

Islamic Asset Pricing and Speculation Restrictions

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Abstract

Islamic traders follow Islamic trading rules; this approach has an implication on trading behavior and market outcomes. This article sheds the light on the effect of Islamic speculation restrictions on Islamic asset pricing. Our results reveal that, in equilibrium, Islamic traders require lower returns as a compensation for liquidity than non-Islamic traders.

Keywords: liquidity asset pricing; Islamic trading; investment

1 Introduction

Until fairly recently, investors' behavior has been ignored as an input of asset pricing. Rather, it has been assumed that investors are a homogeneous group. However, recent behavioral finance literature suggests that heterogeneity in investors' behavior affects stock market outcomes (Baker and Nofsinger, 2012, Hong and Kacperczyk, 2009), and understanding these effects offers an additional hypothesis with which to explain stock market anomalies.

Individual and institutional behaviors within an Islamic financial system are subject to Islamic norms, which arise from different assumptions than those of Western markets. Because speculation is considered undesirable in Islamic *Shariah*, the actions of Islamic investors are restricted (Ahmed, 2000, Naughton and Naughton, 2000, Kamali, 1996, Al-Masri, 2007, Zaher and Kabir~Hassan, 2001). Stock market trading is allowed under Islamic laws, but speculation is either unacceptable or strictly controlled because it involves high uncertainty and is similar to gambling, which is strictly forbidden by the *Quran*(Al-Masri, 2007, Zaher and Kabir~Hassan, 2001).

Theoretical and empirical findings suggest that excessive speculation is associated with high trading frequency (Scheinkman and Xiong, 2003, Dorn and Huberman, 2007, Dorn and Sengmueller, 2009, Kumar et~al., 2011, Pan et~al., 2015). Speculators aim to obtain short-term profits from price differences and price forecasting rather than from regular revenue. Success from such forecasts may arise from access to and interpretation of information, rumors, or just plain luck (Al-Masri, 2007). Al-Masri(2007) argues that investors should purchase a stock with the aim of acquiring future dividends and that they should sell the stock, when needed, with a reasonable capital gain. Speculation differs from investment in the degree of risk, trading intensity, and the expected profit. Investors' required returns represent their level of trading intensity (Amihud, 2002). Investors with higher levels of trading intensity face higher trading costs and require higher returns. While the required returns of stock market investors have been widely studied, there is no current understanding of the effects of Islamic trading rules on investors' required returns. Our research can be considered as the first attempt in the literature to address the effects of Islamic speculation restrictions on Islamic asset prices.

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Based on our results, Islamic traders theoretically require lower returns as they speculate less and incur transaction costs less frequently.

2 The model

To compare the required returns of Islamic and non-Islamic investors, we follow the theoretical framework of the liquidity asset pricing model (Amihud et al., 2005). We start from a classic case of asset pricing. Assuming that there are no trading costs and that the markets are perfectly liquid, this model implies that the price only depends on expected future cash flows.³ The basic model is

$$P^i = \frac{(\bar{d}^i + P^i)}{R^f}, \quad (1)$$

where R^f is the gross risk-free rate that is equal to $1 + r^f$. Considering liquidity in asset pricing makes the model assumptions more realistic. Introducing liquidity to this theory negates the frictionless assumption of classic asset pricing, in which two securities with the same cash flow can have different prices due to differences of liquidity in the absence of arbitrage opportunities (Amihud et al., 2005).⁴ According to Hasbrouck and Seppi (2001), liquidity costs also can be referred to as trading costs. To include liquidity in our model, we assume that there is an exogenous trading cost, which is a risk for neutral investors with exogenous trading horizons. We also assume that liquidity is constant (i.e., there is no liquidity risk). We assume that risk-neutral investors consider selling because of transaction costs in their security valuation. Investors can buy at price P_t^i but must sell at $P_t^i - C_t^i$, where C_t^i is the transaction costs for security i at time t . The present value is adjusted according to the present value of future transaction costs, which implies the exogenous liquidity costs. At this stage, we also assume that we have a discrete-time overlapping generation, as described by Samuelson (1985). Then, a new trader is born every period, and each trader lives for only one buy-and-sell period. Assuming the availability of perfectly liquid, risk-free security, borrowing and lending can produce real returns that are free of risk. In the presence of illiquid securities, the illiquid security S^i has illiquidity cost C^i ; the trader can buy the security at time t at price P_t^i and must sell it at $P_t^i - C^i$.

Another assumption of the liquidity-based asset pricing model is that, in competitive equilibrium, the risk-neutral traders will choose the portfolios that maximize their expected utility, implying that the traders' expected revenue is $\bar{d}^i + P^i - C^i$, where d^i is the dividend of security i , and it is assumed that d^i has an identical independent distribution as mean \bar{d}^i . We assume that the trader present value for security i is

$$P^i = \frac{(\bar{d}^i + P^i - C^i)}{R^f}, \quad (2)$$

which implies that the price is equal to the present value of all future dividends minus the present value of all future transaction costs, as follows:

$$P^i = \frac{(\bar{d}^i - C^i)}{r^f}. \quad (3)$$

The previous simple model assumes that agents can live only for one period. Taking into consideration that agents can live for more than one period with the expected trading frequency of T , the equilibrium price of security i for investors who are identical in trading intensity T and risk neutrality is

$$P^i = \frac{(\bar{d}^i - TC^i)}{r^f}, \quad (4)$$

where the likelihood of trading frequency differs among the traders. Hence, the required rate of return differs because of the variation in trading frequency, which causes the impact of the transaction costs to differ; this is called the "cliente effect" (Amihud et al., 2005).

³ For instance, see Cochrane(2001).

⁴ We derive our model and assumptions following the framework presented in (Amihud et al., 2005).

In this context, we can differentiate between two kinds of traders: high-frequency and low-frequency. The former require a higher rate of return than the latter because high-frequency traders incur trading costs more often. This theory of illiquidity and trading frequency has been supported by tests in the literature (Atkins and Dyl, 1997, Datar et al., 1998). For instance, Datar et al. (1998) used the turnover ratio as a proxy for the holding period, revealing that the shorter the average holding period (i.e., a high turnover ratio), the lower the expected returns.

According to Amihud et al. (2005), taking the clientele effect into consideration is a trader strategy that maximizes liquidity-adjusted returns while considering the security and trader type. For the trader type, let j represent traders who want to maximize their wealth. Assuming that they have limited wealth and cannot borrow funds, the liquidity-adjusted returns, considering the trading frequency μ , are as follows:

$$\max_i \frac{\bar{d}^i - T^j C^i}{P^i}. \quad (5)$$

In the context of our study, Islamic investors follow Islamic *Shariah* law when participating in financial markets to preserve their religious morals and values, which means that the behaviour of Islamic investors is ruled by *Shariah* restrictions. Because Islamic stock market traders are subject to *Shariah* law, they are restricted in their speculation behaviour (Ahmed, 2000, Naughton and Naughton, 2000, Kamali, 1996, Al-Masri, 2007, Zaher and Kabir-Hassan, 2001).

The average trading frequency, T , of Islamic traders is expected to be lower than the average trading frequency of non-Islamic traders. Consequently, Islamic traders are faced with transaction costs less frequently: $T^I < T^{NI}$, where μ^I stands for the trading frequency of Islamic traders and T^{NI} stands for the trading frequency of non-Islamic traders. Hence, we can say that the liquidity-adjusted returns of Islamic traders must be lower than the liquidity-adjusted returns of non-Islamic traders,

$$\frac{\bar{d}^i - T^I C^i}{P^i} < \frac{\bar{d}^i - T^{NI} C^i}{P^i}. \quad (6)$$

3 Conclusion

By assuming that Islamic traders comply with *Shariah* trading rules, speculating less frequently than non-Islamic traders, we can conclude that Islamic traders will incur fewer transaction costs in comparison to non-Islamic traders. Therefore, Islamic traders will require lower returns.

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