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BBS Capital Market Research

Abnormal Profit Opportunity by Investing in Small Firms

Experimental assessment of returns of Large-cap vs Small-cap firms in Dhaka Stock Exchange

Research & Professional Development Centers (RPDCs)

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February 16, 2021, "*Stocks rebounded strongly on Monday, snapping a two-day losing streak, as optimistic investors showed their appetite on large-cap lucrative issues*", reports The Financial Express, but what about the small-cap firms? Is there opportunity for investors; particularly amateur investors; to take advantage of the 'size-effect' and earn abnormal returns?

Large-cap firms often steals the spotlight, dominating financial news and explains why amateur investors gravitate towards them when starting out. Theoretically, large-cap firms offer consistent growth and incurs lower risk compared to small-cap firms, but small-cap firms outperform them in terms of return (Banz 1981); this is the 'size effect'. However, the magnitude of abnormal earning opportunity by exploiting size effect can be huge in developing markets (Wong 1989). These anomalies are prevalent as they are not widely documented in developing markets such as Dhaka Stock Exchange. As a result, the column focuses on experimental results of exploiting size effect by investing in industry matched relatively small cap non-financial firms in Dhaka Stock Exchange. The experiment was conducted across 5-year period from January 2015 to December 2019.

Each period measures price and dividend return of top 10 firms in Dhaka Stock Exchange in terms of market capitalization and compares it to return of equivalent bottom 10 firms from the same industry from a pool of 130 non-financial firms. Industry wise effects were taken into consideration by limiting 2 firms per industry per period in each portfolio. The methodology was intentionally kept simple based on readily available data as it should be reproducible by beginner investors without professional advice.

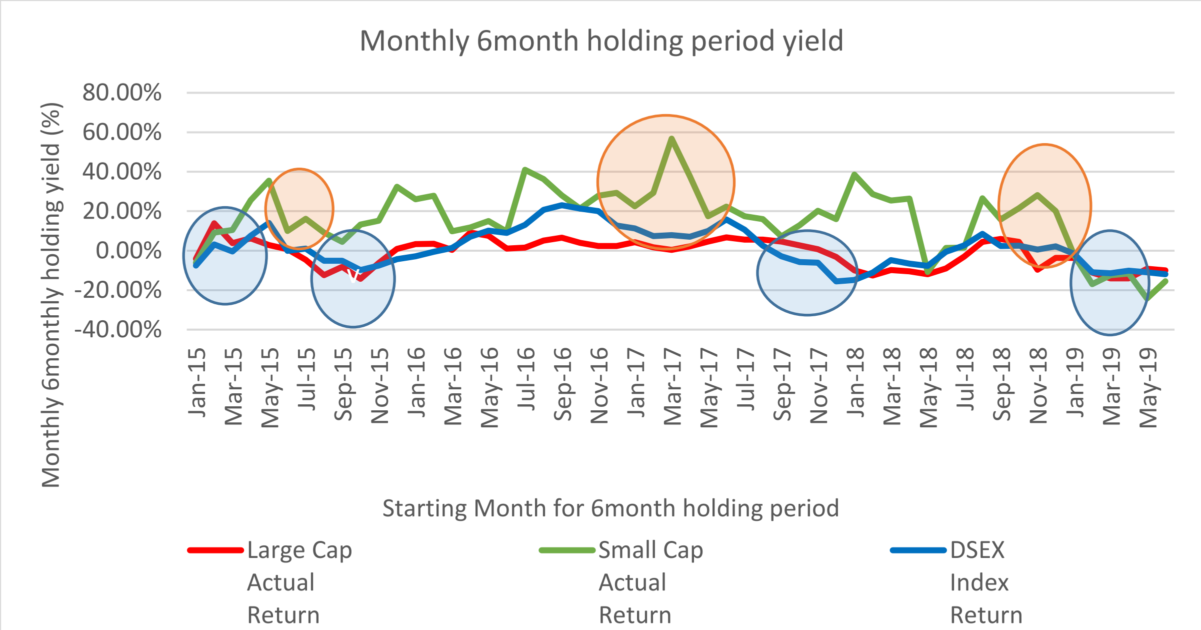
1,000 BDT was invested on each stock of the portfolio (10,000 BDT investment per month) and these portfolios were held passively for 6 months and sold at current market price at the end of holding period. The data in table below shows that on average large-cap firms were nearly 30 times bigger compared to their small counterparts in terms of market capitalization. As predicted by theory, small-cap firms, on average, earned an abnormal 16.21% for a 6-month holding period as opposed to large-cap firms who lost at the rate of 1.21% for the same. Monthly required rate of return for large-cap firms were lower compared to small-cap firms and this is expected as small-cap firms expose investors to higher volatility. The investments and returns were discounted at respective required rate of return and small-cap firms earned a surplus of 76,595 BDT while large-cap firms lost 46,361 BDT.

Portfolio Data Summary

Portfolio	Average Capitalization	Average Holding Period Return	Estimated Monthly Required Rate of Return*
Large-Cap	120billion	-1.21%	0.26%
Small-Cap	3.9billion	16.21%	0.60%

* Author estimation of required rate of return based on CAPM

It should be mentioned that the negative return on large-cap firms does not mean they are bad investments. For a starter, the portfolios are not optimized or diversified. Professional fund managers account for risks associated by closely monitoring the market and creates portfolios depending on objectives and risk appetite of investors. This means investing in varying asset classes to minimize risk to the level an investor is comfortable with. These assets are carefully weighted to balance risk and reward as set out by investor's objectives. Furthermore, portfolios are actively managed, especially time sensitive assets, depending on investment horizon. Even passive strategies for holding large-cap stocks can yield high returns over long horizons. For instance, if someone bought Renata shares at the end of 2010 bull market when share prices were rising, by the end of 2019, it had grown nearly 4 times. Over that period similar earnings have been realized by Square Pharma, Grameenphone, British American Tobacco and Berger Paints as reported by Chartered Financial Analyst Md. Moniruzzaman (The Business Standard News 2020); all regularly featured in our large-cap portfolios. If investors are looking for reliable return over a long horizon, they should focus on company fundamentals.



However, this column aims to investigate scope of size effect for shorter horizon passive investments for beginners and there are avenues for amateur investors to explore. Monthly returns of portfolios analyzed statistically revealed some interesting findings. First, the returns were statistically tested and showed strong evidence that small-cap firms generate higher returns when compared to large-cap firms. When the resulting returns are graphed against Dhaka Stock Exchange mainboard index (DSEX) returns, the scale of possible abnormal return on small-cap firms become more pronounced. The graph plots the returns from the small and large-cap portfolios against DSEX returns. The following conclusions can be drawn from the graph:

1. Small-cap firms (green) earns at significantly higher rates compared to both large-cap firms (red) and DSEX (blue)
2. Small-cap firms' returns are more volatile as its graph fluctuates more than large-cap firms. However, they consistently generate high return.
3. While Large-cap return fluctuations and DSEX return fluctuations closely follow each other (highlighted in blue bubbles), small-cap firms fluctuations lag behind (highlighted in orange bubbles) especially when the markets decline.

The main reason for these abnormal returns is not necessarily linked to firm size. Research on firm size and return has continuously showed that firm size is a proxy for other sources of risks; mainly liquidity risk (Crain 2011). Furthermore, returns of small-cap firms due to 'size effect' is non- linear and declines as they are documented. This means the effect cannot be expected to hold across the entire market with same marginal impact and as liquidity risk decreases for small-cap firms, return due to size effect decreases. However, size effect is prevalent in Bangladesh at the moment.

The experiment shows that 'size effect' is pronounced in Dhaka Stock Exchange and amateur investors can find profitable ventures by investing for short horizon such as 6 months into small-cap firms. As the experiment was conducted over a 5-year period, it seems that the results are replicated through business cycles. It offers prospective investors an excellent opportunity to exploit the size effect that will diminish as the market gradually become more efficient and small stocks more liquid.

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