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Leverage-based index revisions: The case of Dow Jones Islamic Market World Index

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ABSTRACT

US firms added to the Dow Jones Islamic Market World Index, a leverage-based index, witness permanent positive price and liquidity effects, whereas excluded firms sustain negative price and liquidity effects but no decrease in the investor awareness. Included/excluded firms experience a significant drop/no change in the cost of equity. Among the deleted firms, those with an increase in debt level bear a more severe decrease in liquidity and institutional ownership, and an increased cost of equity than those firms without an increase in debt use. Conveying private information on changes in a firm's corporate strategy and operating environment, revisions by a leverage-based index are different from those by size-based indexes.

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1. Introduction

There is an extensive literature assessing the information content of announcements of size-based index revisions. For example, early studies on revisions by the S&P 500 index include Shleifer (1986), Harris and Gurel (1986), Jain (1987), Beneish and Whaley (1996), and Lynch and Mendenhall (1997). Beneish and Gardner (1995) study liquidity effects from changes in the Dow Jones Industrial Average index. Kaul, Mehrotra, and Morck (2000) and Biktimirov (2004) examine the effects of revisions on stocks traded on the Toronto Stock Exchange. Biktimirov, Cowan, and Jordan (2004), Chen, Noronha, and Singal

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(2006), and Chen (2006) examine the effects of revisions by the Russell 2000 Indexes. Chakrabarti, Huang, Jayaraman, and Lee (2000) and Hau, Massa, and Peress (2010) study the revision effects by the MSCI indexes. Shankar and Miller (2006) and Becker-Blease and Paul (2010) examine the revision effects by the S&P SmallCap index and S&P MidCap index. Greenwood (2005) examines revisions by the Nikkei 225 index, and Mase (2007) and Mazouz and Saadouni (2007) study the revisions by the FTSE 100 index.

However, there is no study on the effects of revisions by leverage-based indexes to the best of our knowledge. For size-based indexes, both addition and deletion can be anticipated to a large extent because changes in a firm's size are relatively gradual. In contrast, revisions in a leverage-based index, especially the deletions, are less predictable because firms have considerable control over the debt level; any advanced knowledge of the timing of a pending managerial decision on the level of debt is typically hard to come across. For a firm being added to a size-based index, one can argue that it is recognition of its continuous growth, thus a positive signal. For a leverage-based index, an addition may not carry as much information content as that to a size-based index. On the contrary, while a deletion by a size-based index should be more or less expected in the marketplace, a deletion by a leverage-based index would be carrying more information about a firm's operation and financial situation. Therefore, market reaction to additions by a leverage-based index would be at least as mundane as that to additions by a size-based index. In contrast, market reaction to deletions by a leverage-based index would be much more potent than that to deletions by a size-based index.

Avramov, Chordia, Jostova, and Philipov (2007) show that momentum profits are found in firms with low credit rating, but not in firms with high credit rating. Consistent with their results, Farooqi, Ngo, Huerta-Sanchez, and Chen (2015) show no momentum profitability in DJIMI component firms. Dbouk and Kryzanowski (2009) document a significantly positive/negative reaction in bond returns over a window of three months surrounding the announcements of additions/deletions of a bond from the Lehman Brothers bond index group. However, they find that stocks of the bond issuing firm is not affected by the revision announcement of its bond in a bond index. Will revision announcements by a leverage-based stock index be more resounding than those by a bond index in terms of information contents?

In this study, we examine how Dow Jones Islamic Market World Index (DJIMI) component firms fare in abnormal returns, liquidity, cost of equity, operating profitability, financial distress, and capital spending after the inclusion and deletion. The DJIMI was launched in May 1999 to facilitate the rapid growth in Islamic asset management industry. The index tracks the performance of firms that are deemed compliant with the Islamic Shari'ah law. To be considered Shari'ah compliant and thus be eligible for the DJIMI, a firm cannot engage in certain industries such as banking, gaming, alcoholic products, military weaponry, and certain types of entertainment. Furthermore, a firm must stay within the limit of the use of interest-bearing instruments. Specifically, a firm's debt to the trailing 24-month average market capitalization ratio, cash and interest-bearing securities to the trailing 24-month average market capitalization ratio, and the receivables to the trailing 24-month average market capitalization ratio must all be below 33%. As we will show later, the debt ratio screening is the most restrictive and important requirement. As a result, the DJIMI is a leverage-based index and its revisions are excellent candidates for studying whether there is any difference in market reaction to index revision between a size-based index and a leverage-based index. The aim of this study is to fill the gap in the literature.

We find that firms added to the DJIMI experience significant positive excess returns in both the short window and long window upon the announcements, whereas deleted firms experience significant negative excess returns. Added firms enjoy significant increases in liquidity and deleted firms suffer from decreases in liquidity. We also document a decrease in the cost of equity and an increase in operating performance for added firms. For deleted firms, there is a significant increase in Altman Z-score, however, there is no significant increase in the cost of equity nor operating profitability. Consistent with the investor awareness hypothesis in Chen, Noronha, and Singal (2004), there is no decrease in the investor awareness for the deleted DJIMI firms.

Our results have the following interpretations. First, DJIMI revisions, especially the deletions, are different from size-based index revisions in that they carry more information about a component firm's operating and leverage characteristics. Consequently, market reactions to revisions by a leverage-based index are more potent than to those by a size-based index. Second, conforming to financial theories, both the liquidity factor

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