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### Credit quality implied momentum profits for Islamic stocks\*

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#### ABSTRACT

Using a sample of Asia-Pacific Islamic stocks we show that momentum profits exist regardless of the credit quality of stocks. A portfolio of low credit quality stocks earns 4.68% per annum more than a portfolio of high credit quality stocks. Market risk factors explain all momentum profits, suggesting that profits are compensation for risks. Post-holding period analysis suggests strong evidence of return reversal, consistent with the behavioral hypothesis. Our main results are also robust to sub-samples of data characterized by the recent global financial crisis and to Islamic and non-Islamic based market risk factors.

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#### 1. Introduction

Two strands of the literature motivate the present study. First, when it comes to Islamic finance, an amalgam of issues has been considered; see, inter alia, Sufian (2009), Sufian and Noor (2009), and Rosman et al. (2014). The main issue of contention in the literature relates to studies that specifically consider the profitability of Islamic versus non-Islamic stocks. This literature has created the most debate because existing evidence is mixed. Second, the empirical evidence on the relationship between credit risk and equity risk premium is mixed. For example, while Campbell et al. (2008) find that distressed stocks with high credit risk produce low returns, Vassalou and Xing (2004) discover evidence that distressed stocks earn high returns, although these stocks are concentrated amongst the small value category of stocks, Dichev (1998) finds a lack of equity premium reward for bearing bankruptcy risk—a finding that Griffin and Lemmon (2002) attribute to growth firms. Moreover, Chava and Purnanandam (2010) and Friewald et al. (2014) report evidence of a strong and positive relation between equity premium and credit risk premium.

While this debate is active, it is only concentrated on non-Islamic (or conventional) stocks. It is now well-known that Islamic stocks are different from non-Islamic stocks. Islamic stocks that form part of the Dow Jones Islamic Market World Index and its sub-indices, reflecting country-specific, regional and industry attributes, cover investment products that facilitate ethical investing within the context of Sharia-principles and differ from conventional stocks in two main ways. The first distinguishing feature is

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that for a stock to be categorized as a Sharia-compliant Islamic investment it must satisfy the business activity criteria. Twentythree business activities<sup>1</sup> are regarded as inappropriate by Sharia-principles. In addition, a company will not qualify if its income source is from either alcohol, tobacco, pork-related products, conventional financial services (such as banking and insurance), weapons and defence, and/or entertainment and exceeds 5% of its total revenue. The second feature that distinguishes Islamic stocks from conventional stocks relates to the financial health of the firm with particular emphasis on solvency-related measures. For instance, to qualify as an Islamic stock, (a) total debt to market capitalization, (b) cash and interest bearing securities to market capitalization, and (c) accounts receivables to market capitalization, should all be less than 33% of the 24-month average trailing market capitalization.<sup>2</sup> Given the screening criteria applicable to business activities and, in particular, the financial health of individual stocks, the discriminatory ability of Islamic stocks differentiated by credit quality is likely to be different from conventional stocks. The goal of this paper is to specifically examine the profitability of Islamic stocks of Asia-Pacific markets differentiated by credit quality. Our focus on Asia-Pacific markets is not a trivial matter. Often in this literature, Asia-Pacific markets have been ignored simply because of lack of credit quality data. We address this data issue as we explain below. Hence, one uniqueness of our study is the data on credit quality. Moreover, Asia-Pacific markets have a strong global presence. For instance, the Asia-Pacific market capitalization as a percentage of global market capitalization has almost doubled from 14.32% in 2000 to 24.31% in 2012. Over the corresponding period, the total number of listed firms has increased from over 16,000 to over 19,000, and in 2012 the Dow Jones Asia-Pacific market index return was an impressive 12.32%.

Our investigation is based on three approaches. First, we consider a momentum trading strategy and estimate profits for Islamic stocks categorized into portfolios based on credit quality. To determine credit quality, we use long-term issuer rating provided by rating agencies and probability of default implied by Credit Default Swap (CDS), which we explain in Section 2. Specifically, we form portfolios of stocks based on high credit quality (equivalent to AAA to A ratings), medium credit quality (equivalent to A- to BBB ratings), and low credit quality (equivalent to BBB- to C ratings). Second, we ask whether, when momentum profits are statistically significant, profits are driven by commonly-known risk factors. To address this issue, we compute risk factors relating to value and size risk premia together with the market risk factor. We regress these factors against the time-series of momentum profits. Third, we focus on the robustness of our results. We achieve this in two ways: (a) we estimate momentum profits over the pre-2007 global financial crisis period; and (b) we test whether momentum profits are compensation not only for risks emanating from Islamic stocks but also from non-Islamic stocks.

Each of these three approaches delivers fresh insights on our understanding of the profitability of Asia-Pacific Islamic stocks. First, our empirical investigation spanning time-series monthly data on four Islamic stock portfolios, including three credit quality disaggregated stock portfolios, suggests that momentum profits exist for all four portfolios with a monotonic response to credit quality. The low credit quality portfolio earns the highest profit (7.32% per annum), followed by the medium credit quality portfolio (5.76% per annum), and the high credit quality portfolio (2.64% per annum). We sub-sample our empirical analysis by restricting the momentum strategy to the pre-2007 global financial crisis period (1980 to 2006). We find results consistent with those obtained for the full-sample period except that the magnitude of profits is higher during the pre-crisis period, which is just as expected. This implies that the global financial crisis actually had a negative effect on the Asia-Pacific Islamic stock market.

Second, our time-series regressions of momentum profits on risk factors suggest clear evidence that momentum profits are compensation for risks and not a result of mispriced Islamic stocks. This finding is made because in the time-series factor regression models we find no evidence that the alpha (abnormal returns) is statistically different from zero.

Third, we document that our results are robust on two fronts. (1) When we subject the momentum strategy to a sub-sample analysis, we find that while over time (1980 to 2014) momentum profits have weakened, there is strong evidence that the low credit quality portfolio outperforms the other three portfolios over the 1980 to 2006 period. The pattern of profitability in the credit quality-based portfolios again demonstrates a monotonic response to credit quality. (2) When regression excess portfolio returns occur on non-Islamic risk factors, that is, excess market returns, SMB, and HML of global stocks, Asia-Pacific (excluding Japan) stocks and Japanese stocks, our main finding holds that momentum profits, regardless of stock credit quality, are compensation for risks.

Our findings take the literature forward in two novel ways. First, our finding that Islamic stocks are profitable relates to the Islamic stock profitability literature. In particular, our findings here are consistent with Ashraf and Mohammad (2014), Bialkowski et al. (2012), and Hoepner et al. (2011). Our study, however, differs from those studies. Unlike this literature, our approach is based on a momentum trading strategy, which has a strong and influential following in the asset pricing literature. Moreover, unlike these studies which focus on index-level data, we consider stock-level data, which allows us to deal with stock heterogeneity and, therefore, form specific portfolios of Islamic stocks belonging to the Asia-Pacific market. In addition, since we focus on credit risk embedded in stocks and since our aim is to understand how profits behave with respect to different levels of credit quality, our sample selection approach is as follows. We begin by searching for Islamic stocks that have a long-term credit rating provided by rating agencies. From this exercise, we achieve a total of 142 stocks that have adequate pricing history and ratings available on Bloomberg. In order to build an adequate number of stocks with credit quality, we then identify

<sup>&</sup>lt;sup>1</sup> The Dow Jones system, for example, identifies the following business activities as inappropriate for Islamic investments: Defence, Brewers, Distillers & Vintners, Food Products, Recreational Products, Tobacco, Food Retailers & Wholesalers, Broadcasting & Entertainment, Media Agencies, Gambling, Hotels, Recreational Services, Restaurants & Bars, Banks, Full Line Insurance, Insurance Brokers, Property & Casualty Insurance, Reinsurance, Life Insurance, Consumer Finance, Investment Services, and Mortgage Finance.

<sup>&</sup>lt;sup>2</sup> The trailing 24-month average market capitalization is used, which avoids any skewed figures arising from factors regarded as seasonal.

<sup>&</sup>lt;sup>3</sup> The statistics reported here are computed using data from the World Development Indicators published by the World Bank.

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