between the Saudi Stock Exchange (*tadāwul*) and Nasdaq in December 2017 to upgrade gulf country's financial market infrastructure. By 2020 Saudi Arabia may allow OTC derivative trading and set up a derivative market mainly based on the crude oil industry (Financial Times 2017).

6.8 Chapter Summary

In the working paper of the International Monetary Fund, which was prepared for the annual meeting of the Arab Ministers of Finance in April 2016, the participants discussed the challenges facing the economies of the biggest oil exporting countries of the Arab world. One of the key issues the paper mentions is that the vast oil revenues are used to finance an overextended public sector. In many countries the private sector was still underdeveloped and far below its potential (IMF 2016: 3). The paper also points out that the markets of the Gulf are dominated by large state owned monopolies and most oil revenues are spent on wages and benefits to citizens, while the small public sector is dominated by migrant workers in the low wage sector.(ibid.: 4)

Today all Gulf countries agree that a policy change is inevitable and a diversification of their economy is necessary if they hope to retain their current wealth. Some countries, e.g. Kuwait and Bahrain massively invest in infrastructure projects, while other focus on education improvements and boosting R&D. Most of these countries cut their public sector and promote startups and small and medium sized enterprises. The IMF report points out that functioning finance markets could help to ensure to adequately finance the private sector (IMF 2016: 26). The two most problematic factors that currently hinder the development of new businesses and economic diversification are their inadequately educated workforce and lack of financing (ibid 25).

Apart from access to capital, a functioning private sector has to be able to adequately manage its risks. This is especially true for the Gulf markets, which belong to the most volatile markets worldwide. The introduction of hedging instruments such as futures and financial options would be one possible way to deal with this issue.

This has been a slow process in the GCC. As early as in 2007, the Kuwait-based Markaz investment fund elaborated possible reasons why financial derivatives did not take a root in GCC

markets. One reason was the lack of equity and depth markets, meaning that only a few firms (mostly state owned monopolies) were represented on the stock exchanges. Therefore secondary markets where derivatives are traded cannot adequately develop (Markaz. Kuwait Financial Centre 2007: 2).

The second key issue that Markaz mentions is the high sensitivity of the GCC stock markets to speculation. GCC markets are “long markets”, meaning that investors buy equities and bonds when they expect that market prices will increase while they will start to sell them, as soon as price declines are expected. If many investors act the same way, stock prices will fall rapidly and the market will collapse. In a functioning derivatives market, investors could have a choice apart from selling equities and investing their money to put options, or sell call warrants instead (ibid.: 3).

In 2007 Kuwait was the only country in the GCC region, which had an active derivatives market. Since then we have witnessed a global financial and economic crisis and a rapid decline of oil prices, however the issue of derivatives has been constant since then. Even in Kuwait the introduction went slowly, until option trading was suspended in late 2016 by the authorities. In the past few years Saudi Arabia made serious attempts to enhance its market infrastructure for derivative trading and introduce them by 2020. The success of this experiment will largely depend on whether the development of capital markets and the legal framework can keep abreast with the dynamics of such a turbulent sector.

7. Conclusion

In the present thesis we have examined the role of financial options within the context of Islamic finance. Options and derivatives are highly sophisticated financial instruments which are traded in a highly dynamic and innovative business environment. Their economical relevance to the world's economy is indisputable. The fact that financial options are also a lucrative instrument for morally dubious speculation purposes is also indisputable.

“Islamic finance” could provide a morally justifiable answer for such speculative transactions. A well-established Islamic financial framework could appeal to all religious market participants to do business in a sound and non-exploitive manner (cf. Vogel / Hayes 1998: 294). We should not underestimate the fact that the number of the followers of the Islamic faith is growing on all continents. A functioning and reliable Islamic finance would primarily satisfy the needs of Muslims. Initial successes can be registered: The market for Islamic products such as *ṣukūk* and *takāful* is rapidly growing. The performance of Islamic portfolios during the global financial and economic crisis was also remarkable.

However these remarkable successes cannot obscure the fact that Islamic product innovation and a more detailed elaboration of the Islamic financial law has not been able to break out of its “beginning stage” since the end of the 1990s and early 2000s (cf. Vogel / Hayes 1998: 29) (cf. Kamali 2000: 191-193). This is especially demonstrated by the lack of reaction of Islamic finance to a highly innovative and dynamic sector such as the option market. Although *ḥiyār aš-šarṭ* and *‘urbūn* are capable to replicate financial options at least to some degree, these are currently not sufficient to satisfy the needs of a highly volatile economy. There is also serious disagreement among Muslim scholars even regarding the basic terminology, such as *ribā*, *ḡarar* and *maysir*. The inadequacy of Islamic financial instruments is shown by the fact that the economies of the Gulf Countries mostly avoid them.

Accordingly, while our first research question “Are there alternatives for financial options in Islamic finance?” can be answered with “yes”, the answer to the second one “Do Islamic financial principles currently play a role in the capital markets in the Gulf countries?” is clearly “No”.

We would like to point out again that this is a pilot study of a topic that is still in its infancy. Therefore, during our country analysis we were subjects of limitations. During our research we faced several challenges, which could be remedied by later in-depth research. The main challenges were the following:

- Many publications from private companies especially company reports, investment fund analyses were closed to the public.
- Many governmental institutions, e.g. *waqf* ministries published material only in Arabic. This was also true for specialized *fiqh* literature and fatwas. A complete appraisal of these resources would have greatly exceeded the framework of this thesis.
- During our country analyses, we have greatly relied on material published by national authorities and international organizations such as the IMF, and WTO etc. In our thesis we could not offer a comprehensive critical analysis of this material. A more complete analysis could include current societal and political discussions and involve newspaper articles, blogs, online platforms and social media.
- A detailed appraisal of the key terminology is still missing. The economic references of the second edition of Encyclopedia of Islam (EI²) are scarce and obsolete. Possibly the full scale publishing of the third edition (EI³) could help the problem.

Subsequently we suggest the following fields of future research:

- Following Christian's and Lohlker's comparative studies on *ribā*, a detailed study of other Islamic capital market terminology in a historic and current perspective, e.g. *garar*, *maysir* and *qimār*.
- Including Shiite *fiqhī* concepts
- A comparative study of Islamic finance with Western approaches (e.g. from the domain of theology, sociology, philosophy or behavioral finance).
- A historical analysis of the influence of Western approaches to Islamic economic thinking. In this regard Adam Smith (1723-1790) as the "father of economic thinking" plays a crucial role, as today's neoliberal scholars very often refer to his theorem of "self-regulating markets" and the "invisible hand" (cf. Recktenwald 2012: 135)
- A comparative study of the topic with other religiously and morally based approaches from the countries of the global south (e.g. "buen vivir", "ubuntu" or "gross national happiness").
- Expanding the scope of research to other parts of the Islamic world (e.g. Iran, Turkey, Pakistan and the Pacific).

Nevertheless, based on our current thesis, we can make following concluding remarks:

The countries of the Gulf impose strict regulations on private and social life and are consequently following a strict interpretation of Islam and Sharia⁵⁷. These strict regulations are not true for the economic sector. Their governments are seemingly implementing neoliberal economic policies. This can be demonstrated by the fact that all these countries have a low tax policy, embrace privatization campaigns, open their markets to foreign investors, exclude migrant workers from social benefits and adopt international standards for the financial industry (e.g. Basel, IAS). The reason why functioning derivative markets have not yet developed in CCG is due to technical and market specific reasons (e.g. lacking capitalization and depth of these markets) more than to religious and moral ones. Officials in many countries (e.g. Saudi Arabia) seem to be determined to introduce financial options and derivatives in the close future.

The main question is, how can these governments justify the neoliberal transformation of their economies from a religious and moral perspective? In chapter 5.6 we have seen possible theological ways to implement Western financial options into an Islamic framework. One of them was the Quranic framework of *maṣlaḥa*, which could theoretically allow financial options by putting the welfare of the *‘umma* into the foreground and putting dogma into the background⁵⁸, more or less operating on a trajectory similar to Adam Smith’s theory of the “invisible hand” and “self-regulating markets”.

What possible legitimation would remain for a religiously founded financial system, whose designated goal is to create an opposite pole to today’s economic practices which are perceived as unjust and unmoral in many ways? We would like to give the floor to Max Weber: “Due to its impersonal character, economic rule by capitalists is not ethically justifiable, therefore an anti-capitalist sentiment and social policy, in one form or another, has to be the common property of all salvation religions” (Weber 900, 911) cited from (Koenen 2017: 95).

For the current pathfinding process of Islamic finance, it is crucial that it has to be more than simply reanimating and recreating old *fiqhi* concepts and simply giving them new meanings. They have to also include an intellectual intercourse with modern insights of Western economy. Only then would the product development of capital market products leave the domain of (financial) mathematics and physics (cf. Kalthoff / Vormbusch 2012: 10) and make room for Islamic finance too.

⁵⁷ For example until October 2017 driving cars in Saudi Arabia was forbidden for women.

⁵⁸ Kamali (2000) intensively dwells on this issue (Kamali 2000:85, 122)

8. Appendix

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8.2 Law texts

Kuwait

- Capital Market Authority Law-CMAL (2010 Law No.7), Article 1
- Constitution of the state of Kuwait, Article 2
- Ministry of Finance resolution No. 58/2007
- Government Resolution No. (76) of 2016 Regarding Ceasing the Financial Derivatives (Options, Futures and Forwards)

Bahrain

- Central Bank of Bahrain, Article 40

Qatar

- Constitution of Qatar 2018, Article 8
- Financial Institutions Law 2006, Article 3
- Qatar Financial Markets Authority Law (Law No. 8 2012)

United Arab Emirates

- Constitution of the United Arab Emirates 2009, Article 7

Saudi Arabia

- Capital Market Law: Article 5

8.3. English Summary

This paper deals with a relatively new phenomenon of capital markets, embedded in a religiously founded financial and economic system. The market of financial options is highly dynamic and innovative and has gained great popularity since the 1970s. Financial options belong to the financial instruments called derivatives, where the price and the value of the instrument highly depend on the value of an underlying asset. For this reason and their high tradability on stock exchanges and over the counter, financial options are perfect instruments for eliminating financial risk (hedging), but have been often criticized for their frequent use for speculative purposes.

In the past decades, Islamic banking introduced a number of products, which were supposed to pose investment alternatives for Muslims. The most popular were *ṣukūk* and *takāful* which are supposed to tailor the bond and the insurance market to the needs of the Muslim community. However the research on financial options in an Islamic context is in its beginning stage. Scholars of Islamic law are showing a reluctant stance towards options and derivatives, asserting that they are highly speculative instruments. They say that these kinds of financial instruments infringe on the basic principles of Islamic contract law, for example *ribā* (interest) and *ḡarar* (risk, insecurity). Some scholars tried to replicate financial options within the classical Islamic concepts of *ḥiyār aš-šarṭ* and *bayʿ al-ʿurbūn*, however these attempts couldn't establish themselves on the Islamic capital markets thus far. There are other interpretations of Islamic commercial law too, for example the legal concept of *maṣlaḥa*, which puts the welfare of the Muslim community into the foreground and puts dogma into the background.

The financial and economic policies of the Countries of the Gulf Cooperation (CGC) seem to be close to the latter. Although most of these countries practice a very conservative interpretation of Islam and Sharia in social and private life, in the economy they are mostly following a neoliberal policy. In the recent past there have been attempts to introduce financial options and derivatives on the local stock exchanges and OTC markets and many countries (e.g. Saudi Arabia) are now committed to introduce these instruments in the near future.

8.4. Transliteration table of the DMG (Deutsche Morgenländische Gesellschaft)

اَ	Vowels	a	ز	z
اِ		i	س	s
اُ		u	ش	š
ا		ā	ص	ṣ
ي		ī	ض	ḍ
و		ū	ط	ṭ
	Consonants		ظ	ẓ
ء		ʾ	ع	ʿ
ة		at	غ	ġ
ب		b	ف	f
ت		t	ق	q
ث		ṭ	ك	k
ج		ġ	ل	l
ح		ḥ	م	m
خ		ḫ	ن	n
د		d	ه	h
ذ		ḏ	و	q
ر		r	ى	ī, y

8.5 German abstract

Das Ziel der vorliegenden Arbeit ist die Betrachtung eines modernen und hochinnovativen Wirtschaftssegments im Kontext eines religiös fundierten Wirtschafts- und Finanzsystems. Optionen sind Finanzinstrumente, die zusammen mit Forwards und Futures zur Gruppe der derivativen Wertpapiere gehören. Aufgrund der hohen Volatilität der Finanz- und Rohstoffmärkte gewannen diese Finanzinstrumente in den letzten Jahrzehnten enorm an Bedeutung. Wegen ihrer freien Handelbarkeit eignen sich Optionen und Derivate zur Absicherung von Preis- und Währungsrisiken (*hedging*), erfreuen sich aber auch unter Spekulanten großer Beliebtheit. Viele islamisch-religiöse Gelehrte verhalten sich daher aus moralischen Überlegungen ablehnend gegenüber Finanzderivaten. Im Rahmen von „Islamic Finance“ wurde versucht, Finanzoptionen mit den Glaubensgrundsätzen des Islam zu vereinbaren. Das Resultat waren zwei Finanzinstrumente *ḥiyār aš-šarṭ* und *bay‘ al ‘urbūn*, die in ihrer Struktur bestimmten Arten von Optionen ähnlich sind und gleichzeitig auch in manchen *ḥadīṭen* auffindbar sind. Diese Instrumente eignen sich jedoch nur beschränkt zu Hedgingzwecken, da die wirtschaftlichen Rahmenbedingungen unter denen sie entstanden waren mit den heutigen nicht vergleichbar sind. Die Staaten des Golf Kooperationsrats, die in den letzten Jahren mit einem massiven Verfall des Ölpreises zu kämpfen hatten suchten vermehrt nach neuen Kapitalmarktinstrumenten, um ihre Wirtschaft anzukurbeln. Trotz der großen Rolle des Islams im Alltag und zivilen Leben, spielen islamische Ansätze in der Wirtschaftspolitik kaum eine Rolle. Daher wird die Entwicklung der Finanz- und Kapitalmärkte eher voraussichtlich nach einem neoliberalen, als nach einem islamischen Muster erfolgen. Viele Staaten etwa Saudi Arabien haben nämlich angekündigt Optionen und derivative Wertpapiere auf ihren Finanzmärkten einzuführen.