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How profitable is the Indian stock market?

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ABSTRACT

In this paper, using a range of technical trading and momentum trading strategies, we show that the Indian stock market is profitable. We find robust evidence that investing in some sectors is relatively more profitable than investing in others. We show that sectoral heterogeneity with respect to profitability is a result of the gradual diffusion of information from the market to the sectors. Specifically, we show that while the market predicts returns of sectors, the magnitude of predictability varies with sectors. Our results are robust to a range of trading strategies.

1. Introduction

The growth of the Indian stock market over the last decade has been impressive, particularly in terms of market capitalization, number of listed companies, and turnover rate. Market capitalization as a percentage of GDP of the National Stock Exchange (NSE), for instance, increased from 35% in 2001 to 85% in 2011. Similarly, the number of companies listed on the NSE more than doubled over the corresponding period, from 720 to 1552. Likewise, the turnover on the Indian stock market increased from US$621 billion

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in 2010 to US$1056 billion in 2011. For all its impressive growth, India achieved a global rank of 7th in terms of market capitalization, 10th in terms of total value traded, and 22nd in terms of turnover ratio, as of December 2010 (NSE, 2011).

The impressive growth of the Indian stock market has attracted research on the efficiency (or otherwise) of the market. There are a number of studies that examine the efficiency of the Indian stock market (see, inter alia, Dicle et al., 2010; Kumar et al., 2011; Majumder, 2013; Mishra et al., 2011; Narayan et al., 2014a,b; and Narayan and Ahmed, in press). There are two ways in which this literature can be taken forward. First, these studies do not provide an economic significance analysis with respect to market efficiency or inefficiency. Therefore, it is unclear how profitable the Indian stock market is. Second, if an investor wants to invest in the Indian stock market, which sectors should she invest in? This question remains unanswered in these studies.[1]

Therefore, from this growing literature on the Indian stock market, there are clearly four things which are relatively less understood. These are:

1. The Indian stock market may be profitable but do profits vary from sector-to-sector?
2. Can investors use different trading strategies to make profits from the Indian stock market? If yes, how much do the profits vary from sector-to-sector as trading strategies change?
3. Short-selling is a feature of the Indian market; therefore, what effect does short-selling has on sectoral profits?
4. The most recent global financial crisis has affected stock markets globally; therefore, has the crisis affected sectoral profits on the Indian stock market?

To the best of our knowledge, none of these questions has been answered in the literature. Our study provides the first attempt at addressing each of these questions. Our approach is as follows. We utilise a range of technical trading rules and momentum trading rules to identify winners and losers and form returns for momentum and zero-cost portfolios. We also consider ranking stocks based on moving average rules and then undertaking long and short positions. Taking long and short positions based on a ranking of sectors allows an investor to diversify risk and consider a portfolio of sectors in her trading strategy. More details on our approach are provided in the next section.

2. Approach

2.1. Moving average ranking-based trading strategy

In this section, we consider trading strategies based on moving average rules. The moving average technical trading rules are popular trading strategies, particularly in the foreign exchange market (see, for instance, Lee and Mathur, 1996a,b, and Szakmary and Mathur, 1997) and commodity markets (see Narayan et al., 2013; Narayan et al., 2014b). We begin as follows:

1. We compute the monthly long-run (LR) and short-run (SR) moving averages (MA) using identified intervals for LR and SR.
2. Using (SR–LR) moving average for respective intervals, we rank each of the six sectors, from best (rank 1) to worst (rank 6). The highest positive difference between SRMA and LRMA is assigned a rank of 1, and the lowest difference between SRMA and LRMA is ranked last.
3. We initiate long positions in high ranked sector(s) and short the sector with the lowest rank. In this way, we are able to devise three trading strategies (excluding the naïve investor strategy), as will be discussed soon.
4. When we do not allow for short-selling, we simply do not short but allow for cash positions.

[1] There is another branch of this literature (Chang et al., 2004), which typically employs simple technical trading rules, such as the moving average and the trading range break rules. These studies generally find some evidence of profitability. Similarly, Gunasekarage and Power (2001) and Narayan et al. (2014a) find evidence that the Indian stock market is profitable, although these studies use different approaches compared to what we do in this paper.