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Do small caps generate above average returns in the Brazilian stock market?^{\ddagger}

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Abstract

Some studies suggest that low capitalization stocks have great potential to provide returns above the market average, although some indicate that investment in small caps should be avoided, since they are market anomalies with low liquidity. This article develops a method based on an automated trading system (ATS) applied to the Brazilian stock market, and investigates the relevance of small caps to the investor. The study indicates that, in the case of the Brazilian stock exchange, although there is a possibility of high returns the profitability of technical analysis of small caps is similar to strategies using blue chips.

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1. Introduction

The Brazilian stock market is very concentrated, with low average liquidity of the traded assets. Only a small number of firms have publicly traded stocks, and a large percentage of the assets is not negotiated frequently. Considering these peculiar characteristics, this study analyses whether trading strategies with low capitalization and reduced liquidity assets in the Brazilian market can generate benefits to the investor, allowing the structuring of higher return portfolios. Although focused on the Brazilian market, the study contributes to evaluating whether emerging market low capitalization assets may be interesting to diversify the portfolios of international investors.

This analysis of small caps in the Brazilian market could suggest opportunities for investors. Small caps are companies with shares traded in the stock market, whose issuers have a low degree of capitalization. Some authors consider that small caps outperform high capitalization assets in emerging countries (Noakes and Rajaratnam, 2014) as well as in developed countries (Shynkevich, 2012). However, the superior performance of low capitalization assets, when compared to medium and high liquidity assets, is not always corroborated by the studies. For example, Sandoval (2015) does not reject the hypothesis that the returns obtained with small caps in emerging markets are equal to the returns obtained with other assets. The author points out that the influence of the level of capitalization on the expected return is only significant for equity markets in developed countries.

Considering the contradictory empirical results in the literature, our work investigates the performance of small caps compared to large caps, that is, companies with a high level of capitalization and that present greater dynamics and liquidity in the market. For the study, we used traditional technical analysis (TA) indicators, due to the high degree of diffusion of these trading mechanisms among investors.

In this context, Nison (1991, p. 10) justifies the importance of understanding TA, since it can be the very reason for the market to move in certain directions, given its enormous degree of use. Moreover, Frankel and Froot (1986) and Shiller (1989) point out that the use of strategies suggested by TA entails an over-

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valuation of asset prices, making the demand for some assets artificially high, without necessarily having a specific real reason.

Nison (1991, p. 9) also emphasizes that the emotions of agents may exert great influence on market dynamics, as highlighted by Keynes (1936). Moreover, the author emphasizes that TA may have advantages over fundamental analysis (FA), which is based on the microeconomic and structural aspects of firms and on macroeconomic variables. More specifically, TA allows one to capture irrational elements of the markets, which may differ from analysis based solely on rational relationships.

The objective of this study is to evaluate the performance of strategies using moving averages, which are extremely widespread indicators among TA practitioners. We investigate trading strategies with small caps assets from the Brazilian stock market. As for the effectiveness of technical indicators for small businesses in the United States, Shynkevich (2012, p. 194) identifies a positive and statistically significant performance using data from 1995 to 2002, even when considering transaction costs. However, with data from 2003 to 2010, the author finds that a static buy and hold strategy was consistently better for portfolios with small caps.

Considering that Brazil is a prominent emerging country in the global context, it is relevant to study small caps in environments with less developed capital markets. Moreover, according to Chang et al. (2004, p. 295), capital inflows to developing countries are relevant, which may represent, for foreign investors, opportunities to generate portfolios with higher returns when compared to investments in developed countries.

The assumption underlying TA is that past prices can be used to anticipate future prices, contrary to the efficient markets hypothesis (EMH). Thus, this study aimed to analyse the performance of TA in an environment that should be less efficient, as it is the case of small cap companies traded in a stock market of an emerging country.

In this paper, we use an automated trading system (ATS), which consists of the automation of negotiations based on historical patterns verified in the data. We specifically take into account the crossovers of moving averages of prices of the traded assets. The study analyses and compares the performance of two sets of portfolios consisting of assets traded on the São Paulo Stock Exchange (BM&FBOVESPA), using data between 2007 and 2016. The sets of portfolios are distinguished by the presence or absence of small caps, since the objective of the article is to study the profitability of these specific stocks.

The paper is structured as follows: Section 2 familiarizes the reader with the concepts and results of the research on small caps and briefly discusses the fundamentals of TA; Section 3 discusses the method used in our study and details the algorithm that implements the ATS; Section 4 presents the main results of the paper and draws attention to the importance of these results for the literature.

2. Theoretical background

The level of capitalization of participating companies in a given financial market is heterogeneous. Considering firms financed from the capital markets, there are those with level degrees of capitalization, called blue chips and those with medium capitalization and small caps, which are stocks related to low capitalization firms.

According to Menkveld and Wang (2013, p. 1), small caps usually have low liquidity that, as indicated by Acharya and Pedersen (2005, p. 378), implies a higher cost of capital to attract investors. In addition, Acharya and Pedersen (2005, p. 378) also highlight the risk associated with the difficulty of selling lowcapitalization stocks in bearish markets.

Due to the peculiar characteristics of this type of stock, small caps can be associated with anomalies or inefficiencies in the market. However, Guidolin and Nicodano (2008, pp. 1–2) emphasize the high risk premium paid by small caps and the important role played by these assets in the diversification of a portfolio.

Hu and Li (1998) explore whether macroeconomic issues, such as changes in government and in monetary policy, differently affect the movement of assets with different capitalization levels. The results suggest that the size of a firm influences the way its assets are impacted by risk factors. In addition, the movement of small caps can also be explained by the very fact that they have low capitalization. This result is also supported for unemployment shocks, as studied by Hu and Li (1998).

The small caps market can be understood as a subcategory of the whole stock market, but with fewer participants, since these assets generate less interest for the traditional investor. However, as suggested by Guidolin and Nicodano (2008, p. 4), the demand for small caps is expected to be more stable in different regimes or market situations.

Small caps can hinder the market's attempts to achieve efficiency, as described by Malkiel and Fama (1970), since the trading of low capitalization stocks can be seen as an anomaly (Banz, 1981; Menkveld and Wang, 2013; Reinganum, 1981). However, assuming that the number of publicly traded firms in the market is dynamic, it is expected that there will always be small caps. Banz (1981) and Reinganum (1981) suggest that small caps perform better than blue chips for larger time windows between buying and selling an asset.

Ang et al. (2004) obtain a significant negative relation between risk and return, which is counterintuitive. However, Bali and Cakici (2008) attribute this evidence to the fact that in the analysis by Ang et al. (2004) have included small caps.

Switzer (2010) analyses the performance of small caps and blue chips in the US and Canadian stock markets, focusing on the stage of the business cycle of the economy. The author finds that in recessions the evidence on the relationship between risk and return is mixed and inconclusive for both small caps and large caps. In the transition from a valley (local level of lower economic activity) to a peak (local stage of high activity of the economy) low capitalization assets presented a much more satisfactory performance (Switzer, 2010).

Few studies, however, evaluate the performance of TA for portfolios with low capitalization assets, more particularly regarding the generation of buying and selling signals from the crossovers of moving averages. Given that Brazil is an emerging country and that it seems, compared to developed economies, Download English Version:

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