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THE EFFECTIVENESS OF RATING SYSTEM TO MEASURE DEFAULT RISK IN ISLAMIC BOND: THE CASE OF ISLAMIC BOND RATING SYSTEM IN INDONESIA

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ABSTRACT

Rating has important meaning in the Islamic capital market, especially Islamic bond market. With the development of sukuk market as the Islamic alternatives of the existing bond market, the issue of how to assign a rating to the sukuk issuance rises. These credit ratings fulfil a key function of information transmission in capital market. Issuers seek ratings for a number of reasons, including to improve the trust of their business counterparties or because they wish to sell securities to investors with preferences over ratings. Many investors rely on ratings the investment decisions. For these reasons, ratings are considered important by issuers and investors alike. However, the default problem of sukuk that issued by Dubai world has been made the focus of the investor to the default risk of sukuk increased. This study tries to examine the effectiveness of rating system in Islamic bond to measure the default risk. Using approach from Merton Model to predict the probability of default of Islamic bond this research look for the relationship between rating and default risk.. It used Regression to answer this research question. From this study we find several conclusion. First, that the default probabilities of Islamic bonds are very low, even more impossible. The result shows the average probability of default about -120,94. Second, rating systems that used in Islamic bonds are effective, that is showed from the R Square. The default probabilities 59,4% can be predicted by the rating of Islamic bond.

1. INTRODUCTION

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In the last decades the expansion of Islamic finance industry has been the attract area for the world. The vast growing happened in banking, insurance, capital market and another financial institution which was practiced by shariah rule. Islamic economy and finance, particularly capital market industry, face specific treatment and challenge that the financial concept is based on the religion rule. Therefore, that systems have to explain and to give the empirical evidence that their concept has suitable like the general economic and equivalent with conventional economy. Indeed, refer the advantages of Islamic system than conventional system.³Sukuk is the interesting instrument in the Islamic finance. This instrument has specific form in the structure of Islamic finance based on several reasons. First, sukuk is embarked as the benchmark of bond in the conventional systems where the bond market was increased rapidly in the last several years. Therefore, the appearance of sukuk in Islamic finance can attract the economic world. Second, sukuk rose significantly, when the condition of financial industries was in the serious crisis and the debt (interest base) was accepted as the main factors cause the financial crisis. Therefore, many agents of economy expected to the sukuk that this instrument can make more stable in financial market.

The high-profile growth and prevalence of sukuk in the Islamic finance industry in recent years has made the term, "sukuk", synonymous with the Islamic capital markets. This Shari'a compliant alternative to interest-bearing investment certificates or fixed income securities has led to the product being commonly referred to as "Islamic bonds" in recognition of its ability to offer Islamic investors a means of subscribing to certificates which represent a right to receive a share of profits generated by an underlying asset base and that is capable of being traded on the secondary market.⁴

Sukuk listed on exchanges amounted to US\$58 billion. In terms of number, only a few sukuk have been listed (12% of total sukuk issued), but the reason for the large value of listed sukuk is that larger issues are generally listed by issuers. Indonesia was home to the first sukuk listing in 2003. The following years recorded strong increase in sukuk listings, reaching 35 in 2007; dropping in following years to 24 in 2008 and 16 in 2009(YTD). Currently, Indonesia Stock Exchange holds the highest number of sukuk listings (25)but Dubai is the leader in sukuk listings by value with US\$16.8 billion sukuk listed on Nasdaq Dubai. London, which is aiming to becoming a hub of Islamic finance in Europe has a substantial share of listed sukuk as 21 issues are listed on the London Stock Exchange with a total value of US\$14.2 billion. Luxembourg has also emerged as a popular destination to list sukuk, hosting the Dubai Global sukuk FZCO, the first sukuk to be listed on a

³ Darmin Nasution, *Islamic Finance Concept, A Contribution to The National Economic* MES, The Firm Profile Agent of Syariah Business , 2005 (Jakarta:2005), Page.vii.

⁴ Dubai International Finance Centre, *Sukuk Guidebook* (Dubay: November, 2009), Page. 9.

European stock exchange. Even though a large number of sukuk have been listed, trading remains limited, especially in the GCC, since most sukuk are held to maturity by investors and not all sukuk are tradable in nature (based on underlying Islamic contracts). In contrast, Malaysia has a liquid secondary market for sukuk even though not all issues are listed there.⁵

Sukuk is the Islamic finance instrument that the appearance was to replace the debt base instrument. That is tended to be the alternative source for the enterprise to find the funding capital in their business activity. As the substitution of conventional bond this instrument has some similar structure with the conventional bond. Moreover, in all aspect this instrument are formatted to be like conventional, in order to adjust with the market demand. Therefore, several Islamic scholars said that sukuk has different from their core concept. This is the one problems of sukuk in the fiqh perspectives.

In the empirical evidence, sukuk has many problems. Many questions still debatable recently for examples what is the best structure of sukuk? How about the sukuk market, in primary and secondary market? Can this security trade in the secondary market? Etc. Nevertheless, managing risk is the main problem that faced by sukuk. The case of default risk from dubay world has showed that sukuk has many problems. From that case, legal problems, managing risk problems and bad governance of sukuk are accepted as the serious problems in the development this instrument in the future,

As the Islamic instrument that backed or based asset, sukuk did not proper to face default problem. Risk is the uncertainty regarding the expected rate of return from an investment. The risk can be determined by the range of possible outcomes and the probability of each one occurring.⁶ In another, risk is the uncertainty that the actual rate of return realized from an investment will differ from the expected return. There are three types of risk associated with bond and fixed income securities include sukuk; default risk, call risk and market risk.⁷ Default risk is the uncertainty that the issuer/borrower will fail to meet the contractual obligations specified in the indenture. Call risk refer to the uncertainty that the issuer/borrower will buy back the bond, forcing the investor to reinvest in a market with lower interest rates. The last, Market risk is the uncertainty that interest rates will change, changing the price of the bond and the return earned from reinvesting coupon.⁸

⁵ Ernest and Young, Collaborative Sukuk Report (Zawya, 2009), page.

⁶ Jogiyanto, Manajemen Investasi dan Teori Portofolio, (Yogyakarta: BPFE, 2006)Page. 87

⁷ R. Stanford Johnson, Bond Evaluation, Selection and Management, (UK: Blackwell Publishing, 2004) Page. 87.

⁸ Ibid, page. 87

In this research we examine the default risk in Islamic bond (Sukuk). Each prospectus has provisions for the termination of the certificate in the event of a default by the obligor. In case the obligor fails to pay the rentals on the Ijarah agreements that form the coupon payments, the certificate holder can exercise the right to nullify the contract and force the obligor to buy back the assets. Furthermore, in the event that the obligor fails to reimburse the principal amount the certificate holder can exercise the right to take legal action and force the obligor to enter into debt rescheduling proceedings.⁹

The objectives of this research are to review the theory of rating for sukuk, describe the rating system to Islamic bond (sukuk) and this paper will compare the risk difference in Islamic bond and conventional bond. And also therefore, analyze the probability of default in the sukuk market. The paper therefore, will examine the effectiveness of rating systems in Islamic bond to measure, to predict and to explain the default risk in Islamic bond.

The research aims to surgical the rating systems in Islamic bond in Indonesia, and they effectiveness to measure the default risk. The default risk that has done in Dubai world is accepted as the great challenging in Islamic economics discourse. This research will identify the quality of the rating of Islamic bond to explain and to predict the main problems of sukuk, default risk. Moreover, this research will examine the rating by the empirical data to give the better overview of sukuk and rating system.

Rating is the main indicator to predict the default risk in debt/bond/credit. Many research have done, the results demonstrate that ratings exhibits with the two primary component of credit risk; default risk and loss in the event of default. Ratings are correlated with default risk over multiple horizons, rather than a single, fixed investment horizon. It mean that rating in the theoretically are accepted as the main tool to explain the probabilities of default.

In the empirical world, there are many mistakes that rating are can't to predict the default risk, nevertheless this percentage of this case are very little. Recently, rating is the main instrument that will be the good guidance about the bond. However, in sukuk the default risk that faced by sukuk are very risky because sukuk is still in the small proportion in the world that have to develop hardly. Therefore the default of sukuk is very unhappy because it will make the market don't accept that sukuk that based on the real economy is more safe than conventional bond.

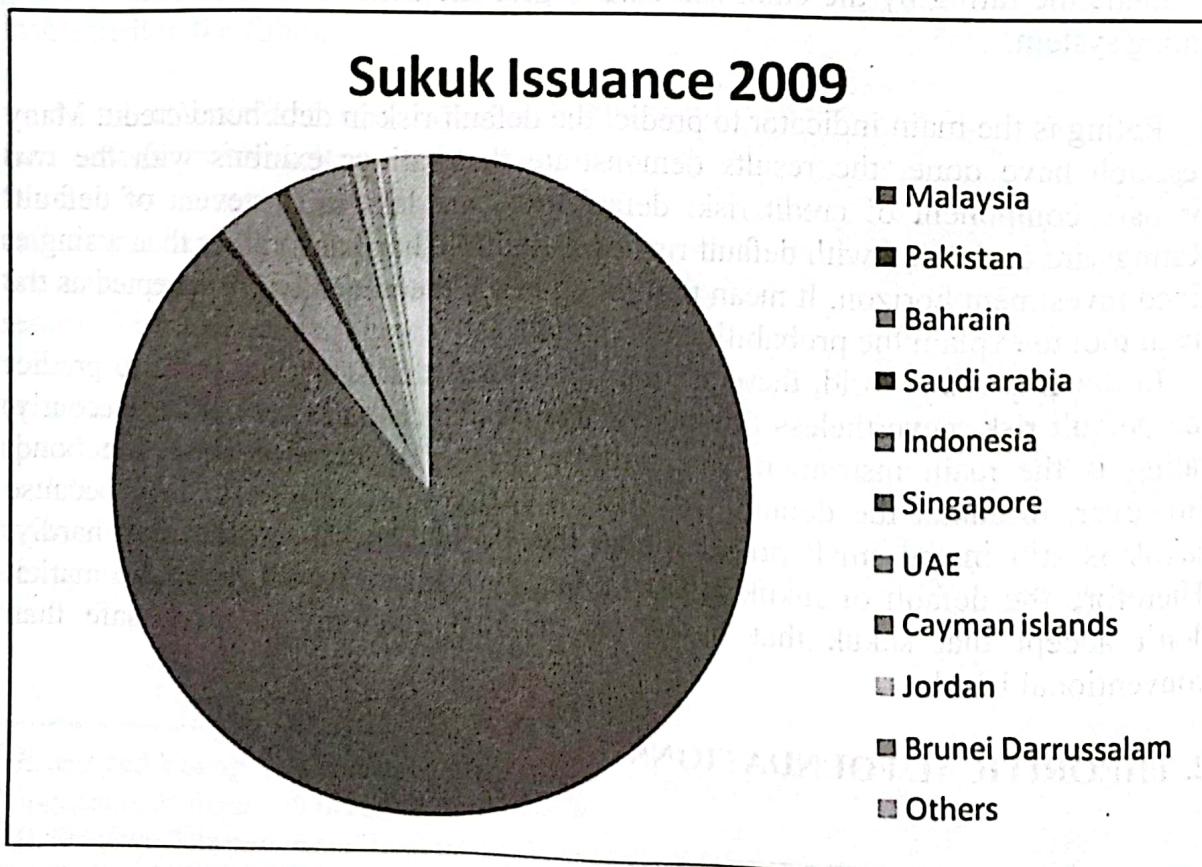
2. THEORITICAL FOUNDATIONS

⁹ Ali Arsalan Taqi, *Managing of Financial Risk of Sukuk Structure*, (UK: Loughborough University, 2004), page. 52.

As far as our knowledge, there has not been any study conducted on the default risk in Islamic bond. We just know study about the rating system and the factor that determine the grade of sukuk rating. In the several month sukuk face serious problem about the default risk problem. This is need to discus and study to get a solution to solve that problem. Therefore, in this research we will focus our study to examine the quality of rating system in islamic bond to measure and predict the default risk.

2.1. What is Sukuk and How it is Rated

The History of Islamic bond started from Jordan in 1978. So far there have been several countries that issue Islamic bond. It can be characterized by the existence of government securities issued in Islamic bonds. However, there are also several countries that do not issue state bonds but Islamic bonds have been issued by private corporate issuers. These countries are Bahrain, Dubai, Qatar, Pakistan, Malaysia, Saxony-Anhalt (state in Germany), and other countries. Jordan by Law No. 13/1978 allows the Jordan Islamic Bank to issue Muqaradlah Bond Act of 1981, so though that act has been created since the year 1978 but Islamic bonds issued in 1981.¹⁰ Instruments sukuk (from the Arabic, which literally means the bonds) was booming since the first Malaysia International Islamic bonds issued in 2002 that average Islamic bonds issued using the scheme ijara (rent) to finance a project.



¹⁰ [www. Bapepam.go.id](http://www.Bapepam.go.id)

Viewed in terms of time, Pakistan could be called as the first country to issue Islamic bonds, namely in 1980 by publishing the Mudaraba Company and Mudharabah Ordinance. In early 2005 Pakistan Islamic state to sell bonds (sukuk) to finance the first government budget deficits especially pressing and government spending. Value is approximately U.S. \$ 300-500 million with a five-year period. Bahrain is also an international Islamic bonds issued by the Bahrain Monetary Agency Al-Ijarah Sukuk was worth U.S. \$ 100 and U.S. \$ 70 Million, each a three-year and five years. Islamic bonds are used to finance government infrastructure. Dubai, in the year 2005 also issued international Islamic bonds by Emirates Airlines worth U.S. \$ 500-600 million to finance the construction of international airport and marketed in Asia, Africa, Europe including the UK. In addition to Bahrain and Dubai, the Middle east countries that Islamic bonds was issued by Qatar, the Qatar Global Sukuk of U.S. \$ 700 million with a maturity of seven years. Malaysia became the first country to issue Islamic bonds with a denomination of international U.S. dollar. Early Islamic bonds were sold in 2002, and sells. The Malaysian Global Sukuk (MGS) initially was issued of U.S. \$ 350 million with a five-year period but have three times oversubscribed, so published by the value of U.S. \$ 600 million. And in the year 2006, Malaysia will issue ijara sukuk worth 400 billion ringgit (U.S. \$ 107 million) for the period of one year. Islamic bonds in Malaysia until the end of 2004 reached 31.69% increase from the total value of bonds listed in the Malaysian capital market, while in Indonesia the same year reached Rp1, 424 trillion, or 2.42% of the total value of bond emissions in Indonesia in the amount of Rp.58, 791.354 trillion.¹¹

Sukuk (plural of sakk) had been extensively used by Muslim in the Middle Ages, as papers representing financial obligations originating from trade and other commercial activities. However, sukuk as applied in the capital markets pertains to the process of securitisation. According to AAOIFI, sukuk are certificates of equal value that represent an undivided interest in the ownership of an underlying asset¹², usufruct and services or assets of particular projects or special investment activity. Based on the recourse over underlying asset, currently issued Sukuk can be classified into Asset-based and Asset-backed, which are semantically similar descriptions but mask significant differences in credit risk.

Asset based Sukuk

Sukuk are structured such that investors have a beneficial interest only in the cash flow generated by the underlying asset. Assets are usually sold by the originator to SPV (Special Purpose Vehicle) in the form of trust. The trustee issues certificates representing the investor's ownership interest, while the proceeds are used to

¹¹ Nurlika Fitriani, " Analisis Perbandingan Kinerja Obligasi Konvensional dengan Obligasi Syariah di Indonesia Periode September 2002- September 2005" , skripsi Unair (2005), tidak dipublikasikan, hlm.25

¹² According to AAOIFI Definition of Sukuk, Sharia Standard no.17, the asset should be tangible. However, SC Malaysia permitted both tangible and intangible.

purchase the assets. The investors receive a distribution income representing a proportion of the returns generated by the assets.

In an asset-based Sukuk, it is clearly determined that the credit of Sukuk reflects that of the originator rather than the underlying assets. This is because the investors do not have any recourse to the underlying assets in the event of default. The Sukuk holders will ordinarily rank as senior unsecured creditors of the originator. They would rank *pari passu* with other senior unsecured creditors of the originator company.

Asset backed Sukuk

Asset backed Sukuk represent a true sale. The underlying asset has been validly transferred to the SPV on behalf of the investors. However, the underlying asset should generate income so the profit is solely come from the asset. In the event of insolvency of the originator, the underlying assets will remain completely separate from the originator. In addition, the risk of any insolvency proceedings being brought against SPV should be remote, while the investors has the full claim over the underlying asset, without any risk of the sale subsequently being overturned by the local or Sharia courts.

2.1.1. Development of Islamic Bonds in Indonesia

Islamic capital market instruments have been there since 1997, precisely when PT Danareksa Investment Management launched a Sharia Danareksa on July 3, 1997. Next JSE (now IDX) Jakarta Islamic Index launched on 3 Jui 2000 which aims to guide the investors who invest in Sharia. Further development, present Islamic bonds pioneered by PT Indosat in early September 2002 the issue Islamic bonds worth Rp. 175 Billion. This step followed by Indosat, Muammalat and Bank Syariah Mandiri (BSM). Followed by PT Berlian Laju Tangker which published emissions worth Rp. 175 billion on May 28, 2003. PT Bank Syariah Bukopin issued Mudharabah bonds on July 10, 2003 with a value of emissions Rp.45 billion.

Islamic bonds that use Ijarah contract first published in 2004 by Matahari Putra Prima with a nominal value of Rp.150 billion with 13.80% return. Prior to 2004 this period all Islamic bonds issued by companies in Indonesia is using mudaraba akad. Based on the Decree of the Chairman of the Capital Market and Financial Institutions (Bapepam-LK) Number: KEP-194/BL/2008 About Islamic Securities Code and Decree of Chairman of Bapepam Number Determination KEP-222/BL/2008 About Sukuk Ijarah I Summarecon Great Year Then in 2008 there were 21 Bonds Indonesia Sharia With Total Value Reached Rp. 4.697 triliyun

Tabel.1: Islamic Bond in Indonesia 2002-2009

YEARS	Name Effect
2002	Indosat Syariah Mudharabah 2002
2003	Berlian Laju Tangker-Syariah Mudharabah 2003
	Bank Bukopin-Syariah Mudharabah 2003
	Bank Syariah Mandiri-Syariah Mudharabah 2003
	Ciliandra Perkasa-Syariah Mudharabah-2003
	Bank Muamalat-Syariah Subordinasi-2003
2004	PTPN VII-Syariah Mudharabah-2004
	Matahari Putra Prima-Syariah Ijarah 2004
	Citra Sari Makmur-Syariah Ijarah I 2004
	Sona Topas-Syariah Ijarah 2004
	Indorent-Syariah Ijarah 2004
	Humpuss Intermoda-Syariah Ijarah 2004
	Berlina-Syariah Ijarah 2004
	Apexindo-Syariah Ijarah 2004
2005	Indosat IV-Syariah Ijarah 2005
	Ricky Putra Globalindo-Syariah Ijarah 2005
2006	PLN-Syariah Ijarah 2006
2007	Sukuk Ijarah Indosat II Th. 2007
	Sukuk Ijarah Berlian Laju Tanker Th.2007
	Sukuk Mudharabah I Adhi Th. 2007
	Sukuk Ijarah PLN II Th. 2007
2008	Sukuk Ijarah Indosat III Th. 2008
	Sukuk Mudharabah I Mayora Indah Tahun 2008
	Sukuk Ijarah I summarecon Agung Tahun 2008
	Sukuk Mudharabah Mayora Indah Th.2008 Sukuk Subordinasi Midharabah 2008
2009	Sukuk Ijarah PLN III Th.2009, Series A
	Sukuk Ijarah PLN III Th.2009, Series B
	Sukuk Ijarah Matahari Putra Prima II 2009, Series A
	Sukuk Ijarah Matahari Putra Prima II 2009, Series B
	Sukuk Ijarah Berlian Laju Tangker II 2009, Series A
	Sukuk Ijarah Berlian Laju Tangker II 2009, Series B
	Sukuk Ijarah I Bakrieland Development 2009, Series A
	Sukuk Ijarah I Bakrieland Development 2009, Series B
	Sukuk Ijarah Salim Ivomas Pratama I 2009
	Sukuk Ijarah Pupuk Kaltim I 2009.

Source: idx, Bapepam-LK

Since it first appeared in 2002, Islamic bonds in Indonesia is experiencing amazing growth, especially in the year 2003 which grew 423% from 175 billion in 2002 to 740 billion in 2003. The second largest growth occurred in the year of 2004 is approximately 125%. Islamic bonds growth slowly in 2005 and 2006. However, this growth increases again in 2007 and 2008. In 2009, the issuance islamic bond was grew significantly around 62,05% from 1,690 triliyun in 2008 to more than 2,486 triliyun in 2009.

Tabel.2
Perkembangan Obligasi Syariah

Years	Nominal (Jt)	Comulative Value(Jt)	%
2002	175,000	175,000	-
2003	565,000	740,000	423%
2004	924,000	1,664,000	125%
2005	345,400	2,009,400	21%
2006	200,000	2,209,400	9%
2007	797,600	3,007,000	36%
2008	1,690,000	4,697,000	56%
2009	2,486,000	7,183,000	62,05%

Source: idx, Bapepam

Islamic bonds growing phenomenon occur between the period 2002 to 2008 is very interesting to be observed. In the initial period of 3 years of Islamic bonds as the new financial instruments much ogled by both market issuers and investors. However, the next period is between 2005 and 2006, the growth of Islamic bonds so rapidly experience a correction, it is very reasonable because at this stage Islamic bonds are ideally looking for form. However, in the period 2007 and 2008 re-grown Islamic bonds significantly, this is because the market has been able to see the real prospect of Islamic bonds either from the aspect of yield and risk.

2.2. Rating of Sukuk

Islamic bond Issuer which will sell bonds in the capital markets at the first, are required to perform rating. In Indonesia, the rating of the issuer that will sell bonds in the stock market conducted by PT (Pefindo). Only companies that have a certain rank, usually (AAA, AA, BBB, BB) are allowed to sell bonds in the capital market.

This ranking is intended to assess the liquidity of the issuer of bonds to pay back debt to society. Thus, the issuer only really bona fide and liquid is able to sell bonds in the capital market. Examples are done Indonesian banks when selling bonds in international capital markets. Before the publication occurred prior rating done and then get a BB rating from international rating agencies.

Consequences for issuers that want to offer bond, they must appoint a trustee who will represent the interests of bondholders. In addition, the issuer must also set aside funds for the repayment of bonds (sinking fund). Issuers must repay the loan principal and interest bonds in a given time and shall notify the trustees of any changes that may affect the development of the issuer company. Although the supply of bonds is low, but some market watchers are optimistic that the supply of bonds will rise in the future. Bond rating from several companies, local government and central government, issued by at least 5 companies in the U.S. and some companies in other countries. Rating system "in-house" was also developed by several banks and other financial consulting firm.

Companies are distinguished by their bond rating. Example:

- a) Rating is made only for the purpose of seeing the level of bonds based on its investment.
- b) Rating Standard & Poor's corporate or local government is an assessment of the credit rating of the guarantor who believes in certain bonds.
- c) Credit level of a company providing a gradation system is very simple, so the company's capacity to repay the bond's interest periodically and some debt principal can be monitored (recorded).
- d) In general, bond rating is an indicator of the possibility of loan principal repayment on a periodic basis by the borrower and its rating. The more likely the borrower will pay the loan principal and interest bonds, the higher the rating is also determined.

Bond Rating has several functions. First, rating is the main source of information to demonstrate the company's ability, local government and central government to make the loan principal repayment and interest debt. Second, rating is a source of cheap credit information to obtain information of the company's activities, local government and central government. Thirds, bond rating is a source "legal insurance" to financial supervision institutions investment. For example with the highest limits determine interest bonds. Fourth, Source of some additional certification of financial management and other parties. If a company determines

the interest rate, then implicitly they also have to determine the level of corporate risk. Fifth, Rating is one indicator to monitor the implementation of management activities. If the management company is not doing his own determination of the bond rating, they can hire other agencies that can replace the task. Sixth, this is for prevention of speculative investment, by financial institutions such as banks, insurance and pension institutions.

However, not all of these functions can be connected and become important in practice. For example, Wakeman in 1981 stated that the announcement of bond rating changes do not provide new information for the capital market. Investors can prove the quality of bonds and accuracy of the information and monitor the risk of corporate bonds during the bond's lifespan.

In the rating process, several things must be considered in the analysis of bonds are:

- a) Industrial performance, including:
 - 1) Aspects of competition industry
 - 2) The prospect and market share
 - 3) The existence of the availability of raw materials
 - 4) Strong industrial structure
 - 5) The influence of government policy
 - 6) Other economic policies
- b) Financial Performance
 - 1) Aspects of asset quality
 - 2) Profitability ratio
 - 3) Management of assets and liabilities
 - 4) Capital adequacy ratio
 - 5) The level of debt management
 - 6) Adequacy ratio of interest payments
- c) Non-financial performance
 - a) Management aspects
 - b) Corporate reputation
 - c) Indenture agreements (including sinking fund, debt test, test dividends, mergers, and sale of assets)

In assigning ratings, the rating agencies provide special methodologies and rating scale to accommodate Islamic debt instrument although the structure of these bonds is an apparent complexity. There are numbers of rating agencies all over the world, both international and local. This summary is taken from the approaches of three international leading rating agencies; Fitch, Standard and Poor's and Moody's are utilized in this literature. These rating agencies are three Nationally Recognized Statistical Rating Organizations (NRSRO) designated by U.S. Securities and Exchange Commission in 1975.

Each agency has a rating symbol, characteristics of different but has the same understanding. Addition + (plus) or - (minus) is often used to demonstrate the relativity of the quality of the company. For example for the term of the Moodys, the level of Aaa to Bbb or AAA to BBB termed as investment grade. With these rating levels, tend to increase investment risk and possible breakdown of the debt payments become very large.

Tabel 3: Rating classifications from Moodys and S&P

Peringkat	Moodys	Standard & Poor
<i>Highest Quality</i>	Aaa	AAA
<i>High Quality</i>	Aa1	AA+
	Aa2	AA
	Aa3	AA-
<i>Upper Medium Quality</i>	A1	A+
	A2	A
	A3	A-
<i>Medium Quality</i>	Baa1	BBB+
	Baa2	BBB
	Baa3	BBB-
<i>Speculative</i>	Ba1	BB+
	Ba2	BB
	Ba3	BB-
<i>Very Speculative</i>	B1	B+
	B2	B
	B3	B-
<i>Poor Quality</i>	Caa	CCC
<i>Highly Speculative</i>	Ca	CC
<i>Poorest Quality</i>	C	C
<i>In Default</i>	D	D

While the ratings for a period of less than 1 year have the following terms:

A-1: Capacity for timely payment is strong

A-2: Capacity for payment is Satisfactory

A-3: Capacity for payment is adequate. Maybe vulnerable to adverse business and economic conditions.

B : The capacity for payment is Speculative

C : Doubtful capacity for payment

D : Debt is in default

Indonesia has two main rating agencies, Pefindo and Casnic. Pefindo was established in 1993 which proposed by Bapepam, Bank of Indonesia and got the licence from BAPEPAM No.39/PM/-PI/1994 as an official institution in the field of rating securities in Indonesia. The equityholders of this institution consisting 104 financial institution, securities, insurance and pension funds. Pefindo has affiliations with international agencies, S&P (Standard&Poors) and has active

participation in the activities of Asean Forum of Credit Ratings Agencies (AFCRA) to improve the network and the rating qualities.

Model rating from Pefindo (Pemeringkat Efek Indonesia) among others consists of:

- a) Ranking of debt securities (long term / short-term)
- b) Ranking the company (long term / short term)

Tabel 4: Clasification Pefindo Credit Rating

<i>Rating</i>	<i>Descriptions</i>
Id AAA	Highest rating Superior ability of obligor Able to meet long-term liabilities
IdAA	Little below the highest ranking Very strong ability of obligor
IdA	Strong ability of the obligor Quite sensitive to adverse changes
IdBBB	Adequate capacity of obligor Ability can be weakened by adverse changes
IdBB	Ability obligor rather weak Affected by business and economic environment
IdB	very weak protection Obligor still have the ability to pay obligations Environmental changes can exacerbate the payment performance
IdCCC	Obligor no longer able to pay its obligations Dependent on external changes
IdD	These traffic bond Issuer has stopped business

Special rating for debt securities is based on the assessment:

- a) Payment settlement capabilities
- b) The structure set forth in the bond issuance
- c) Protection of investors claim in case of default (liquidation)

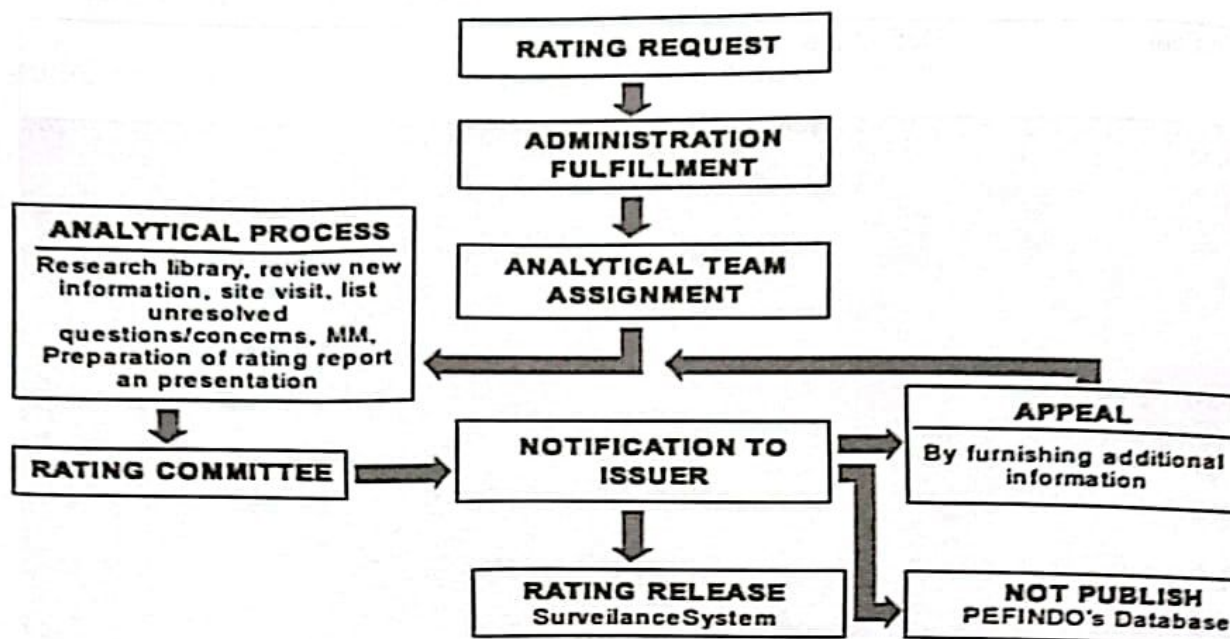
One of the products of Pefindo is issued rating outlook of assessments and medium-term prospects of long-ranked institutions that include evaluation of changes in the economy and business. Grading can't be used as a benchmark to determine the credit alert on these debentures.

Tabel 5: Definitions and Terms of Rating Outlook

Outlook	Definitions
Positive	The prospect of a potentially to raise ratings
Negative	The prospect of a potentially for the lower ratings
Stable	Indicate stable prospect that the results will be stable as well the rating
Developing	The prospect is unclear due to insufficient information, so the results can be increased ratings and derived according to further developments.

The second rating agencies in Indonesia is Kasnic. This agency owned by PT Kasnic Indotama and Fitch (International Rating Agency) which has headquarters in London and has a network in 47 countries. Since June 2000 the merger with Duff & Phelps, Fitch IBCA rating makes business consolidation debt securities become large enough.

Table.6: Rating Process



Source: Kasnic Rating Indonesia

In the Islamic bond rating systems, there are no extreme differences between Islamic bond rating system and conventional bond system. With regard to the sukuk rating methodology used by rating agency, we can conclude that rating agencies do not opine from the perspective of Sharia compliance. This is supported by Standard and Poor's (2007) that pointed out that sharia-compliant nature of sukuk is neutral from a credit perspective in most cases. This position is consistent with rating agencies' long-held position that a rating does not constitute a recommendation to buy, sell or hold of a particular security. Most of Sukuk rated by rating agencies are structured with the approval of Sharia board. The board evaluates the structure of the transaction and pronounces on its compliance with Sharia. Consistent with its position on addressing only the credit aspects of the transaction, rating agencies do not review the role or composition of Sharia board, nor do not opine on the validity of the board's recommendations and decisions. However, rating agencies address solely on the likelihood of schedule payment according to the terms of an instrument.

2.3. Previous Studies on Islamic Bond Rating.

We found several research about the Islamic bond rating in Indonesia. That is a research from Dodik Siswanto and Ilham Reza Ferdian the title is *An Evaluation Of Islamic Bonds Rating In Indonesia*. Variabel independen yang digunakan adalah *capitalization (TE, TA)*, *asset quality (PPAP, NPL)*, *profitability (ROA, ROE, NIM)*, *asset liability management (LDR)*, *financial flexibility (CAR)*. This research conclude there are many quantitatives factors effect the rating of Islamic bond, and

the researcher agree that the qualitative factors have strong impact to the rating of Islamic bond.¹³

Laili Rahmawati(2008) has done the research about *analyze factors determine the rating of islamic bond*. From the simultaneous regression founded that DBA, CTD, ROA, CUR, OPM, have significant impact to the rating of Islamic bond. This is very important for the investor because it will be used to analyze the investment risk in Islamic bond. From this information about rating of islamic bond the investor can make a best decisions in their investment activity especially in islamic capital market. From that rating investor can also compare the differences of the performance between islamic bond and conventional bond.¹⁴

Agus Salim, Faiz and Huda (2009) examine the several financial variables to determine the most important financial ratio that have impact to the rating of Islamic bond. They found that Return on Equity(ROE), Return on Asset(ROA) and OPM are the main financial ratio that impact the rating of Islamic bond. They also conclude that another financial ratio are not have significant influences to rating.¹⁵

Maria Vassalou and Yuhang Xing (2003) examine default risk in equity returns. This paper uses for the time the Merton (1974) model to compute monthly DLI (default likelihood indicators) for individual firms, and examine the effect that default risk may have on equity returns. This research shows that the size and book to market value are intimately related to default risk. Small firms earn high returns than big firms, only if they also have high default risk. Similarly, value stock earns higher returns than growth stock, if their risk of default is high. In addition, high default risk firms earn higher returns than low default risk firms, only if they are small in size and/or high BM. In all other cases, there is no significant difference in the return high and low default risk stock.¹⁶

The next one is the extended paper of past research by Kamstra and Kennedy (1998) entitled *Combining Bond Rating Forecast Using Logit*. The authors imitate the of Kamstra-Kennedy variables; 1) interest coverage, 2) debt ratio, 3) return on assets, 4) total firm assets, and 5) subordination status (dummy). Furthermore, it is showed in a data set of 265 observations, an ordered-logit forecast combination of bond yields statistically significant and quantitatively improves the result in forecasting the rating prediction over the traditional one.

¹³ Dodik Siswantoro, *An Evaluation*, hlm. 16.

¹⁴ Laili Rahmawati, *An Analyze Factors*, Page.98.

¹⁵ Agus Salim, Faiz and Huda, *An Analyze financial ratio influence to rating of Islamic Bond*, page.84.

¹⁶ Maria Vassalou and Yuhang Xing, *Default Risk and Equity Return*, 2004.

In 1980, Belkaoui attempted to use financial statement data in the analysis of bond rating by putting forward a broad economic rationale for variable selection model. The model he developed is using 8 variables representing the three general variable; firm, market and indenture. These variables are 1) total size of the firm, 2) total size of debt, 3) long-term capital intensiveness, 4) short-run capital intensiveness, 5) total liquidity of firm, 6) debt coverage, 7) stock price/common equity per share, 8) subordination (0-1). The model successfully predicted correctly 62.5% of the rating in the experimental sample and 65% of bond rating in hold out sample using MDA.

Consequently, Ederington et. al. (1984) use most of variables are taken from Altman (1981) to determine whether market participants evaluate bond issue's default risk on agency ratings by indicating yields on industrial and commercial bonds. The variables are : 1) leverage (ratio of long term to total capitalization), 2) interest coverage (five year average and deviations of coverage), 3) profitability (ratio of pretax income to total asset-five year average and deviations of profits), 4) size (total asset), 5) subordinated or not (dummy variable).

Touray (2004) followed the success of Belkaoui (1980) to determine the predictors of bond rating in Malaysia. He used 8 variables form Belkaoui (1980), tried to compare the result using MDA and M-Logit. The result was Multinomial Logit performed better than MDA with 75% correctly predict the new ratings from Rating Agency Malaysia, using 56 bond rating issued in Malaysia during the period of 1992-2003. Unfortunately, this model cannot be used to predict the holdout sample during crisis period in Malaysia.

Studying the preliminary symptoms of business failures is one of the ways to minimize credit risks. The degree of financial distress of a company is determined by its ability to service its debts. This ability is routinely assessed by financing banks, which rate the commercial debts on the basis of their own credit rating models, e.g. aligned with the recent Basel accords. Thus, it is logical to say that the nature of financial bankruptcy prediction and financial distress prediction is similar with sukuk ratings, because financial distress prediction model is also base on credit scoring techniques. Based on this rationale, this research also incorporates previous literatures in financial distress and financial bankruptcy in determining sukuk ratings variables.

The research by Zulkarnain, Muhammad Sori and Yusuf Karbhari (2006) is tried to develop bankruptcy prediction model of considerable efficiency for firm listed and traded in small developing economy. He came out with 22 financial ratios consist of liquidity, profitability, leverage, solvency and activity ratio, and found out that total liability, current assets turnover, and cash ratio are three most relevant variables to predict bankruptcy prediction model. The research is continued by Nongnit Chancharat, Pamela Davy, Michael McCrae and Gary Tian

(2007) which tried to investigate the effect of financial ratios, market base variables and company specific variables on corporate financial distress. He used company age, company size, squared size, profitability, liquidity and leverage variables. The result shows that financially distress companies have lower profitability, higher leverage, lower past excess return and larger size compared to active companies. Using combination of financial ratios, Lu Y.C et.al (2008) also tried to see financial distress model in Taiwan, Otto Hadju and Miklos Virag (1996) in Hungaria, Erkki K.Latinen (2007) in Finnish, Merek Gruszczynski (2004) in Poland, Ugurlu and Hakan Aksoy (2006) in Turkey, Zulkarnain Muhammad Sori and Yusuf Karbhari (2004) in Malaysia, Jorge Santiago and Rosillo (2001) in Colombia, Daiui Li and Jia Liu (2009) in Chinese, etc. They find that financial indicators analysis using financial ratios has always been a very useful instrument in evaluating companies' problem in their operation and finances.

2.4. Theoretical Framework

2.4.1. Rating of Islamic Bond

The first question is what is bond rating? bond rating is the classification. Bond rating is a process that distinguishes between "good" and "bad" bond. How fine the distinctions are depends on the bond usage and the financial performance of the enterprises. Bond rating is, therefore, a judgemental process of ranking and classifying bond into different level of risk categories. Each level of the classification represents a clear and precise statement of the firm conditions.

The key ingredients in bond ratings normally fall under two broad categories; quantitative analyses (eg, ratio analysis, cashflow analyse, macroeconomic variables, sovereign risk, sector and industry analysis) and qualitative analysis (eg, financial strength assessment, management and corporate governance). Wherever the ratings are done, either externally or internally, it is always very important to strike a delicate balance between these two aspects of analysis.

Bonds as one source of external funding can't be separated from the possibility of repayment risk of failure. Therefore, since the early 1990s, the bond rating performed on the basis of probability could not be paid (the default). In Indonesia, a company engaged in this field is PT. Pemeringkat Efek Indonesia (PEFINDO). This company works in practice with the Standard & Poor's Corporation. Therefore the ranking also uses the same way used by Standard & Poor's. Standard & Poor's Corporation (S & P), Moody S Investors Service (Moody's), which is the major bond rating agencies classify bonds as in the table:¹⁷

¹⁷ R. Agus Sartono, *Manajemen Keuangan Teori Dan Aplikasi*, Edisi Empat Cet. Ke-1 (Yogyakarta: BPFE, 2001).

Table 7: Rating of Standard & Poor's. Standard & Poor's Corporation (S&P), Moody's Investor Service (Moody's)

	<i>Investment Grade</i>				<i>Junk Bond</i>			
S&P	Aaa	Aa	A	Baa	Ba	B	Caa	C

Bonds, including Triple A and Double A is a very safe bonds for Investment. Single A and triple B under the first two, but pretty good for bonds which are classified as safe for investment. So the first four ranks are often called Investment Grade Bond. The next ranking is Double B and underneath is a bond that has risks and high returns that are highly speculative, so often called junk bond. These bonds have the possibility of not being repaid is very high. Grouping these bonds has two implications. First, bond rating which is the default risk indicator will affect directly to the interest rate bonds and capital cost of the bond issuing company. Second, bonds also bought by the institutional investors who have limitations on which bonds will be purchased. So that, if a company's bond rating sank below BBB, the bonds will be difficult to purchased by the institutional investors. In general, bond owners will change in the shares when they feel the market has evaluated the company is too low or undervalued. By changing their bonds into shares, they expect a gradual appreciation of the market will make the company's value, which means stock prices will rise so that they get capital gains.

Islamic bond rating in Indonesia is founded by PT Pefindo and PT Kasnic that follow the methods of S&P method. Standard & Poor's has already developed a methodology to rate sukuk, be they issued by sovereigns, banks, or corporations. The same approach could be applied more generally to any type of issue, including securitization transactions that would fall under our structured finance criteria. The vast majority of bank sukuk are ratable financial instruments.

Standard & Poor's makes a distinction between Islamic contracts unrelated to profit sharing, and those in which a profit-sharing agreement is embedded. The former category is more easily ratable than the latter, all the more so as sukuk with no profit-sharing contents are made of "ijara" sukuk (lease-backed obligations) and "murabaha" sukuk (markup financing), which more easily benefit from the guarantee of the originator of the underlying assets, regardless of the performance of the sukuk. When Standard & Poor's has enough comfort with the timely, irrevocable, and unconditional nature of the guarantee, the ratings on the sukuk are equalized with those on the originator, provided that the obligations pertaining to the sukuk rank equally with the originator's other senior unsecured liabilities (see "A Closer Look At Ijara Sukuk" and "Two Aspects Of Rating Sukuk: Sharia Compliance And Transaction Security," published Feb. 2, 2005, and

Jan. 16, 2006, respectively on RatingsDirect). In the latter report, we address the issue of whether or not Standard & Poor's factors Sharia compliance into its ratings. For various reasons, Sharia compliance has not featured in Standard & Poor's rating analysis.

Rating for the Islamic bond is as important as in conventional bond. However normally, rating of Islamic Bond is used as indicator to describe the condition of the firm that issue the Islamic bond. The financial performance generally will be accepted as the main indicator to predict the default risk of the firm. Therefore, rating is the main instrument to measure the default risk of the Islamic bond.

To determine the rating of sukuk there are has several method and process. The quality of rating is depend on the accurate of that rating method. Although default problems are occur in Islamic bond, we believe that the default problems are not caused by the inaccuracy of the Islamic bond rating, but this default because of the other factor. In addition, in this research we believe that rating has strong correlation with the default risk. It mean that default risk is can be predicted by looking the rating of Islamic bond.

2.4.2. Default Risk

Default risk is the main risk that faced by islamic bond holders. They are very focus on this problem because the default risk case in Dubai world. That is accepted that default is the important treatment that must be found the solving in the Islamic bond. There are literally hundreds of ratios and interactions that are potentially interesting, but seven factors seem crucial.¹⁸The following are the most powerful inputs for predicting default:

- a) Volatility, higher equity volatility implies higher probability of firm's asset value falling below its level of debt, which implies insolvency. This is only measurable for public companies.
- b) Size: for non-traded companies, size proxies for much of equity volatility. Bigger companies are generally more diversified in their exposure to geographies, products, and peoples, and this lowers their prospective volatility. One could argue that size is truly different factor, and there's some truth there, though this can easily get into hair-splitting.
- c) Profitability: higher profits lower default probabilities. Combining profitability with interest expense makes it combination of leverage and profitability.
- d) Leverage/Gearing: higher leverage implies higher default probabilities. Higher market valuation implies a greater distance between a firm's asset value its level of debt.

¹⁸ Chen and Sumindra, in the credit rating, 1981.

- e) Liquidity: lower liquidity (current assets/current liabilities) implies higher default probabilities in all-countries, though this effect it reversed for those 3,000 or so investment-grade companies.
- f) Growth: both high and low growth rates are associated with higher default probabilities.
- g) Inventories: higher inventory levels imply higher default probabilities.

The above are the general concepts of bond and default problems. There are describes several factor of financial ratio imply the default problem of the bond/obligation. However in Islamic bond case, there are no significant differences with conventional bond in the default risk perspectives. Nevertheless this is must be examined by empirical research to find the best theory about default in Islamic bond. In this paper, we will focus on the ability of rating to measure the default risk in Islamic bond. The discuss about the default factor in Islamic bond will be done in another chance.

The core concept of the structural models, which originated from the seminal work of Merton (1974), is to treat a firm's equity and debt as contingent claims written on the firm's assets value. Default is triggered when the underlying asset process reaches the default threshold or when the asset level below the face value of the debt at maturity date. (Jones and Hanser,2008). In Merton's Model, the equity of firm is viewed as a call option on the firm's assets. The reason is that equity holders are residual claimant on the firm's assets after all other obligations have been met. The strike price of the call option is the book value of the firm's liabilities. When the value of the firm's assets is less than the strike price, the value of equity is zero.¹⁹

The total market value of the firm's asset at the time t , V_t , is assumed to follow a standard diffusion process of the following form:

$$\frac{dV_t}{V_t} = (\mu - D)dt + \sigma dz$$

Where μ denotes the expected total rate of return on the firm's asset value (subsequently 'expected asset return' μ) reflecting the business prospects (equal to the risk free rate, r , plus an asset risk premium), D is the total payout rate by the firm to all its claimant (including dividends to equity-holders and interest payment to debt holders) expressed as a percentage of of V , σ is the business volatility or standard deviation of a firms asset returns (percentage asset value changes), and dz is an increment of a standard wiener process.

The Merton model is derived from by treating the value of leveraged equity as a call option on the assets of the firm.

¹⁹ Vassaul and Yaung, Default Risk and Equity Return (UK:Journal of Finance, 2004)

$$V_E = V_A N(d_1) - e^{-r(T-t)} DN(d_2)$$

Where V_E is the value of equity, V_A is the value of asset and D is the face value of debt. $(T-t)$ is the time to maturity of debt, r is the risk-free rate

$$d_1 = \frac{\ln\left(\frac{V_A}{D}\right) + \left(r + \frac{1}{2}\sigma_A^2\right)(T-t)}{\sigma_A\sqrt{(T-t)}}$$

$$d_2 = d_1 - \sqrt{(T-t)}$$

And $N(\cdot)$ is the function for normal distribution. To calculate σ_A we adopt an iterative procedure. We use daily data forms the past 12 month to obtain an estimate of the volatility of equity σ_E , which is then used as an initial value for the estimation of σ_A Using Black-Scholes formulas, and for each trading day of the past 12 month, we compute V_A using V_E as the market value of equity of that day. In this manner, we obtain daily values for V_A . This then used to compute the standard deviation of those V_A, S , which is used as the value of σ_A , for the next iteration. That procedure is repeated until the value of σ_A , from the two consecutive iteration converge.

This approach also provides a relationship between equity and asset return volatility:

$$\sigma_E = \frac{V_A}{V_E} N(d_1) \sigma_A$$

Once daily value of V_A are estimated, we can compute the drift μ , by calculating the mean of change in $\ln V_A$.

The default probability is the probability that the firm's assets will be less than book value of the firm's liabilities. In the other word,

$$P_{def,t} = Prob\left(V_{A,t+T} \leq \frac{D}{V_{A,t}}\right) = Prob\left(\ln(V_{A,t+T}) \leq \ln(D)/V_{A,t}\right)$$

Since the value of assets follows the GBM of equation, the value of the assets at any time t given by:

$$\ln(V_{A,t+T}) = \ln(V_{A,t}) + \left(\mu - \frac{\sigma_A^2}{2}\right)(T-t) + \sigma_A\sqrt{(T-t)\varepsilon + T}$$

$$\varepsilon_{t+T} = \frac{W(t+T) - W(t)}{\sqrt{T}} \text{ and } \varepsilon_{t+T} \sim N(0,1).$$

Therefore we can write the default probability as follow:

$$P_{def,t} = Prob \left[\ln(V_{A,t}) - \ln(D) + \left(\mu - \frac{\sigma_A^2}{2} \right) T + \sigma_A \sqrt{T} \varepsilon_{t+T} \leq 0 \right]$$

$$P_{def,t} = Prob \left(- \frac{\ln \left(\frac{V_{A,t}}{D} \right) + \left(\mu - \frac{\sigma_A^2}{2} \right) T}{\sigma_A \sqrt{T}} \geq \varepsilon_{t+T} \right)$$

Then we can define the distance to default (DD), as follow;

$$DD = \frac{\ln \left(\frac{V_{A,t}}{D} \right) + \left(\mu - \frac{1}{2} \sigma_A^2 \right) T}{\sigma_A \sqrt{T}}$$

Default occurs when the ratio of the value of asset to debt is less than 1, or its log is negative. The DD tells us by how many standard deviations the log of this ratio needs to deviate from its mean in order for default to occur. We use Vassaul and Yaung method that use Merton models. The theoretical distribution implied by Merton's model, which is the normal distribution. In the case, the theoretical probability of default will be given by:

$$P_{def} = N(-DD) = N \left(- \frac{\ln \left(\frac{V_{A,t}}{D} \right) + \left(\mu - \frac{1}{2} \sigma_A^2 \right) T}{\sigma_A \sqrt{T}} \right)$$

3. RESEARCH METHOD

This research use *multiple regression analysis* to analyze the statistical data. Multiple regression analysis is the

$$Y = \alpha + \beta_1 X_1$$

Where:

- Y : Default Probability of Islamic Bond
- α : Intercept
- X : Rating of Islamic Bond

In this study data processing is done by using the help of SPSS software for windows release 13. calculation results will be used is calculated and the t significance level (p-value), the correlation coefficient (R), coefficient of determination (r-square), and collinearity statistics tolerance value.

1) Coefficient of Determination

Coefficient of determination is used both in partial (r) or together (R²) which states the amount used reliability model, which is used to measure how much the independent variable (Xi) effects contribute to the bound variable (Yi) from the regression equation obtained . The \leq amount of the value of the coefficient of determination R² range 0 1, if the value of the coefficient of determination close to 1 is an indicator that shows the growing influence of changes in the variables Xi to changes in bound variables Y.

2) F-test

F test used to test the effects of all independent variables simultaneously on bound variables. Fhitung value can be searched by the following formula:

$$F_{hitung} = \frac{R^2 / (k - 1)}{(1 - R^2) / (n - k)}$$

R² = coefficient of determination

k = independent variables

n = total samples

Decision-making criteria with a significant level of $\alpha = 5\%$ are as follows;

f Fstat > Ftable mean H0 rejected and Ha accepted

If Fstat < Ftable means that H0 is accepted and Ha is rejected

3) T-test

This test is used to determine significance of regression equation coefficients. The value t count statistics can be found using the formula

$$t_{hitung} = \frac{\text{koefisien regresi } (b_1)}{s \text{ standar deviasi } b_1}$$

then the decision criteria are as follows: α With a significant level of $\alpha = 5\%$ in table value,

keputusan adalah sebagai berikut :

Jika $t_{stat} < t_{table}$ mean that H₀ rejected and H_a accepted.

Jika $t_{stat} > t_{table}$ meant that H₀ accepted and H_a rejected.

From this study we will describe the correlation among rating and probability of default islamic bond. This is very important to examine the quality rating of Islamic bond. The formula is:

$$r = \frac{n \sum X_i Y_i - (\sum X_i) (\sum Y_i)}{\sqrt{(n \sum X_i^2 - (\sum X_i)^2) (n \sum Y_i^2 - (\sum Y_i)^2)}}$$

4. RESULT AND ANALYSIS

4.1. Data and Sample Selection

In this part, we will describe the sample selection process. We use a training sample to build this model. The training sample is current rating sukuk announced by Pefindo and Kasnic that published in Indonesia Stock Exchange respectively. Originally it contains of 34 sukuk announced by IDX during period of 2002-2009. One company can issue tranches or series of sukuk and each tranche has its own rating. With regard to the tranches, we were only able to utilize the sukuk from the same issuer which has different right to claim. This condition makes us drop some of sukuk series that have difference in rating based on maturity or its expected return in order to diminish bias in the result. Furthermore, the data for some of originator companies are not accessible due to un-listed companies. As a result, out of total 34 sukuk issued by IDX and only 13 sukuk are relevant. Furthermore, the data is reduced to 13 sukuk because we have to make sure that each originator companies have a complete financial data and we drop companies that have missing variables. Totally in this research we use 53 samples data of rating and probability of default.

The independent variables in this research is rating of islamic bond Seven rating classes are used in this study, which are AA+ that is noted as rat=1, A+ (rat=2), A (rat=3), A-(rat=4), BBB+(rat=5), BBB(rat=6) and BBB-(rat=7).

Probability of default of islamic bond is the dependent variables in this research. This study will examine the correlation between rating and the default probability. In addition, This research will make the regression model to show the capability of rating to predict the default risk in islamic bond. Therefore this research use regression as their method.

All financial ratio data are obtained from Indonesia stock exchange (IDX). We select financial ratio given from IDX quarterly to calculate the probability of default. We choose quarter because the data only provided quarterly.

4.2. Rating of Islamic Bond in Indonesia

Ratings of Islamic bonds in Indonesia are published in the website of IDX. From our anlyse, this study found 55 ofr rating of Islamic bond, and the distribution is in the table;

Table. 8: Distribution of Rating

Ratings	Amount
AA+	11
A+	6
A	8
A-	11
BBB+	8
BBB	4
BBB-	5
Total	55

The table above shows the distribution of rating in Islamic bond. Islamic bond Indonesia majority have AA+ rating and A- rating. It can be seen from the table, together they are comprised to 22 islamic bond from the total samples in this research. The second biggest rating is A and BBB+ that accounted for 8 islamic bond. The smallest rating grade (BBB-) just around 5. From the table above we conclude that Islamic bond in Indonesia have good grade of rating. All of the islamic bond are in the investment grade that theoritically they are save for the investor. It mean that, based on the rating of Islamic bond in Indonesia, the issuer of bond has small chance to default, the probability to default is low. Because to issue Islamic bond the issuer must meet several qualifications; first, tehn firm must have good financial performance, eg. Debt to equity ratio not more than 33%.

Based on data about rating of Islamic bonds, we conclude that theoretically the Islamic bonds issued by companies in Indonesia has a level of comprehensive investment security, at least we can see from the quality of rating. If we use the terms in the theory of Islamic bonds rated in Indonesia is safe to invest. However, the next question is, is it true that there are Islamic bonds in Indonesia has a safe level of investment? this question will be proved and be answered in this study.

$$P_{def} = N(-DD) = N\left(-\frac{\ln\left(\frac{V_{A,t}}{D}\right) + \left(\mu - \frac{1}{2}\sigma_A^2\right)T}{\sigma_A\sqrt{T}}\right)$$

To prove the above question we will use Merton Theory to predict the probability of default from the firm. This theory is developed by Vassalau and

Yuhang. To compute the probability of bankruptcy we need to know then face value of debt, the length of the debt contract, the risk free rate, the value of asset and the volatility of assets returns. In this model the volatility of equity is calculated as the standard deviation of the previous quarter equity returns. The time expiration in all numerical examples is one year from the current date, that is T ($T-t$) where, $T=1$ and $t=0$. This model is used by Stewart Jones and Maurice Peat (2008).

Table.9: Default Probability of Islamic Bonds in Indonesia

No	Prob.Default	No	Prob.Default	No	Prob.Default
1	-8.383705205	19	-589.035528	37	-117.3099978
2	-9.301220688	20	-1245.331318	38	-2.090646901
3	-61.0226869	21	-678.2219155	39	-2.04422441
4	-52.78689737	22	-633.1299203	40	-2.413826461
5	-43.72609082	23	-21.40036212	41	-63.61866801
6	-12.6363607	24	-20.17920736	42	-52.674852
7	-14.65329589	25	-35.61573849	43	-12.6363607
8	-67.58385007	26	-60.48874843	44	-14.65329589
9	-48.96115896	27	-49.65771926	45	-27.32171107
10	-12.6809407	28	-55.00351296	46	-41.60973774
11	-18.68377097	29	-71.66309483	47	-42.44866905
12	-26.43526521	30	-55.95582886	48	-46.06953725
13	-74.24655733	31	-48.93489864	49	-136.5027604
14	-74.98385094	32	-122.8935093	50	-92.72993303
15	-16.6007053	33	-106.9545606	51	-33.8475884
16	-25.97988707	34	-89.59604409	52	-32.97490058
17	-915.308222	35	-17.17070709	53	-112.7257996
18	-589.035528	36	-70.78964056		
Average			-120.94		
Maximum			-1,245.33		
Minimum			-2.044		

The table above describes the default probability of Islamic bond. All of the data show in negative. It means that there are very impossible if the Islamic bond face default problem based on this term that use the Merton model. The average default probability is -120,94. This indicates the probability of default in Islamic bond are more than 120% impossible. The question is, why Islamic bond is very impossible to default? The answer is, we all know that to issue Islamic bond the firm must meet several qualifications; shariah qualification and financial performance qualification. In the shariah qualification, the firm that wants to issue Islamic bond will be filtered by the shariah council, in Indonesia is DSN and Bapepam. The process in the DSN not only examines with shariah rules but also financial performance, e.g. DER ratio, Interest to total return. All of this process are tended to reduce and to eliminate as much as possible the default problem.

4.3 Examine the Effectiveness of Rating to Measure Default Risk in Islamic Bond

This regression model tests conducted to ensure that the research model has been formulated which can be applied in this study. This regression model tests carried out by using the F test and the test T, in which significant results of the test F and T tests should be below the level of significance α was set at 5%. Test results of regression models can be seen in Anova table below:

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1057855	1	1057854.724	27.287	.000 ^a
	Residual	1938397	50	38767.949		
	Total	2996252	51			

a. Predictors: (Constant), Rating

b. Dependent Variable: DLI

ANOVA test or F test, F count obtained for the probability level of 27.287 with the level of significant 0.000 (significant). Because the probability is less than 0.05, the regression model can be used to predict the default risk or it can be said that the rating of Islamic bond has relationship with the default probability. Results of linear regression analysis in the table shows that the independent variables namely rating has a significant effect on default risk of Islamic bonds This is shown by the results of F at 4.759 wit the significan level 0.000 or F is significance beacuse the level is below 5 %.

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero -order	Partial	Part	Tolerance	VIF
1 (Constant)	130.203	55.293		2.355	.023	19.144	241.261					
Rating	-75.059	14.369	-.594	-5.224	.000	-103.919	-46.198	-.594	-.594	-.594	1.000	1.000

a. Dependent Variable: DLI

From the results of statistical tests above, we can create a model that is:

$$Y = 130,2 - 75,05X$$

Where, X is rating of Islamic Bond. It mean that if the rating of Islamic bond increase from the first level (eg. BBB- to BBB), or 1% the probability to default will decrease around 75%. This research find also that the rating of Islamic bond can predict the PD (probability of Default) around 0,595%. It mean that the default

of islamic bond is explained by another variables. R Square in the table below indicates that rating of Islamic bond has strong relationship with the probability of default. If the rating of Islamic bond increase the PD will decrease.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.594 ^a	.353	.340	196.89578	.353	27.287	1	50	.000	1.075

a. Predictors: (Constant), Rating

b. Dependent Variable: DLI

This statistical analysis shows for us that the rating system has important meaning for the investor, especially to predict the default risk of Islamic Bond. This is based on the quantitative study that use the Merton Model. Moreover, the rating method that used by rating agencies in the world are can be improved from year to year. This activity will give good impact to reduce the default problem in Islamic Bond.

5. CONCLUSIONS

Islamic bonds are Islamic financial instruments are very interesting to be discussed lately. In addition to providing many economic benefits as a source of funding for countries and companies, Islamic bonds are also facing serious problems especially related to the problem of default risk. One cause of this default theme is the case of intersting aged failure occurs in Islamic bonds from Dubai world. This defaulted cases mamapu absorbing all the world's financial watchdog for sharia instruments related to that in fact is still in development. Rating that had been assessed accurately predict untyuk defaulted on Islamic bonds has yet to answer the question atmospheres defaulted happened.

This study measures the ability rating of Islamic bonds in predicting probability of default. We use the Merton model to measure the probabily of default. By this rsearch, we concluded a few things; first, the probability of default of the islamic bonds are very low, even very impossible. The average default probability is -120,94. This is indicate the probability of default in Islamic bond are more than 120% imposible. We all know that to issue Islamic bond the firm must be meet several qualification; syariah qualification and financial performance qualification. In the syariah qualification, the firm that want to issue Islamic bond will be filtered by syariah council, in Indonesia is DSN and Bapepam. The process in the DSN not only examine with syariah rule but also financial performace, eg. DER ratio, Interest to total return. All of this process are tended to reduce and to eliminate as musc as possible the default problem.

The rating system thatb used in Islamic bond are effectives to predict the default risk in Islamic bond with the effectiveness around 59,4%. if the rating of Islamic bond increase from the first level (eg. BBB- to BBB),or 1% the probability to default will decrease around 75%. This research find also that the rating of Islamic bond can predict the PD (probability of Default) around 0,594. It mean that the default of islamic bond is explained by another variables. R Square in the table below indicates that rating of Islamic bond has strong relationship with the probability of default. If the rating of Islamic bond increase the PD will decrease.

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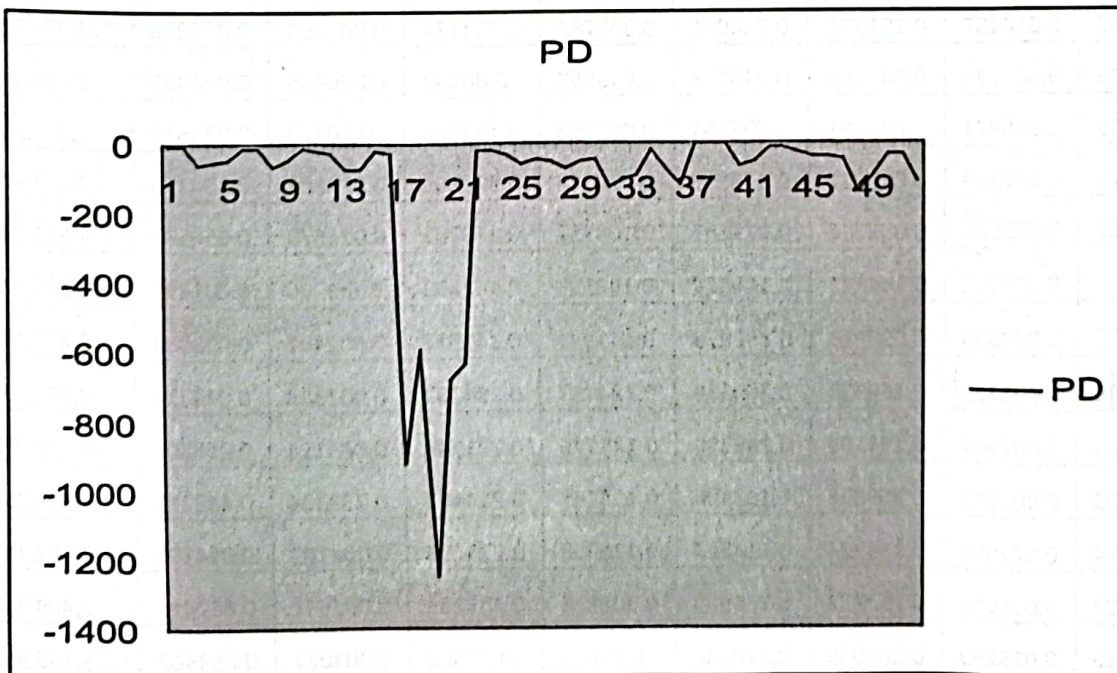
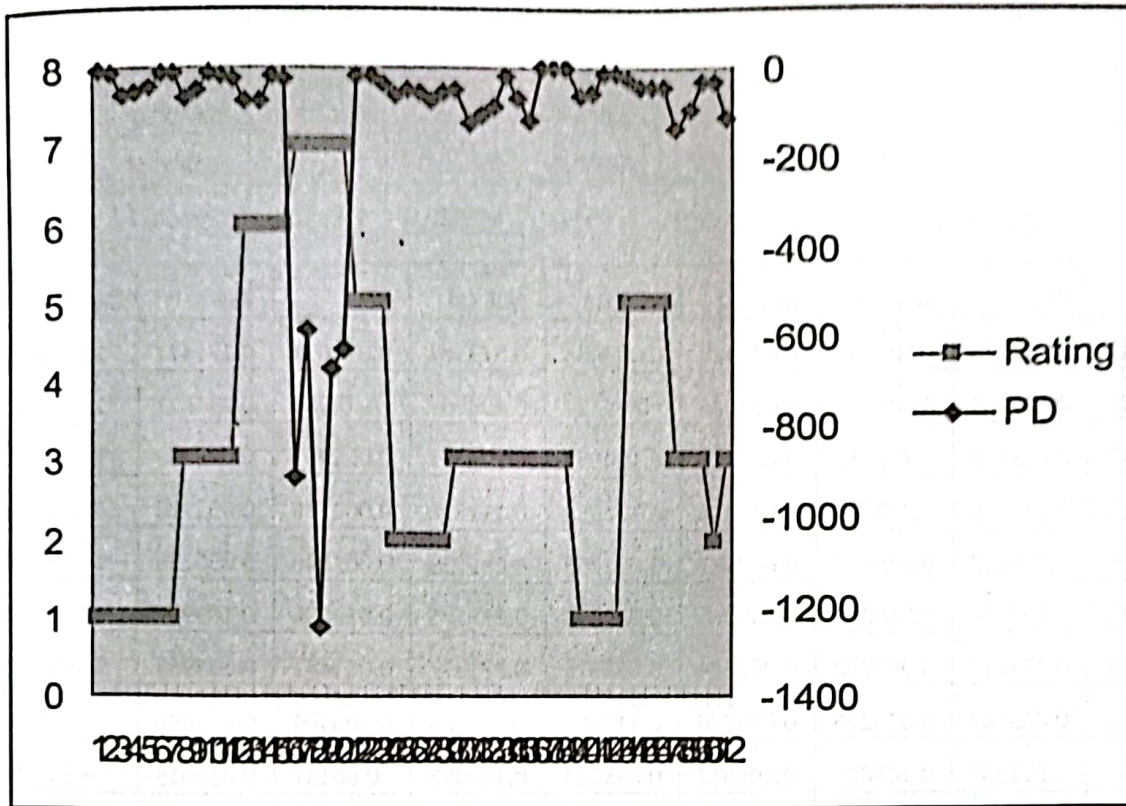
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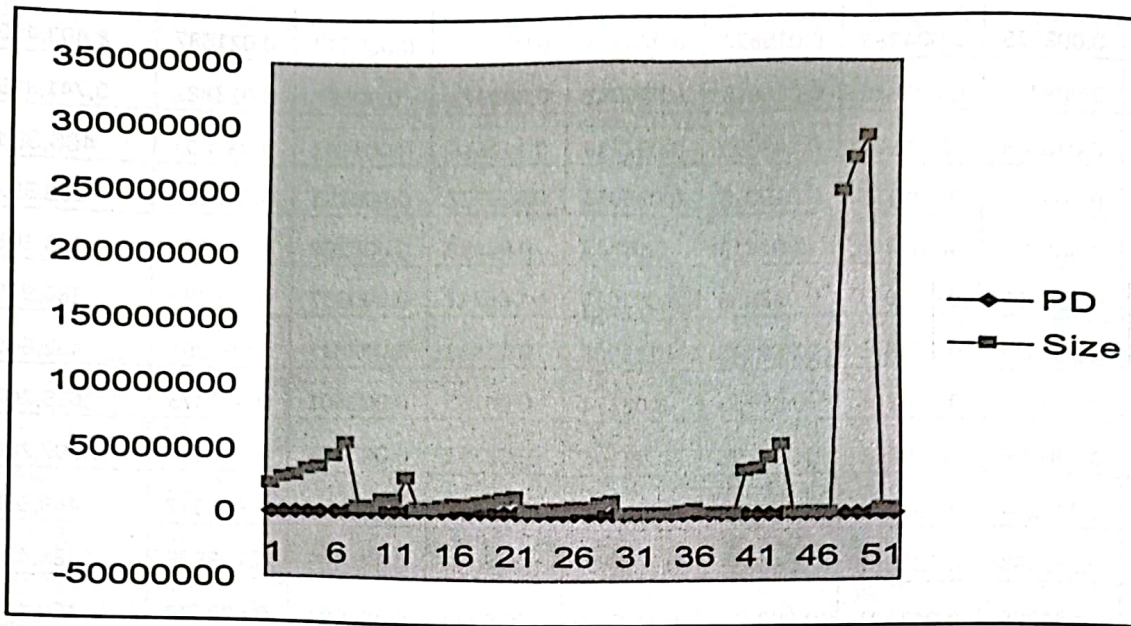
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APPENDICES



σA	$V\sigma A$	ROE Q1	ROE Q2	ROE Q3	ROE Q4	σE	$V\sigma E$	Size
0.017116	0.130828	0.00507	0.037922	0.053433	0.573587	0.073697	0.271472	22,002,465
0.011927	0.109209	0.005044	0.037046	0.05127	0.498567	0.055	0.234521	26,153,024
0.000341	0.018465	0.0431	0.058327	0.104951	0.123872	0.001451	0.038089	27,872,467
0.000388	0.019708	0.020935	0.05936	0.122558	0.131826	0.002786	0.052782	32,787,133
0.000258	0.01607	0.025972	0.038577	0.092759	0.092759	0.001246	0.035298	34,228,658
0.001717	0.04144	0.030847	0.055084	0.090632	0.273175	0.012086	0.109937	43,305,086
0.001276	0.035717	0.035772	0.063674	0.086675	0.271877	0.011441	0.106963	51,693,323
6.63E-05	0.008142	0.095276	0.095276	0.111358	0.13786	0.000404	0.020096	3,010,417
0.000143	0.011967	0.106612	0.106612	0.055723	0.146028	0.00137	0.037015	4,361,847
0.00098	0.031297	0.089418	0.173659	0.258469	0.377907	0.015173	0.123179	7,904,586
0.00098	0.031311	0.057077	0.124864	0.172826	0.242396	0.006108	0.078151	8,205,956
0.0002	0.014157	0.251371	0.234041	0.348783	0.264174	0.002599	0.050978	24,976,324
3.94E-05	0.006279	0.045558	0.045558	0.045558	0.00482	0.000415	0.020369	1,666,420
4.86E-05	0.006971	0.05291	0.05291	0.083252	0.123865	0.00113	0.033615	2,706,518
0.000976	0.031239	0.019317	0.173595	0.074768	0.370158	0.023802	0.154279	3,747,578
0.000532	0.023066	0.052217	0.271555	0.104337	0.378702	0.022678	0.150592	4,543,331
4.92E-06	0.002218	0.144822	0.144822	0.142593	0.142593	1.66E-06	0.001287	5,209,803
1.48E-05	0.003849	0.099919	0.192879	0.141937	0.141937	0.001447	0.038038	7,427,046
2.99E-06	0.001729	0.269335	0.269335	0.184787	0.184787	0.002383	0.048814	8,370,595
8.98E-06	0.002997	0.141104	0.269335	0.171745	0.171745	0.003114	0.055804	10,569,078
1.38E-05	0.003709	0.169827	1.158448	0.158865	0.214463	0.239404	0.489289	12,596,715
0.000784	0.027992	0.114224	0.114224	0.225258	0.225258	0.004109	0.064105	2,022,747
0.001002	0.031652	0.253283	0.104989	0.308818	0.253283	0.007641	0.087415	2,409,310
0.000266	0.016299	0.102045	0.170946	0.21828	0.21828	0.003021	0.054962	3,156,958
0.000142	0.011919	0.013906	0.013906	0.061443	0.061443	0.000753	0.027445	4,086,018
0.000202	0.014206	0.002615	0.013128	0.071248	0.060635	0.001161	0.034077	4,578,376
9.93E-05	0.009966	0.00274	0.021526	0.038689	0.074112	0.000921	0.030351	6,048,441

6.85E-05	0.008275	0.004789	0.015872	0.028528	0.055526	0.000477	0.021837	8,403,470
7.64E-05	0.008742	0.005645	0.018615	0.055051	0.003378	0.00057	0.023882	9,741,369
0.00012	0.010944	0.03562	0.062099	0.092249	0.112616	0.001143	0.033803	406,984
1.92E-05	0.004379	0.005135	0.019028	0.035053	0.023722	0.000153	0.012385	398,392
2.67E-05	0.005166	-0.01413	-0.01413	-0.00325	-0.03699	0.000202	0.014204	408,108
4.84E-05	0.006957	0.071047	0.038858	0.082015	0.066312	0.000337	0.018352	386,975
0.001421	0.037694	0.275903	0.058545	0.111908	0.11453	0.008847	0.094061	432,641
9.45E-05	0.009722	0.016803	-0.02755	-0.02314	-0.03155	0.000501	0.022373	2,619,202
4.37E-05	0.006609	-0.00401	0.001395	2.26E-06	-0.02753	0.000183	0.013524	3,207,286
0.110326	0.332154	0.030212	0.079658	0.123742	1.461596	0.480134	0.692917	449,360
0.113794	0.337333	0.004087	0.069813	0.102988	1.463635	0.494966	0.703538	489,481
0.117553	0.34286	0.041721	0.089518	0.143254	1.335979	0.388904	0.623622	469,461
0.000267	0.016353	0.020935	0.05936	0.063849	0.131826	0.002126	0.046104	32,787,133
0.000178	0.01334	0.025972	0.038577	0.036098	0.092759	0.000906	0.030103	34,228,658
0.001717	0.04144	0.030847	0.055084	0.090632	0.273175	0.012086	0.109937	43,305,086
0.001276	0.035717	0.035772	0.063674	0.086675	0.271877	0.011441	0.106963	51,693,323
0.001452	0.038111	0.062631	0.096892	0.000143	0.147574	0.00383	0.061886	417,333
0.000508	0.022548	0.022399	0.070463	0.062213	0.130879	0.002008	0.044811	516,488
0.000525	0.022917	0.020615	0.073166	0.064596	0.124138	0.001802	0.042455	574,677
0.000295	0.017187	0.025717	0.037817	0.037817	-0.02921	0.001025	0.032011	645,756
4.69E-05	0.006851	0.007453	-0.0164	-0.0164	-0.01378	0.000134	0.011556	247,917,818
7.36E-05	0.008581	-0.00612	-0.00677	-0.00677	-0.04138	0.000303	0.017418	273,479,935
0.000402	0.020057	-0.00757	-0.00757	2.48E-05	-0.09688	0.002122	0.046062	290,718,943
0.000424	0.020586	0.037089	0.077543	0.056669	0.157601	0.002798	0.052895	2,922,996
3.58E-05	0.005981	0.023757	0.047893	0.053654	0.059964	0.000251	0.015827	3,629,969



B	r	LN(VA/B)	1/2x σA	r + 1/2x σA	d1	VE	VAx d1xσA
8,079,169	10.5	1.001865	0.008558	10.50856	87.98157	10,603,402	253257688
10,445,604	10.5	0.917784	0.005963	10.50596	104.6047	12,198,910	298765526
10,030,615	10.5	1.021997	0.00017	10.50017	623.9926	13,184,592	321151245
12,864,736	10.5	0.935546	0.000194	10.50019	580.2623	12,315,328	374945142
18,826,292	10.5	0.597809	0.000129	10.50013	690.6206	15,201,745	379867523
28,462,986	10.5	0.419666	0.000859	10.50086	263.5278	16,544,730	472914240
33,994,764	10.5	0.419122	0.000638	10.50064	305.7332	17,409,621	564478678
1,928,526	10.5	0.445323	3.31E-05	10.50003	1344.268	1,081,891	32950085.1
2,696,386	10.5	0.480983	7.16E-05	10.50007	917.6457	1,665,460	47897681.1
5,900,201	10.5	0.292457	0.00049	10.50049	344.855	2,008,385	85313773.3
5,074,796	10.5	0.480574	0.00049	10.50049	350.7148	3,131,160	90110128.7
19,078,836	10.5	0.269349	0.0001	10.5001	760.7386	5,897,488	268981245
1,161,247	10.5	0.361183	1.97E-05	10.50002	1729.893	505,173	18099325.7
1,782,364	10.5	0.417722	2.43E-05	10.50002	1566.226	681,692	29549077.9
2,476,715	10.5	0.414177	0.000488	10.50049	349.3967	898,757	40903556.9
2,770,579	10.5	0.494604	0.000266	10.50027	476.6656	1,157,546	49953334.4
760,048	10.5	1.924916	2.46E-06	10.5	5602.52	339,113	64731376.1
854,806	10.5	2.162009	7.41E-06	10.50001	3289.976	763,415	94041377.8
1,079,562	10.5	2.04817	1.49E-06	10.5	7257.508	786,440	105035658
1,537,869	10.5	1.927535	4.49E-06	10.5	4146.867	846,163	131347633
1,336,334	10.5	2.243506	6.88E-06	10.50001	3435.529	966,179	160526400

1,233,621	10.5	0.494503	0.000392	10.50039	392.7816	789,126	22239889.9
1,412,028	10.5	0.534313	0.000501	10.5005	348.6312	997,282	26586288.6
1,961,985	10.5	0.475652	0.000133	10.50013	673.4168	1,194,973	34650092.3
2,206,787	10.5	0.616033	7.1E-05	10.50007	932.6589	1,879,231	45420602.3
2,511,274	10.5	0.600554	0.000101	10.5001	781.4105	2,067,102	50822972.7
3,882,851	10.5	0.443231	4.97E-05	10.50005	1098.049	2,165,590	66189786.7
5,158,303	10.5	0.488037	3.42E-05	10.50003	1327.899	3,245,167	92337927.5
6,633,768	10.5	0.384209	3.82E-05	10.50004	1245.056	3,107,601	106027465
264,580	10.5	0.43063	5.99E-05	10.50006	998.7559	142,404	4448615.98
258,351	10.5	0.433117	9.59E-06	10.50001	2496.925	140,041	4355670.29
260,868	10.5	0.447517	1.33E-05	10.50001	2119.249	147,240	4467774.84
230,443	10.5	0.518357	2.42E-05	10.50002	1583.763	156,532	4263837.89
251,344	10.5	0.543086	0.00071	10.50071	292.9818	181,297	4777999.03
1,461,675	10.5	0.583287	4.73E-05	10.50005	1140.003	1,157,527	29029490.4
1,640,686	10.5	0.670311	2.18E-05	10.50002	1690.207	1,566,599	35826451
233,547	10.5	0.654441	0.055163	10.55516	33.7482	215,812	5037147.74
255,118	10.5	0.651619	0.056897	10.5569	33.22685	234,363	5486355.76
212,704	10.5	0.791684	0.058776	10.55878	33.10523	256,757	5328598.39
12,864,736	10.5	0.935546	0.000134	10.50013	699.2804	12,315,328	374943159
18,826,292	10.5	0.597809	8.9E-05	10.50009	831.9012	15,201,745	379866149
28,462,986	10.5	0.419666	0.000859	10.50086	263.5278	16,544,730	472914240
33,994,764	10.5	0.419122	0.000638	10.50064	305.7332	17,409,621	564478678
163,495	10.5	0.937102	0.000726	10.50073	300.1209	253,838	4773383.19
224,424	10.5	0.833515	0.000254	10.50025	502.654	292,064	5853755.75
241,217	10.5	0.868111	0.000263	10.50026	496.0659	333,460	6533142.95
324,880	10.5	0.686966	0.000148	10.50015	650.9084	320,876	7224145.69
108,079,872	10.5	0.830227	2.35E-05	10.50002	1653.776	139,837,946	2808970925
137,067,195	10.5	0.690757	3.68E-05	10.50004	1304.14	136,412,740	3060457559
163,732,376	10.5	0.574124	0.000201	10.5002	552.1385	126,986,567	3219516021
1,646,332	10.5	0.574059	0.000212	10.50021	537.964	1,245,109	32370050.5
2,054,374	10.5	0.569253	1.79E-05	10.50002	1850.689	1,569,969	40181109.9

Abdul Qoyum, Misnen Ardiyansyah: The Effectiveness of Rating System to Measure Default Risk in Islamic Bond

Probabilitie Defaults				
VExVoE	N	LN(VA/D)	r	r-1/2x cA
2878531	0.011366	1.001865472	0.105	0.095442
2860905.4	0.009576	0.917783604	0.105	0.099037
502193.57	0.001564	1.02199744	0.105	0.10423
650031.99	0.001734	0.935546227	0.105	0.104206
536585.78	0.001413	0.597808843	0.105	0.104371
1818875.4	0.003846	0.419665581	0.105	0.104141
1862184.3	0.003299	0.419122111	0.105	0.104362
21741.787	0.00066	0.445322627	0.105	0.104567
61647.789	0.001287	0.480983234	0.105	0.104523
247390.31	0.0029	0.292456679	0.105	0.10451
244702.26	0.002716	0.480573905	0.105	0.10451
300644.79	0.001118	0.269348678	0.105	0.1049
10229.912	0.000569	0.361183185	0.105	0.10493
22915.356	0.000776	0.417722365	0.105	0.104976
138659.54	0.00339	0.414176679	0.105	0.104512
174317.59	0.00349	0.49460412	0.105	0.104734
436.4632	6.74E-06	1.924915733	0.105	0.104998
29032.934	0.000309	2.162008939	0.105	0.104993
32329.194	0.000365	2.048169566	0.105	0.104999
47219.03	0.000359	1.927534876	0.105	0.104996
472740.92	0.002945	2.243506022	0.105	0.104993
50527.167	0.002275	0.494502742	0.105	0.104608
27177.424	0.003279	0.534313431	0.105	0.104499
65678.06	0.001295	0.47565219	0.105	0.104857
51576.397	0.001136	0.61603329	0.105	0.104929
70440.137	0.001326	0.600554156	0.105	0.104899
65726.927	0.000993	0.443230875	0.105	0.10495
70263.129	0.000767	0.482037066	0.105	0.104966
74215.269	0.0007	0.384202694	0.105	0.104962
4213.7443	0.001022	0.43063021	0.105	0.10494
1734.4529	0.000398	0.43311732	0.105	0.10499

2091.3753	0.000468	0.447517313	0.105	0.104987
2872.7208	0.000674	0.518356548	0.105	0.104976
17052.932	0.003569	0.543085766	0.105	0.10429
25897.543	0.000892	0.583286653	0.105	0.104953
21186.593	0.000591	0.67031065	0.105	0.104978
149539.78	0.029687	0.654441007	0.105	0.049837
164883.25	0.030053	0.651619463	0.105	0.048103
160119.19	0.030049	0.7916837	0.105	0.046224
567789.63	0.001514	0.935546227	0.105	0.104866
457614.34	0.001205	0.597808843	0.105	0.104911
1818875.4	0.003846	0.419665581	0.105	0.104141
1862184.3	0.003299	0.419122111	0.105	0.104362
15709.135	0.003291	0.937102055	0.105	0.104274
13087.662	0.002236	0.833514935	0.105	0.104746
14157.204	0.002167	0.868111201	0.105	0.104737
10271.583	0.001422	0.68696584	0.105	0.104852
1616010.6	0.000575	0.830226803	0.105	0.104977
2376014.4	0.000776	0.690756975	0.105	0.104963
5849316.4	0.001817	0.574123728	0.105	0.104799
65860.624	0.002035	0.574059335	0.105	0.104788
24848.229	0.000618	0.56925293	0.105	0.104982

DD

LN(VA/D)+r-1/2x σA		PD
1.098307533	8.395071	-8.38371
1.01682033	9.310796	-9.30122
1.126826957	61.02425	-61.0227
1.040352027	52.78863	-52.7869
0.702679728	43.7275	-43.7261
0.523806955	12.64021	-12.6364
0.523484272	14.65659	-14.6533
0.550289479	67.58451	-67.5839
0.585911634	48.96245	-48.9612
0.396966926	12.68384	-12.6809
0.58508373	18.68649	-18.6838

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0.374248474	26.43638	-26.4353
0.466163475	74.24713	-74.2466
0.522698069	74.98463	-74.9839
0.518688754	16.6041	-16.6007
0.599338095	25.98338	-25.9799
2.029913274	915.3082	-915.308
2.267001533	589.0358	-589.036
2.153168071	1245.332	-1245.33
2.032530386	678.2223	-678.222
2.348499142	633.1329	-633.13
0.599110955	21.40264	-21.4004
0.638812512	20.18249	-20.1792
0.580519367	35.61763	-35.6157
0.720962262	60.48988	-60.4887
0.705453252	49.65911	-49.6577
0.548181214	55.00451	-55.0035
0.59300283	71.66386	-71.6631
0.489170483	55.95653	-55.9558
0.535570321	48.93598	-48.9349
0.538107734	122.8939	-122.894
0.55250397	106.955	-106.955
0.623332348	89.59672	-89.596
0.647375329	17.17428	-17.1707
0.688239392	70.79053	-70.7896
0.775288811	117.3106	-117.31
0.704277819	2.120334	-2.09065
0.699722637	2.074278	-2.04422
0.837907203	2.443875	-2.41383
1.040412509	63.62018	-63.6187
0.70271986	52.67606	-52.6749
0.523806955	12.64021	-12.6364
0.523484272	14.65659	-14.6533
1.041375841	27.325	-27.3217
0.938260732	41.61197	-41.6097

0.972848605	42.45084	-42.4487
0.791818145	46.07096	-46.0695
0.935203334	136.5033	-136.503
0.795720159	92.73071	-92.7299
0.678922583	33.84941	-33.8476
0.678847453	32.97694	-32.9749
0.674235042	112.7264	-112.726

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ABSTRACT

The rapid development in Islamic banking and finance has become the culture for many financial institutions in order to cope and compete with the business development reached by the conventional system. As a result of these innovations in the introduction of Islamic banking – which has distinct offer than conventional counterparts though maintaining the nature of Shariah compliance, financial institutions are meant to be used as holding vehicles for Islamic investments and investor against risks exposure in Islamic finance and provide the activity of investment activities with the conventional banking. In fact for the purpose of holding, however, the Islamic financial crisis in the United States, which has been triggered by the market of speculation in the derivatives market, has revealed the repetitive picture of the current financial system. Even though the Islamic banking and finance is not really hit, nevertheless the crisis somehow gives an indication of what may become the future of Islamic Banking and Finance if it kept overlooking the same path of the conventional system with its weaknesses and problems. The use of derivatives has been widely debated among Islamic finance and scholars, both based on the theoretical and empirical consequences that they are bringing. Therefore, this paper aims at revisiting the past and present discussion on the use of derivatives as well as evaluating the current practice of derivatives in Islamic capital market. The paper will also analyze the impact of utilizing these products and the way forward into achieving a more Islamic and Shariah compliant investment of holding and trading activities. *Keywords:* Islamic Banking, holding speculation, risk management, Islamic finance.

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