ISLAMIC LEGAL METHODOLOGIES AND SHARIAH SCREENING STANDARDS: APPLICATION IN THE INDONESIAN STOCK MARKET

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Abstract

This paper provides a framework for applying the principles of Islamic legal methodology to determine the optimal *Shariah* screening standards for Islamic equity markets. It is argued that using *maslahah mursalah* (unrestricted benefit) is an appropriate method for identifying appropriate financial standards and its principles stipulate that the benchmark that yields the best economic returns to investors should be chosen. The methodological framework is applied to the Indonesia equity market where the economic implications of the Islamic stock screening standards of the Indonesian Islamic Shariah Stock Index and four global indices are assessed. Portfolios are constructed by applying Islamic stock screening standards for each of the indices by using data on 377 stocks listed in the Indonesian stock market for five years. The performances measured by the Sharpe ratio, Treynor index and Jensen alpha reveal that the Dow Jones Islamic index screening criteria performs the best. Based on the method of *maslahah mursalah,* the paper recommends using the screening standard of this index in the Indonesian stock market to maximize benefits to investors. While the approach used in this paper is applied to Islamic equity markets, the methodological framework can also be used for other similar cases in Islamic finance.

*Keywords: Maslahah mursalah (*unrestricted benefit); *Indonesian stock market; Islamic equity market; Islamic stock screening standard; portfolio performance;*

Introduction

Since its inception in the 1970s, the Islamic financial industry has grown rapidly to become a significant sector in many jurisdictions. A key feature of Islamic finance is the use of Islamic law (*Shariah*) in financial transactions. *Shariah* compliance of Islamic financial operations is ensured by introducing a *Shariah* governance framework that includes a *Shariah* board constituting a group of Islamic jurists who review and approve different products and transactions. Capital markets are considered an integral part of a modern financial system as they provide opportunities for investors to invest in productive ventures which contribute to economic growth (Enisan & Olufisayo 2009; Kassim 2016; Hearn et al. 2011; Narayan & Narayan 2013). The Islamic capital market, as a part of the larger Islamic financial industry, is one of the innovations engineered by the Muslim scholars to facilitate a harmonious connection between the modern capitalistic world and Islamic traditions (Tripp 2006). Though smaller in size compared to the Islamic banking sector, the Islamic capital market is growing in many jurisdictions and the number of Islamic investors globally is increasing (Derigs & Marzban 2008; Akhtyamova et al. 2015). Pragmatically, the Islamic capital market aims to draw on the trust and attention of potential Muslim investors to increase their involvement so that their economic advantages can be optimised.

Islam is seen as a comprehensive way of life by its followers, providing rules and guiding principles for different aspects of Muslim life related to both spiritual and religious aspects and activities governing worldly affairs including commercial transactions (Marzban & Asutay 2012). Since many Muslim investors have objectives and preferences for investing in *Shariah* compliant assets, conformity and consistency with the *Shariah* principles becomes fundamentally important. This would require eliminating the elements that are considered unlawful in light of the *Shariah* from the asset universe when considering Islamic portfolio optimisation. For instance, since the prohibition of *riba* (generally interpreted as interest) is a key tenet of the teachings of the *Shariah*, interest-based instruments such as conventional bonds are considered *Shariah* non-compliant and cannot be included in the Islamic investment portfolio. In contrast, since the profit-loss sharing is one of the core features of Islamic finance, the equity-based investments are encouraged.

While a few countries have established national level *Shariah* supervisory bodies to ensure Shariah compliance in the Islamic financial sector, in most countries *Shariah* approvals are done at the firm level by a *Shariah* Supervisory Board (SSB) who provide the *Shariah* standards that are implemented by the organization. The rulings (*fatawa*, sing. *fatwa*) of SSBs

give confidence to Muslims to engage in investment activities without contradicting their faith. However, since *Shariah* texts do not provide some of the specific rules governing stocks, diverse opinions and guidelines exist across markets and countries on how an instrument can be identified as *Shariah*-compliant (BinMahfouz & Ahmed 2014, Ashraf 2016, Derigs & Marzban 2008, Ho 2015, Khatkhatay & Nisar 2007). This divergence arises from the variations in the understanding and interpretations of the *Shariah* by different *Shariah* scholars engaged in Islamic financial institutions and markets.

Since *Shariah* rulings by SSBs determine which stocks can be included in a *Shariah* compliant investable universe, they affect the size, composition and risk-return features of Islamic portfolios. While there is a plethora of literature studying the performance of Islamic stocks and indices compared to their conventional counterparts,[1] only a handful of research has examined the economic implications of diverse Shariah rulings. Derigs and Marzban (2008) apply nine Shariah screening standards on stocks and find that they produce significantly different constituents. Rahman et al. (2010) finds that the screening standard of the Kuala Lumpur Stock Exchange Islamic Index is less stringent than the Dow Jones Islamic Market index criteria which leads to the inclusion of more leveraged firms in the former and a significantly smaller number of companies in the latter. Derigs and Marzban (2009) assert that employing screening standards that employ market capitalization-based ratios outperform those that use asset-based ratios. Ashraf and Khawaja (2016) apply five Shariah screening standards on five S&P indices and find dissimilar compositions of stocks and return performances in them.

The diversity of *Shariah* opinions has historically existed in Muslim societies. In fact, a diversity of legal opinions is considered a blessing and a positive aspect of Islamic law since it makes the law more flexible and adaptable (Masud 2009). However, the application of diverse rulings in the Islamic financial industry has raised certain concerns. In jurisdictions without a central *Shariah* board and a lack of standardized rulings, the Islamic finance industry has been criticised for practices such as *fatwa*-shopping and *Shariah* arbitrage. In "*fatwa*-shopping" Islamic financial institutions shop for lenient rulings that provide them with the best economic outcomes (Oseni 2017; Oseni et. al. 2016). Meanwhile, "*Shariah* arbitrage" is a stratagem used to meet the demands of contemporary customers by

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[1] Examples of comparative studies between Islamic and conventional capital markets include Ajmi et. al. (2014), Al-Khazali et. al (2014), Asharaf (2013), Ashraf and Mohammad (2014), Dewandaru et. al (2014), Haddad et. al (2009), Hoepner et. al (2011), Hassan and Girard (2010), Hannoudeh et. al (2014), Ho et. al. (2014), Jawadi et. al. (2014), Rizvi et. al (2015), Shahzad et. al (2017) and Yilmaz et. al (2015).

conforming to the form but not the substance of *Shariah* (El-Gamal 2006, El-Gamal 2007, Garner 2013). Although *fatwa*-shopping and *Shariah* arbitrage have been presented negatively in the literature since they dilute *Shariah* principles, cases can arise in which the Islamic financial industry can benefit from choosing a specific opinion from diverse rulings that provides the maximum benefit without violating Islamic legal principles. However, the methodological framework of choosing from different alternatives that can be seen in a positive way has not been discussed in Islamic finance literature.

Given the above, the aim of this research is to first present the relevant principles of Islamic legal methodology and discuss the conditions under which choosing an option from diverse *Shariah* rulings could be considered a valid and preferable option. This is done by presenting the basic framework of Islamic legal methodology and arguing that in cases with no direct reference in the *Shariah* texts, choosing a ruling based on economic consequences would be a preferable option. Specifically, the paper argues that *Shariah* boards should opt for a screening standard that provides the most benefit to investors by using the method of *maslahah mursalah* (unrestricted benefit). This methodological framework is applied to the Indonesian stock market by examining the economic implications of five *Shariah* screening indices to identify the one that provides the best outcome for investors.

Investments in the Indonesian Shariah compliant equity market has witnessed significant growth with a tenfold times increase in the number of *Shariah* Online Trading System (SOTS) accounts in the five years preceding 2016 (IDX, 2016). Furthermore, Indonesia is one of the few countries that has an independent, national-level *Shariah* board DSN-MUI (*Dewan Syariah Nasional, Majelis Ulama Indonesia*) that holds the authoritative role of issuing edicts which form the basis of law for the Islamic finance industry, which includes the Islamic capital markets (Rethel & Abdalloh 2015). To assess the economic consequences of different *Shariah* screenings, the research analyses the local Indonesia *Shariah* Stock Index (ISSI) and four global indices: Dow Jones Islamic Market Index (DJIM), Financial Times Stock Exchange *Shariah* Index (FTSE), Standard & Poor's *Shariah* Index (S&P) and Morgan Stanley Capital International Islamic Index (MSCI). After constructing distinct portfolios by applying the Islamic stock screening standards of these indices, the economic features of sectoral compositions, pass-rates, discrepancies and the risk-adjusted performances are investigated.

This paper contributes to the literature in a significant way. To the best of our knowledge, this research is the first to discuss the application of Islamic legal methodology to provide an

evidence-based framework for choosing among diverse rulings for the Islamic equity market. While the scant amount of literature examining the impact of different *Shariah* rulings on Islamic stock markets focuses on the economic implications, we provide a methodological basis to choose an option from the different Islamic stock screening standards. As indicated, this is done by constructing different *Shariah*-compliant portfolios resulting from various Islamic screening standards by evaluating the financial and non-financial information of stocks listed in the Indonesia equity market. The empirical results on the performance of different portfolios are used to recommend the effective ruling that can be used by the central *Shariah* board in Indonesia to produce the highest risk-adjusted returns for investors. Although the Islamic legal methodological framework of choosing from different rulings presented in this paper is applied to the Islamic equity market, it can also be used as a tool for rule-making in other similar cases in Islamic finance.

2. Islamic Legal Methodology and *Shariah* Framework for Islamic Equity Markets

2.1. Islamic Law and Legal Methodology

The sources of Islamic knowledge can be broadly classified into revealed and derived. Revealed knowledge, which is the primary source of Islamic rules and principles, consists of the *Quran* and the *hadith,* the latter of which are the sayings of the Prophet Muhammad (PBUH) (Alwani 1990). The second source of law is derived by Muslim jurists using the Islamic legal methodology (*usul al fiqh*) to formulate rules based on revealed sources. After the *Quran* and *hadith*, the consensus (*ijma*) of the scholars of the Muslim community on a particular matter and deductive analogy (*qiyas*) are considered as established methods of deriving Islamic law. *Qiyas* presumes that the new case on which a ruling is to be made has a similar effective cause (*illah*) in the texts of the *Quran* and *hadith*. New rulings are deduced by first identifying the case under consideration in the primary sources and then extending the ruling to the new case (Hallaq 1997, Kamali 1988, Kharoufa 2004, Weiss 1978).

There are several other legal methods that are also recognized for making new rulings.[2] A relevant method that is used for new and emergent cases that have no direct references in the primary texts is *maslahah mursalah* (Ibn Ashur 2006, Kamali 1988). The basis for using this methodological tool lies in the fundamental maxim governing the overall aim of Islamic law which is to promote the welfare or benefit (*maslahah*) of mankind and prevent harm

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[2] These methods include *istihsan* (juristic preference), *maslahah mursalah* (unrestricted interest or benefit), *sadd al dhara'i* (blocking the means), *urf* (custom), and *istishab* (presumption of continuity). For a discussion on Islamic legal methodologies see Hallaq (1997), Kharoufa (2004) and Laldin (2006).

(*mafsadah*) (Dien 2004, Heinrichs 2002, Kamali 2008). The *Shariah* has given consideration to *maslahah* as a source of law to accommodate natural developments and social changes and needs. Since *maslahah mursalah* is used as a methodological tool to derive rules in cases with no clear indications in the revealed sources, scholars have identified various conditions for employing this method in rulemaking to prevent its arbitrary use. Some of the conditions that must be satisfied to use the method require the benefits to be definite, occur regularly, be prevalent, and be evident to rational and wise people (Ibn Ashur 2006).

While the benefit considered in *maslahah mursalah* to make decisions can be related to worldly life, other interests such as serving the development of the human soul and enhancing the significance of religion are also recognized (Laldin 2006). Quoting al-Shatibi, Al-Raysuni (2005, p. 224) explains that the worldly interests include "whatever supports human life and well-being and ensures that people obtain whatever they need in the physical and non-physical dimensions, thereby enabling them to experience blessings on all levels." Thus, earning optimal returns from *Shariah* compliant investments that can sustain families could be considered as a valid *maslahah* to pursue.

A common feature of using both *qiyas* and *maslahah mursalah* is that they require human reasoning to derive rulings. Since there can be variations in the interpretations amongst Islamic jurists, the rulings can be dissimilar, particularly in cases related to commercial matters (Khan 2005). The divergence in the rulings can arise due to the differences in the application of basic methodologies and in the understanding of the texts of the *Quran* and *hadith* by the jurists (ISRA 2012). The diversity of *Shariah* rulings in using *qiyas,* however, are likely to be relatively less than *maslahah mursalah* as in the former there is a Shariah benchmark to which the scholars can refer. The likelihood of coming up with diverse rulings is higher in *maslahah mursalah* due to the subjective understanding and perceptions of *maslahah* (benefit) by different scholars. One way to resolve the issue of the subjective evaluation of benefits is to assess and quantify them empirically. Doing this would provide an objective, evidence-based framework to make judgments that are in line with the spirit of the Islamic legal methodology in general and *maslahah mursalah* in particular.

It should be noted that there is a qualitative difference in rule making based on choosing among different options based on economic goals in *qiyas* and *maslahah mursalah*. As the former method derives rules by linking them to *Shariah* sources, using *fatwa*-shopping and *Shariah* arbitrage have negative connotations as choices are made by diluting the substance and spirit of *Shariah* sources to satisfy certain economic gains. However, in the case of

maslahah mursalah, there are no direct references in the *Shariah* texts and the question of tempering *Shariah* principles does not arise. In fact, a key goal of using *maslahah mursalah* is to choose options that enhance benefit and using an empirical approach to ascertain this would be consistent and encouraged under this method.

2.2. Shariah Framework for Islamic Equity Markets

An area in which divergence of opinions exist in Islamic finance is the criteria set to identify Islamic stocks and indices. The cause of different ideas regarding *Shariah* index screening among Islamic scholars results from the diverse interpretations of *Shariah* sources when applied to the complex nature of current capital markets with intricate investment tools (Derigs & Marzban 2008). To be considered *Shariah* compliant, stocks go through both qualitative and quantitative screenings. Qualitative screening involves examining the business activities of sectors and excluding non-*Shariah* business activities in light of the *Shariah*. This screening focuses on the character of the business activities of the companies. Businesses that are not in-line with *Shariah* principles are excluded. Table 1 shows the divergences in the sector-specific *Shariah* screening under different indices, including ISSI (Indonesia *Shariah* Stock Index). The screening methodology used by various indices reflects the differences of opinions of the Shariah supervisory boards of the respective indices. It is interesting to observe that the qualitative screening criteria of the global indices (DJIM, FTSE, S&P and MSCI) appear to include more impermissible sectors compared to ISSI. Specifically, the global indices exclude sectors such as cinema, hotels, music, trading of gold and silver and weapons and defence that ISSI deems permissible. While only S&P considers Advertising and Media as impermissible, DJIM, FTSE and MSCI judge the Weapons and Defence industry to be incompatible with *Shariah* principles.

Table 1. Business Screening, Prohibited Sectors based on Different Islamic Stock Screening Standards

Business Sector	Screening				
	ISSI	DJIM	FTSE	S&P	MSCI
1 Advertising & Media				√	
2 Alcohol	√	√	√	√	√
3 Cinema		√	√		√
4 Cloning				√	
5 Conventional Finance	√	√	√	√	√
6 Gambling	√	√	√	√	√
7 Hotels		√	√		√
8 Music		√	√		√
9 Pork Related Products	√	√	√	√	√
10 Pornography	√	√	√	√	√
11 Tobacco	√	√	√	√	√
12 Trading of Gold & Silver				√	
13 Weapon and Defence		√	√		√

√ = *explicitly mentioned on the officially published methodology of each screen.*
Source: Prepared by Authors.

Once the qualitative screening has eliminated the prohibited sectors, another set of quantitative financial screenings is carried out on companies that produce permissible products and services. Although interest-based transactions are prohibited, a strict application of the rule would exclude all the stocks for Muslim investors (Deriqs and Marzban 2008). Thus, Shariah scholars have come up with certain financial screening standards that identify tolerable thresholds which expand the investible universe for Muslim investors. The financial screening criteria eliminates companies with unacceptable levels of debt, liquidity, interest-based investments and or non-*Shariah* compliant income (Adam & Bakar 2014, BinMahfouz and Ahmed 2014, Osmani & Abdullah 2009). Since investment is prone to interest (*riba*), the goal of implementing quantitative screening is to separate business income from income related to interest.

Table 2 shows the financial screening criteria used by different indices for *Shariah* compliant stocks. It should be noted that three indices use assets as denominators to estimate the financial ratios (FTSE, MSCI and ISSI) and two indices use market capitalization in their estimations (Dow Jones and S&P). The fatwas in the Indonesian Islamic equity market have been mainly focused on developing standards of *Shariah*-compliant stock screening and trading mechanisms. Distinct Islamic stock screening standards have been applied since the release of the first Indonesia Islamic mutual funds in 1997. Unlike the other global standards, except the non-permissible income ratio, it regards only leverage compliance and disregards cash compliance (i.e. liquidity ratio) in the financial screening process. Moreover, it does not explicitly mention the prohibited industrial groups in its qualitative screening standard. Instead, it provides more general principles on how a particular industry group could be considered non-halal.

Table 2. Financial Screening Criteria based on Different Islamic Stock Screening Standards

	Debt Ratio	Interest Ratio	Liquidity Ratio	Non-Permissible Income Ratio
FTSE	(Total Debt/ Total Assets) < 33%	(Cash + Interest Bearing Securities/ Total Assets) < 33%	(Account Receivable + Cash/ Total Assets) < 50%	(Interest Income + non-Compliant Activities Income) < 5% of Total Revenue
MSCI	(Total Debt/ Total Assets) < 33%	(Cash + Interest Bearing Securities/ Total Assets) < 33%	(Account Receivables + Cash/ Total Assets) < 33%	(Non-Compliant Activities Income) < 5% of Total Revenue
Dow Jones	(Total Debt/ Market Cap. Avg. 24month) < 33%	(Cash + Interest Bearing Securities/ Market Cap. Avg. 24month) < 33%	(Account Receivable/ Market Cap. Avg. 24mont) < 33%	(Non-Compliant Activities Income) < 5% of Total Revenue
S&P	(Total Debt/ Market Cap. Avg. 36month) < 33%	(Cash + Interest Bearing Securities/ Market Cap. Avg. 36month) < 33%	(Account Receivable/ Market Cap. Avg. 36month) < 49%	(Non-Compliant Activities Income (other than interest)) < 5% of Total Revenue
ISSI	(Total Debt/ Total	N/A	N/A	(Interest Income + Non-

| | Assets) < 45% | | Compliant Activities Income)
< 10% of Total Revenue |

In terms of the legal methods discussed above, the *Shariah* scholars have used *qiyas* in qualitative screening by identifying the activities that are prohibited and discouraged in the texts of the *Quran* and *hadith* (Ashraf and Khawaja 2016). While some prohibited activities (such as alcohol, pork, and gambling) appear in these texts explicitly, some other sectors (such as entertainment and weapons) have been deduced from these sources, thereby producing divergent opinions among scholars. The divergence of opinions arise due to varied understandings and interpretations of texts within the framework of *qiyas*. However, the appropriate legal method to apply in quantitative screening to arrive at the financial ratios would be *maslahah mursalah*. Although *riba* (interest) is prohibited in the *Quran* and *hadith*, these texts do not have any explicit expressions on the financial thresholds that can be used in the quantitative screening (Derigs and Marzban 2008).[3] Thus, the threshold levels are derived using the *maslahah mursalah* method which relies on the interpretation of the Shariah scholars.[4] As indicated, the goal of using this method would be to enhance the *maslahah* (benefit) of the stakeholders involved.

3. Data and Methodology

As indicated, this study aims to investigate the differences amongst portfolios resulting from different Islamic stock screening standards in the Indonesian equity market. To do this, we first derive the qualitative data, specifically the information about the sectoral and industrial classification from the Indonesia Stock Exchange Fact Book 2016 which has a total of nine sectors and 78 industry groups in the Indonesian equity market. The sector-specific screening criteria used by the different indices are applied to the industry groupings. Secondly, we obtain the key financial data of each stock that qualifies from DataStream, Bloomberg, and also the annual reports provided by the Indonesia Stock Exchange for validation. The dataset comprises 377 stocks which have consistently been a part of the Indonesian composite index during 2011-2015 (five years). It should be noted that the Indonesian *Shariah* Stock Index was initiated in 2011 and the period considered also covers the bullish and bearish periods

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[3] There are some attempts to link the screening ratios used to some *Shariah* principles, but they appear to have different contexts. A reference is to a hadith giving permission to leave one-third of one's assets for charity as a basis for bench-marking (Khatkhatay and Nisar 2007, Securities Commission 2007: 161-162). However, unlike interest, giving charity is not a forbidden act but is something that is encouraged.

[4] For example, the *Shariah* Advisory Council of the Securities Commission in Malaysia stipulates that *maslahah* is 'a strong argument for permitting mixed companies' (Securities Commission 2007: 159).

which are essential to have an effective risk-adjusted performance evaluation (Samsul 2006; Jawadi et al. 2014). Analyses on risk-return features are carried out on the monthly closing prices of each stock over the period along with the 10-year Indonesian government bond yield as the recommended proxy of the risk-free rates (R_f) and Indonesia Composite Index as the market returns (R_m) (IDX, 2016).

Since the financial screeing criteria of S&P involves a three year moving average of monthly market capitalizations, information from three years could be used instead of five. In order to have consistency in comparing the risk-return implications of using different screening criteria across indices, the same time interval was used to analyse the portfolios under all the indices. Furthermore, in order to be able to measure and compare the real performance of the entire portfolio resulting from a particular Islamic stock screening standard, the assumption of portfolio optimization is ignored. Thus, all stocks which pass the business/qualitative and financial/quantitative screening were included as the constituents of the respective screening standard. This enables each portfolio to behave in the manner of a single Islamic index based on *Shariah* mandates.

To begin with, we analyse the qualitative data from the Indonesia Stock Exchange Fact Book 2016 to identify the sectoral and industrial group of each stock. That information was then utilised to run the business/qualitative screening process in accordance with the screening methodology of each Islamic mandate. Subsequently, after the prohibited industry groups were eliminated from the portfolios, the financial/quantitative screenings were applied in order to further remove the financially unlawful companies from the asset universes (Derigs & Marzban 2008; Marzban & Asutay 2012).

Other than estimating the pass-rates, the traditional risk-adjusted performance measures namely Sharpe ratio (Sharpe 1966), Treynor index (Treynor, 1965), and Jensen alpha (Jensen 1968) are estimated for portfolios with different screening criteria. In an attempt to understand the differences amongst the portfolios resulting from the five Islamic screening standards by using SPSS, we run several non-parametric statistical tests, namely McNemar's test, Cochran's Q test and Kendall's W test. The statistical tests are appropriate for this research since the data used to measure any differences or disagreement were codified into the nominal and ordinal (ranked) data; therefore, there is no need to consider the assumptions about the probability distributions (Santoso 2015; Hollander et al. 2014). Kendall's W test was used to measure the agreement amongst the rank of sectoral pass-rates and the traditional risk-adjusted performance measures such as Sharpe ratio, Treynor index, and Jensen alpha.

4. Empirical Results

4.1. The Implication of Qualitative Business Screenings

Before examining the implications of the overall screening process, this section examines the impact of sector/qualitative screening. To begin with, different stock screening *Shariah* standards used in this research are compared regarding the prohibited sectors. To comply with the Indonesia equity market architecture, the Jakarta Stock Industrial Classification (JASICA) is used in categorising the stocks. Of the 78 industry groups in the Indonesia equity market, 17 industry groups were implicated as prohibited by some or different Islamic screening standards.

Table 3. Prohibited Industry Groups

	Industry Group	Number of Constituent	Screening				
			ISSI	DJIM	FTSE	S&P	MSCI
1	Banks	42	×	×	×	×	×
2	Brewers	2	×	×	×	×	×
3	Broadcast & Entertain	9	√	×	×	×	×
4	Consumer Finance	6	×	×	×	×	×
5	Exchange Traded Funds	9	×	×	×	×	×
6	Full Line Insurance	4	×	×	×	×	×
7	Hotels	10	√	×	×	×	×
8	Investment Services	14	×	×	×	×	×
9	Life Insurance	1	×	×	×	×	×
10	Media Agencies	1	×	×	√	×	√
11	Mortgage Finance	1	×	×	×	×	×
12	Prop. & Casualty Ins.	7	×	×	×	×	×
13	Reinsurance	1	×	×	×	×	×
14	Restaurants & Bars	3	√	×	×	×	×
15	Retail REITs	1	×	×	×	×	×
16	Specialty Finance	16	×	×	×	×	×
17	Tobacco	4	×	×	×	×	×

× = *Prohibited*, √ = *Allowed*

The table shows that the prohibited industry groups in the Indonesia equity market are predominantly from the financial sector (banks, consumer finance, ETF, full line insurance, investment services, life insurance, mortgage finance, property and casualty insurance, reinsurance, retail REITs, and specialty finance), which comprises approximately 78% of all prohibited sectors in terms of number of constituents as of December 2015. Besides the fact that this screening phase also aims to eliminate the involvement of explicit *ribawi* stocks, this confirms the natural behaviour of the Islamic equity market which has and is expected to have more exposure and integration to the real sector instead of the financial sector (Dewandaru et al. 2014).
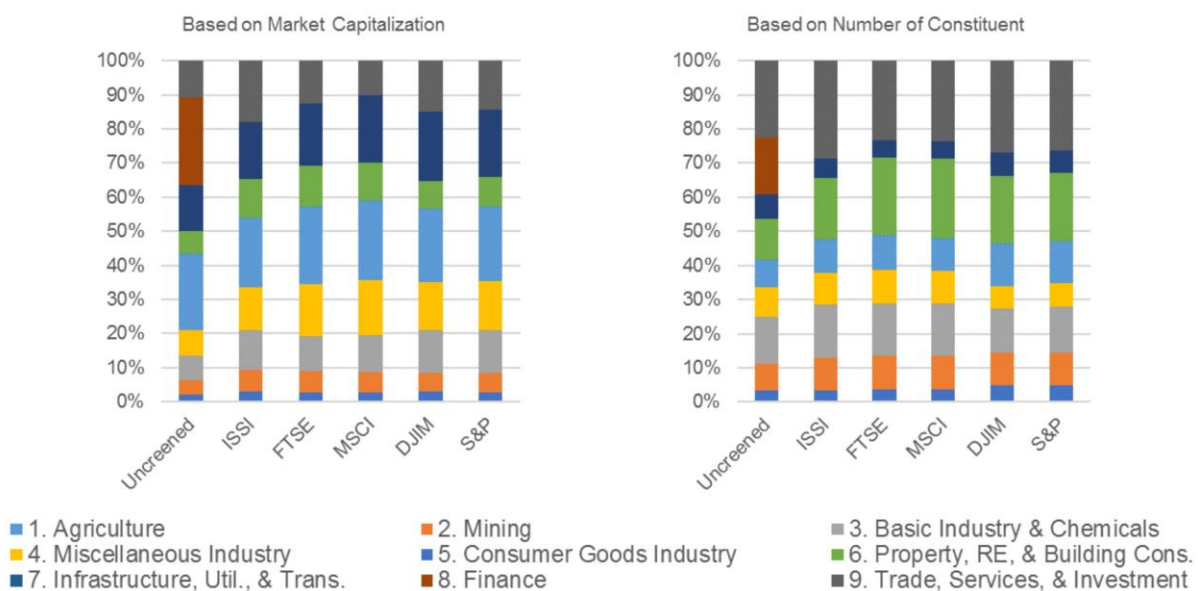
Conventional financial groups, brewers, and tobacco are inevitably prohibited by all standards while broadcast and entertainment, hotels, media agencies, and restaurants and bars are more controversial. In Indonesia the halal recognition from MUI for branded restaurants

and food products is commonly required; pornography is explicitly illegal; and there is an emerging trend of *Shariah*-compliant hotels (Henderson 2010; Lahsasna 2015; Razalli et al. 2012; Sahida et al. 2011). With this it is expected that the stocks of these industry groups have a chance to proceed into the next step which is financial screening.

4.2.   The Sectoral Compositions and Pass Rates

Applying the qualitative and quantitative screenings changes the sectoral compositions of the companies included in the different indices. Since the financial sector contributes to approximately 25% to the total asset universe of the unscreened portfolio based on market capitalization and 17% based on the number of constituents, the deletion of this sector in the qualitative business screening contributes an initial and significant difference in the composition of the screened portfolios. As shown in the figure 1, the compositions are found to be different on two bases. Property, Real Estate, and Building Construction and Trade, Services, and Investment considerably have a bigger share based on the number of constituents. In contrast, Infrastructure, Utilities, and Transportation, and Consumer Goods Industry have a larger share based on market capitalization.

Figure 1. The Sectoral Compositions

After all the explicit non-*Shariah*-compliance equities have been reduced by qualitative screening from the asset universes, the financial screening is applied. By utilising the historical dataset from 2011 to 2015, only three portfolios could be constructed for each Islamic stock screening standard, which are the portfolios of 2013, 2014, and 2015. As indicated, this is caused by the requirement of the S&P which needs a three-year moving

average market value to construct a single portfolio. Each one-year portfolio has a distinct composition compared to other years and other screenings.

The averages of sectoral pass-rates for each sector over the three years are reported in Table 4 and 5.[5] It can be noted that the all screenings result in a significant decrease of the portfolio asset universe size compared to the unscreened portfolio. While the results show that ISSI has the largest size both in terms of the number of constituents and the total size of market capitalization with a 66.3% and 56.9% pass rate respectively, there appears to be a divergence with regards to the screening results producing the smallest portfolio. In terms of the number of constituents, DJIM has the smallest portfolio while MSCI has the smallest size when examining market capitalization. The pass rates for different indices vary between 47% and 56% when considering the market value. The range of pass rates based on the number of constituents is significant, varying from 29.1% to 66%. This means that the extra constituents which ISSI has compared to the others (approximately 50% of the ISSI universe) are stocks with a considerably small market value.

Table 4. Sectoral Pass Rate amongst the Five Islamic Portfolios Based on the Number of Constituents (3-Year Average)

Sectors	Unscreened		Pass Rate								
			ISSI		FTSE		MSCI		DJIM		S&P	
	n	%	%	r	%	r	%	r	%	r	%	r
1. Agriculture	13	100	64.1	7	46.2	6	38.5	7	41.0	3	41.0	3
2. Mining	29	100	82.8	3	55.2	2	47.1	2	36.8	4	37.9	4
3. Basic Industry & Chemicals	52	100	74.4	5	47.4	5	41.0	4	26.9	7	28.8	6
4. Miscellaneous Industry	33	100	71.7	6	49.5	4	39.4	5	22.2	8	23.2	8
5. Consumer Goods Industry	30	100	82.2	4	54.4	3	44.4	3	45.6	2	45.6	2
6. Property, RE, & Building Cons.	45	100	99.3	1	82.2	1	71.1	1	48.1	1	50.4	1
7. Infrastructure, Util., & Trans.	27	100	54.3	8	29.6	8	25.9	8	28.4	6	27.2	7
8. Finance	64	100	0.0	9	0.0	9	0.0	9	0.0	9	0.0	9
9. Trade, Services, & Investment	84	100	84.9	2	45.2	7	38.9	6	34.9	5	34.9	5
Total	**377**		**66.3**		**43.1**		**36.6**		**29.1**		**29.7**	

n = number of constituents, r = rank.

Table 5. Sectoral Pass Rate amongst the Five Islamic Portfolios Based on Market Value (3-Year Average)

Sector	Unscreened		Pass Rate								
			ISSI		FTSE		MSCI		DJIM		S&P	
	MV*	%	%	r	%	r	%	r	%	r	%	r
1. Agriculture	91,705	100	84.2	5	54.9	6	52.0	6	68.4	4	62.9	5
2. Mining	182,487	100	82.6	6	69.1	3	61.1	5	60.9	6	61.1	7
3. Basic Industry & Chemicals	311,193	100	92.0	4	64.5	4	63.9	3	82.2	2	82.0	2
4. Miscellaneous Industry	321,188	100	96.1	2	93.2	1	91.7	1	90.9	1	90.9	1
5. Consumer Goods Industry	971,657	100	51.8	8	45.7	8	44.6	7	45.7	8	45.7	8
6. Property, RE, & Building Cons.	282,440	100	99.7	1	83.7	2	72.2	2	59.2	7	63.1	4
7. Infrastructure, Util., & Trans.	583,483	100	70.6	7	61.8	5	61.8	4	71.9	3	69.1	3
8. Finance	1,119,147	100	0.0	9	0.0	9	0.0	9	0.0	9	0.0	9
9. Trade, Services, & Investment	461,788	100	95.6	3	52.6	7	40.2	8	66.5	5	62.8	6
Total	**4,325,088**	**100**	**56.9**		**45.3**		**42.5**		**47.6**		**47.0**	

*in billion rupiahs.
r = rank.

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[5] The actual figures of market capitalization and the number of companies in various sectors under the screening criteria of different indices are presented in Appendix A.

It is evident that ISSI results in the biggest asset universe compared to other *Shariah* screening standards based on both market capitalization and number of constituents due to it having the most moderate *Shariah* screening criteria compared to others. Based on market size, the portfolio screened by the DJIM Islamic stocks screening reveals that it is the second largest, comprising about 47% of the total asset universe of unscreened portfolios. However, the DJIM portfolio is the smallest portfolio with only 29.1% of the number of constituents of the total unscreened companies. It reflects that this portfolio comprises equities predominantly with large market capitalizations. This also implies that the market value-based portfolios, especially the DJIM portfolio, are well-fit to the growth equity funds strategy as it typically invests in companies with large capitalizations, focusing on capital gains instead of dividend yields.

There appears to be similarities amongst the portfolio pass rates of certain sectors based on the number of constituents. Property, Real Estate, and Building Construction has the highest pass-rate in all screenings. Infrastructure, Utility, and Transportation have the lowest pass rates in all asset-based screenings, where Miscellaneous Industry is the lowest one in market value-based screenings. Table 5 shows a key issue related to the pass rate based on the market value related to Property, Real Estate, and Building Construction which has different pass-rates for the asset-based (FTSE and MSCI) and market value-based (DJIM and S&P) screenings. While under ISSI, FTSE, and MSCI screenings this sector is ranked as number one or two, in the DJIM and S&P screenings it ranks as number seven and four respectively.

Table 6. Kendall's Test - Agreement Amongst Portfolio Regarding the Sectoral Priority

	Based on the Number of Constituents	Based on the Market Capitalizations
N	5	5
Kendall's W[a]	0.720	0.684
Chi-Square	25.200	23.933
df	7	7
Asymp. Sig.	0.001	0.001

Kendall's Coefficient of Concordance

To statistically measure the differences amongst the screenings related to which sector is the most prioritised and which sector is less prioritised to pass the screen, the Kendall's W test is conducted. The results in Table 6 show that there is significant agreement amongst the Islamic stock screening standards used in this research regarding the rank of sectoral priority. However, the agreement is stronger based on the number of constituents (Kendall's W=0.720) compared to market capitalization (Kendall's W=0.684).

4.3. The Constituent Discrepancies

While Table 4 shows that a significant impact of the screening with ISSI eliminates around 35% of the stocks from the unscreened universe, FTSE and MSCI reduce that to about 60% and 63% respectively and DJIM and S&P shrink it to about 70% of total market constituents. This section tests whether these differences are significant. To measure the discrepancies amongst the portfolios, the nonparametric statistical tests are carried out in two stages. Cochran's Q test is used to determine the differences amongst all screened portfolios in each year. The Cochran's Q non-parametric test results presented in Table 7 indicate that there are statistically significant differences in the composition of constituents amongst all screened portfolios of 2013 (Q=319.704, α=0.000), 2014 (Q=329.071, α =0.000), and 2015 (Q=324.405, α=0.000).

Table 7. Cochran's Q Test Result - Overall Discrepancy

Frequencies

	2013			2014			2015		
	Fail	Pass	N	Fail	Pass	N	Fail	Pass	N
ISSI	51	253	304	55	249	304	56	248	304
FTSE	140	164	304	149	155	304	146	158	304
MSCI	165	139	304	173	131	304	170	134	304
DJIM	193	111	304	198	106	304	199	105	304
S&P	193	111	304	196	108	304	193	111	304

Test Statistics

Cochran's Q	319.704[a]			329.071[a]			324.405 [a]		
df	4			4			4		
Asymp. Sig.	.000			.000			.000		

a = 1 is treated as a success.

Since the ISSI has twice the pass rate compared to other portfolios, this implies a high level of discrepancy when it is paired with other portfolios. When indices with different denominators (one asset-based and one market value-based) are compared, they are more likely to have a higher discrepancy compared to pairs consisting of two portfolios that use the same basis to estimate financial ratios.[6] For instance, a high discrepancy exists between FTSE and S&P where 75 (61+14) constituents are exclusive to one of the two alongside their 97 common constituents.

4.4. Performance Evaluation

To evaluate the performance of portfolios constructed by different Islamic stock screenings, three risk-adjusted performance measurements, namely Sharpe ratio, Treynor index, and Jensen alpha are used. The Indonesia composite index (JKSE/JCI) returns are used as a proxy of market returns, and the 10-year government bond monthly average returns are used

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[6] Please see Table A3 in the Appendix.

as a benchmark for the risk-free premium. This section identifies the economic implications of different Islamic stock screening criteria in terms of risk-return performance.

Table 8 shows that the findings on the risk adjusted performances over the five year period are mixed. In most periods, DJIM is revealed to be the best performing portfolio according to the three measures. Specifically, in 2011, 2013, and 2014, the Islamic portfolios simultaneously outperformed the overall unscreened portfolio. In 2012, when the overall unscreened portfolio showed the highest performance within the five year observation period, none of the Islamic portfolios outperformed it according to Sharpe and Treynor. The year 2015 is captured as a bearish period with the returns of all the portfolios being negative. The Sharpe ratio for the ISSI and S&P suffer worse than the overall unscreened portfolio, but the FTSE, MSCI, and DJIM are slightly less negative than the unscreened one, indicating lower volatility for the Islamic investors.

Table 8. Risk Adjusted Performances

	Sharpe	Treynor	Jensen		Sharpe	Treynor	Jensen
Periode 1 - 2011				**Period 4 – 2014**			
ISSI	0.31199	0.02179	0.01301	ISSI	0.71589	0.05178	0.01423
FTSE	0.32093	0.02371	0.01354	FTSE	0.78550	0.03869	0.01228
MSCI	0.30980	0.02270	0.01354	MSCI	0.79852	0.04736	0.01372
DJIM	0.42164	0.03001	0.01541	DJIM	0.86434	0.02581	0.00894
S&P	0.44356	0.03236	0.01695	S&P	0.64216	0.01809	0.00529
Unscreened	0.30620	0.02123	0.01112	Unscreened	0.67105	0.03800	0.00955
Period 2 - 2012				**Period 5 – 2015**			
ISSI	0.67162	0.08710	0.03802	ISSI	-0.76998	-0.06320	-0.01807
FTSE	0.56263	0.06486	0.04679	FTSE	-0.64213	-0.05995	-0.01491
MSCI	0.51203	0.05698	0.04996	MSCI	-0.61970	-0.06294	-0.01465
DJIM	0.58522	0.06709	0.05831	DJIM	-0.66033	-0.05790	-0.01407
S&P	0.61843	0.06650	0.05468	S&P	-0.70039	-0.06089	-0.01537
Unscreened	0.72141	0.10994	0.02529	Unscreened	-0.66307	-0.06640	-0.01323
Period 3 - 2013				**Overall Period - 5YEAR**			
ISSI	0.14903	0.01102	0.01354	ISSI	0.23211	0.01621	0.01214
FTSE	0.13473	0.01095	0.01201	FTSE	0.24405	0.01962	0.01473
MSCI	0.17319	0.01437	0.01449	MSCI	0.24682	0.02100	0.01647
DJIM	0.38794	0.03599	0.02572	DJIM	0.31121	0.02844	0.02021
S&P	0.35076	0.03101	0.02428	S&P	0.30238	0.02571	0.01854
Unscreened	0.09807	0.00689	0.00924	Unscreened	0.20850	0.01393	0.00846

To develop a better conclusion, a longer period that captures both the bearish and bullish trends is more appropriate to use. The results for the overall 5-year period show that the portfolio constructed by the DJIM Islamic stock screening criterion appears to be the best performer. According to the Sharpe ratio, this portfolio provides an average excess return of 0.311 per unit of *beta* and 0.0284 according to the Treynor index. According to Jensen alpha estimations, the DJIM portfolio also provides an average 0.02021 per unit of beta excess return versus 0.018 for the S&P for the second largest and 0.008 for the unscreened portfolio. It is interesting to note that even though various Islamic stock screening criteria reduce the

stock universe, the risk-adjusted performance of Islamic portfolios is better than the overall unscreened portfolio.

Table 9. Level of Concordance among Rankings of Performance of Indices

Mean Rank						
	2011	2012	2013	2014	2015	**5-Year**
ISSI	4.67	3.00	4.00	2.00	5.67	**5.00**
FTSE	3.33	4.67	5.00	3.00	2.67	**4.00**
MSCI	4.00	5.00	3.00	2.00	2.67	**3.00**
DJIM	2.00	2.67	1.00	3.67	2.00	**1.00**
S&P	1.00	3.00	2.00	6.00	4.33	**2.00**
Unscreened	6.00	2.67	6.00	4.33	3.67	**6.00**
Test Statistics						
N	3	3	3	3	3	**3**
Kendall's W[a]	0.937	0.314	1	0.67	0.517	**1**
Chi-Square	14.048	4.714	15	10.048	7.762	**15**
df	5	5	5	5	5	**5**
Asymp. Sig.	0.015	0.452	0.01	0.074	0.17	**0.01**

a Kendall's Coefficient of Concordance

To assess the similarities amongst the performance measures for the five years, the rankings of returns of all portfolios are estimated for each year and Kendall's W tests are performed on them. Table 9 reveals that Kendall's coefficient of concordance for the overall 5-year period is 1 (α=0.01), implying that there is a statistically significant agreement amongst the ranking of the Sharpe ratio, Treynor index, and Jensen alpha. The results indicate that DJIM is ranked the highest in terms of risk-adjusted returns over the five-year period. It is interesting to note that while the performance ranking of the ISSI index is the lowest among the Islamic indices, it performs better than the conventional, unscreened index that has the lowest ranking.

5. Conclusions and Recommendation

The paper contributes to an area of research related to the application of Islamic legal methodologies in Islamic finance. The cases in which *Shariah* rulings need to be made can be distinguished into those that can be referred to in the *Quran* and *hadith* and new instances that do not have any direct references in these texts. While *qiyas* is used to derive rulings in the former, *maslahah mursalah* is an appropriate method to use in the latter. Screening standards used in Islamic capital markets to identify *Shariah* compliant stocks employ elements of both methods. While the qualitative business screening uses *qiyas* to identify sectors that should be excluded based on primary sources of *Shariah* texts, the quantitative screening criteria falls under *maslahah mursalah* since there are no specific references to financial ratios in these sources. Choosing the ruling that produces the highest benefit to investors is consistent with and encouraged under this method. Thus, the criticism of the practice of *fatwa*-shopping and *Shariah* arbitrage that dilutes *Shariah* principles at the cost of economic considerations does not apply to *maslahah mursalah.*

The research provides insight into the economic consequences of *Shariah* edicts on Islamic capital markets and identifies the rulings that can be considered advantageous (according to their Shariah compliance and economic performance) to increase the participation of Muslims in the equity market. Using the Indonesian stock market as a case study, the economic implications of using screening criteria such as the Indonesian index, ISSI, and world-leading market indices such as FTSE, MSCI, DJIM, and S&P were examined. The results reveal that variations in the criteria used for the prohibited business sectors and dissimilar financial screening rules result in different portfolios for different Islamic stock screening standards which produce varied implications for the size of portfolios, the composition of constituents, and the resulting impact on performance.

The overall *Shariah* screening processes shows a substantial decrease of the asset universe size compared to the overall unscreened portfolio with significant differences across different indices. The qualitative screening eliminates all stocks of the conventional financial sector which decreases the Shariah compliant assets in terms of market capitalization by almost a quarter. The discrepancies are more significant after the financial screening, with a decrease of constituents ranging from 35% for ISSI and more than 70% for DJIM and S&P. The performance of the various stock screening criteria show that the portfolio constructed using the DJIM screening standard has the best risk-adjusted returns compared to other indices over the five-year period. This screening criterion also performs better compared to the overall unscreened portfolio both in the bullish and bearish period. Besides lowering the losses of risk-adjusted returns during downturns, the DJIM screening standard appears to be the most attractive Islamic index in the Indonesian market.

As indicated, the most appropriate way to implement *maslahah mursalah* is to choose the option that can provide the most benefits to investors. The empirical analysis shows that the DJIM screening standards can be recommended for possible adoption as a *Shariah* mandate for the Indonesia Islamic equity market. The recommendation conforming to the Islamic legal methodological framework would encourage the participation of Muslim investors in the Indonesian equity market due to both *Shariah* compliance and economic performance. While this paper uses the evidence-based approach to recommend the appropriate ruling for Islamic equity markets that conforms to the Islamic legal methodological framework, it can be a useful tool for making judgments more widely in other similar cases in Islamic finance.

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Appendix A: Asset Universe of Different Indices

Table A1. Asset Universe Comparison based on Market Capitalization

Sectors	Unscreened	ISSI	FTSE	MSCI	DJIM	S&P
1. Agriculture	91.70	77.22	50.38	47.69	62.69	57.69
2. Mining	182.49	150.70	126.06	111.50	111.19	111.55
3. Basic Industry & Chemicals	311.19	286.33	200.68	198.70	255.81	255.13
4. Miscellaneous Industry	321.19	308.54	299.31	294.42	291.93	292.00
5. Consumer Goods Industry	971.66	503.73	443.82	433.65	444.41	444.41
6. Property, RE, & Building Cons.	282.44	281.47	236.32	203.80	167.11	178.19
7. Infrastructure, Util., & Trans.	583.48	412.08	360.79	360.62	419.30	403.22
8. Finance	1,119.15	-	-	-	-	-
9. Trade, Services, & Investment	461.79	441.51	242.69	185.74	306.87	289.80
Total	**4,325.09**	**2,461.58**	**1,960.05**	**1,836.12**	**2,059.32**	**2,032.00**

(3-Year Average Market Capitalization in Trillion Rupiahs).

Table A2. Asset Universe based on Number of Constituents

Sector	Unscreened	ISSI	FTSE	MSCI	DJIM	S&P
1. Agriculture	13	8.33	6.00	5.00	5.33	5.33
2. Mining	29	24.00	16.00	13.67	10.67	11.00
3. Basic Industry & Chemicals	52	38.67	24.67	21.33	14.00	15.00
4. Miscellaneous Industry	33	23.67	16.33	13.00	7.33	7.67
5. Consumer Goods Industry	30	24.67	16.33	13.33	13.67	13.67
6. Property, RE, & Building Cons.	45	44.67	37.00	32.00	21.67	22.67
7. Infrastructure, Util., & Trans.	27	14.67	8.00	7.00	7.67	7.33
8. Finance	64	-	-	-	-	-
9. Trade, Services, & Investment	84	71.33	38.00	32.67	29.33	29.33
Total	**377**	**250.00**	**162.33**	**138.00**	**109.67**	**112.00**

(3-Year Average Number of Constituents).