Screen winners from losers using simple fundamental analysis in the Pacific-Basin stock markets☆

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ARTICLE INFO

ABSTRACT

This paper explores whether a simple fundamental analysis strategy, FSCORE by Piotroski (2000), can discriminate between firms with strong financial strength and those with weak financial strength over the period of 2000 to 2015 in seven Pacific-Basin markets: Hong Kong, Australia, Singapore, South Korea, Malaysia, Thailand and Indonesia. Similar to Piotroski and So (2012), FSCORE can screen winners from losers in all book-to-market portfolios in most of the markets; the returns of portfolios with high FSCORE are significantly more than the returns of portfolios in the same category with low FSCORE. The portfolios that long value stocks (high book-to-market) with high FSCORE yield significantly positive risk-adjusted return. We find that FSCORE can also be applied to size portfolios. The portfolios of small cap stocks with high FSCORE give monthly risk-adjusted returns of 2.5289%, 3.3552%, 1.1081%, 1.0744%, 0.5762%, 0.9263%, and 1.7802% in Hong Kong, Australia, Singapore, South Korea, Malaysia, Thailand and Indonesia. The predictive ability of FSCORE in screening winners from losers is stronger in small cap stocks than value stocks.

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1. Introduction

In this study, we examine the relationship between financial strength (measured by Piotroski's FSCORE[1]) of the stock and subsequent stock returns for portfolios by book-to-market (BM) and market capitalization in Pacific-Basin markets over the period of 2000 to 2015. Fundamental analysis strategy is very successful in screening winner and loser among high book-to-market stocks (Piotroski, 2000) and low book-to-market stocks (Mohanram, 2005) in the US market. Mispricing based explanation shows that the pattern is due to gradual incorporation of the fundamental information by market and investors (Piotroski and So, 2012; Choi and Sias, 2012). We are interested in whether the financial strength can also predict future returns in stocks in major Pacific-Basin markets.

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  [1] Developed by Piotroski (2000), FSCORE is a summary of nine binary signals and it is constructed from nine financial indicators of listed companies. The financial indicators include: returns on asset, changes in returns on asset, changes in cash flow from operations, changes in accrual, changes in asset turnover ratio, changes in leverage ratio, changes in gross profit margin, changes in liquidity ratio and issuance of equity. The high (low) FSCORE indicates the improvement (deterioration) of fundamental.

The first goal of this paper is to investigate whether FSCORE can be applied to the markets outside US. We use major Pacific-Basin stock markets including Hong Kong, Australia, Singapore, Thailand, South Korea, Indonesia, and Malaysia. We employ a book-to-market strategy, similar to Piotroski and So (2012), and explore whether FSCORE can predict future stock returns in BM portfolios. Piotroski (2000) argues that value stocks (high BM) are neglected in the market in comparison with glamour stocks (low BM) and the signals of improvements in fundamental are slow to be reflected in the prices. Hence the strong financial strength (high FSCORE) is associated with high stock return in the future as the market gradually corrects the prices to reflect the fundamentals. On the other hand, the investors of glamour stocks are too optimistic and under-react to the deterioration in fundamental (low FSCORE), which leads to inferior performance (Lakonishok et al., 1994). We expect that a long strategy by purchasing value stocks with high FSCORE and a hedge strategy by long value stocks with high and short glamour stocks with low FSCORE can yield positive abnormal return in Pacific-Basin markets.

The second objective is to explore whether FSCORE can also be applied to size portfolios. In comparison to large cap stocks, small stocks are less known to the market and have a small amount of investors (Banz, 1981) and normally less covered by analysts (Hong et al., 2000). Thus the market may respond more slowly to past financial strength in small-capitalization stocks than the situation in large-capitalization stocks with more analyst coverage and institutional investors. We expect that the portfolio of small cap stocks with strong fundamentals can generate higher return than other portfolios by market capitalization.

Using portfolio approach and cross-sectional regressions, we explore whether FSCORE as a simple financial indicator can systematically distinguish winners and losers in the book-to-market portfolios (value stocks, middle stock and glamour stock) and size portfolios (small cap stock, mid cap stock and large cap stock). We find that the fundamental analysis improves the performances of traditional value and size strategies. The portfolios of value stocks with high FSCORE give monthly risk-adjusted returns of 1.6641%, 1.0987%, 1.6105%, 1.4192%, 0.6881%, 0.4868% and 0.2093% in Hong Kong, Australia, Singapore, South Korea, Malaysia, Thailand and Indonesia, respectively. These returns are all significant after adjusted by Newey-West standard errors except the markets of Thailand and Indonesia. The long-short strategy by long strong value stocks and short weak glamour stocks is also profitable in these markets.

The predictive ability of FSCORE is more significant in the portfolios by size than the portfolios by BM. The monthly risk-adjusted returns on the portfolios of small cap stocks with high FSCORE are 2.5289%, 3.3552%, 1.1081%, 1.0744%, 0.5762%, 0.9263%, and 1.7802% in Hong Kong, Australia, Singapore, South Korea, Malaysia, Thailand and Indonesia, which are all significant at least at 5% level. The combinations of long position in small cap stocks with high FSCORE and short position in large cap stocks with low FSCORE also give positive abnormal return in these markets. The cross-sectional analysis shows that the long-only strategy and long-short strategy in BM and size portfolios are still profitable after controlling the firm characteristics such as BM, size, momentum, liquidity, operating profitability, investment factor, dividend yield and stock price. The abnormal returns may be attributed to market mispricing and the gradual incorporation of financial analysis information into the stock prices.

This research offers several contributions to the existing literature. First, we document that the phenomenon of value stocks under-reaction to fundamentals that happened in the United States (Piotroski, 2000) also exists in Pacific-Basin markets using the data during the period of 2000 to 2015. Second, this research extends this logic by examining the predictive ability of Piotroski's FSCORE in different market capitalization stocks. We find that FSCORE can also be applied to screen winners from losers in portfolios sorted by market capitalizations. The predictive ability of FSCORE is even stronger in small cap stocks than in value stocks. To our best knowledge, this is the first paper to examine the usefulness of financial analysis in small cap stocks in Pacific-Basin markets.

The remainder of the paper is organized as follows. The next section provides literature review for this paper. The Section 3 presents data, variables, and research design. Sections 4 and 5 provide empirical results and robustness test. The last section concludes the paper.

2. Literature review

The motivation of this research is to understand how value investing works in BM portfolios and size portfolios in Pacific-Basin markets. The father of value investing (Graham and Dodd, 1934) firstly used historical data of financial statement to capture the potential mispricing opportunities. Value investing claims that prices do not adjust to fundamental value instantly and it takes time for the market to reflect the intrinsic value of the company (Lee, 2001).

The investment opportunities arise when prices do not fully reflect the future cash flow implications of accounting-based information in a timely manner. As a result, the equity prices drift away from the intrinsic value of the company in the short run. Traditional long-term investors will try to capture the profit opportunities and believe that the price of the equity will correct to reflect its intrinsic value in the long run (Lakonishok et al., 1994; Lee, 2001). Due to the capital market constraint that the market often cannot reflect relevant fundamental information instantaneously, Abarbanell and Bushee (1997) investigate the effectiveness and ability of Lev and Thiagarajan's (1993) twelve financial fundamental signals. Abarbanell and Bushee's research shows that there is empirical evidence that the signal could explain or even predict future changes in earnings and revisions in analysts forecast as well.

Piotroski (2000) extends prior research and makes use of an investment strategy based on nine accounting-based signals that could create abnormal returns. The investment strategy is to long expected winners and short expected losers using the FSCORE as the filter in forming the portfolio of high BM stock. The finding of Piotroski (2000) is significant and the average annual return of hedged portfolio between 1976 and 1996 is 23%. Similarly, Mohanram (2005) forms a GSCORE so as to long the expected winners and short expected losers in forming the portfolio of low BM stock. The strategy is also very successful.