Ilkogretim Online - Elementary Education Online, 2020; Vol 19 (Issue 3): pp. 3163-3167
http://ilkogretim-online.org
doi: 10.17051/ilkonline.2020.03.735481

Return Seasonality In Indian Stock Market

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Abstract

The effect of seasonality is well seen in case of production and sales. For example, the increase in sales of rain coat during rainy season. Seasonality is a concept in which the event undergoes predictable and frequent changes during the calendar year. Investors invest in different classes of assets in anticipation of getting good amount of return. This return can be dependent on the factor of seasonality since we have witnessed the increase in return during particular events like Festival session, Budget Announcement, Financial Data announcement and many more.
This paper helps us in disseminating information about the effects of seasonality on the return earned in the Indian stock market and give idea whether an investor can earn abnormal returns by taking the advantage of the knowledge of seasonality factor.

Keywords: Seasonality, Anomalies, Calendar Effect, Announcement Effect, Market Efficiency, Abnormal Return, GARCH Model, Multivariate Analysis.

Introduction

There are many asset classes where an investor can invest and earn a good amount of return from that particular asset class. Every investor wants a good amount of return from the assets where s/he is investing. It is a general known fact that if an investor would like to earn higher return, s/he should be ready for higher risk. We can clearly see here that Return is a dependent variable and risk is an independent variable. Besides Risk, there are many other factors on which return can be dependent. One of these factors is Seasonality.
The demand of sweets increases in the festival session like Holi, Diwali etc. and it leads to the increase demand of sugar. This is one of the example of the seasonal variations. We all are well aware about this kind of seasonal variation. In many research papers, it was found that stock market returns exhibit the seasonality. In general sense, we can say that it is a kind of pattern, variation or fluctuation which is due to particular events like change in financial year etc. In specific sense, the data shifts frequently and predictably during the year in Seasonality. Any predictable fluctuation or pattern that recurs or repeats over a one-year period is referred to as seasonal. It is one of the properties of time series.

When assessing stock returns from a fundamental standpoint and since seasonality can have a huge impact on an investor's earnings and portfolio, it is critical to consider its effects. A business that generates more income during those seasons is more likely to make substantial profits during certain seasons and significant losses during others. If this isn't considered, an investor can decide to buy or sell securities based on current operations alone, ignoring the seasonal change that occurs as part of the company's seasonal business cycle.

The stock returns follow a predictable pattern at a particular time of the day or a particular day of the week or a particular week of the month. Seasonality in stock returns, on the other hand, contradicts a key finance theory. All stocks are fairly priced, according to the Efficient Market Hypothesis (EMH), and excessive returns cannot be achieved by searching for undervalued stocks. Future stock prices, on the other hand, follow a random walk pattern and cannot be predicted. The presence of seasonality in stock returns violates the market efficiency principle because the prices of equity are no longer random and can be forecasted based on past trends. This allows market traders to devise strategies related to trading that could result in extra ordinary gains based on historical patterns. Various researches explained the existence of seasonal component. They are called calendar anomalies (effects).

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Many researchers investigated the impact of Ramadan, Diwali, Budget, Size, January, Trading Volume, Window Dressing, Monthly Effect, Days of the week, Investor Sentiment, Market Crash, Financial Crash, Transaction Cost, Dividend, Volatility, Change in Financial Year, Liquidity, Investor Psychology, Earning Announcement, Price to Earnings Ratio, Assets' monthly return during months having high and low events, Age of the firm, Book-to-market ratio, Dividend to equity ratio, External finance to asset ratio, Market value of equity, Sales Growth, Tangible assets ratio, Research and development expenditure to asset Ratio, Return to Equity Ratio, Volatility of monthly returns, Gross Profitability, Dividend Yield, Earnings Yield etc. on stock market returns. Some have found that there is an existence of seasonalities in stock market returns and some have concluded that there is no existence of evidence of seasonality in terms of return received in stock market.

Objective of the Study

'Return Seasonality in Indian Stock Market' titled paper is designed to study whether seasonality will assist investors in developing techniques to get extraordinary profits during particular periods and gain more returns. This review based paper also emphasize the different factors of seasonality which can affect stock market returns and investors can develop strategies during these events to gain abnormal profits.

Review of Literature

(Matti Keloharju, Juhani T. Linnainmaa, Peter Nyberg, 2019) conducted research on the topic 'Are return seasonalities due to risk or mispricing?' They study different variables like average of all returns received in the past, average of all returns received in the same month, average of all returns received in the other months, difference between the average returns received in the same and other month. They used multivariate analysis technique to analyze the data. They found that seasonalities are counterbalanced by seasonal reversals, that the amount of seasonalities and seasonal reversals over the calendar year is zero, that seasonal reversals are economically large and statistically important, and that they imitate, but are not the same as, long-term reversals.

(Dr. R. Singh, Prof. H. R. Singh, Dr. A. K. Das, Ms. K. Kajol, Ms. M. Nath, 2020) conducted research on the topic 'Factors Affecting Seasonality In The Stock Market: A Social Network Analysis Approach'. They studied the impact of Ramadan, Diwali, Budget, Size, January, Trading Volume, Window Dressing, Monthly Effect, Days of the week, Investor Sentiment, Market Crash, Financial Crash, Transaction Cost, Dividend, Volatility, Change in Financial Year, Liquidity, Investor Psychology, Earning Announcement, Price to Earnings Ratio on the stock market return and used social network analysis approach to analyze the data. They concluded that

i. The impact of seasonality is heavily influenced by volatility, earnings reports, dividends, and the January effects.
ii. The following factors have a moderate impact on investors in terms of seasonality in the stock market
    a. the sentiment & psychology of the investors
    b. trading volume
    c. days-of-week effect
    d. window dressing
    e. end-of-Calendar year return
    f. the crash in market
    g. the financial crisis
iii. The following factors were least influencing factors
    a. trading rule and technical analysis
    b. price-to-earnings ratio
    c. tax-loss selling
    d. change in the financial year

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e. reversal effect
f. monthly effect
g. liquidity
h. Ramadan effect
i. size effect
j. Diwali effect
k. budget & transactional cost

iv. Another significant and powerful cause for seasonality was the financial crisis and market collapse.

(Deok-Hyeon Leea, Byoung-Kyu Minb, Yuchao Xiaoc, 2020) conducted research on the topic 'Testing the mood seasonality hypothesis'. They looked at the effects of the asset's monthly return across the months having high and low events, age of the firm, book-to-market ratio, dividend to equity ratio, external finance to asset ratio, market value of equity, sales growth, tangible assets ratio, Research and development expenditure to asset Ratio, return to equity ratio, volatility of monthly returns, gross profitability, dividend yield, earnings yield on the stock market return and used descriptive statistics and regression analysis approach to analyze the data. They found that assets that perform extraordinary during the periods having high events tend to outperform during future predicted periods having high events, but do not perform well during future predicted periods having low events.

(Haoyuan Liyand, Roger K. Lohz, 2020) conducted research on the topic 'The information cycle and return seasonality'. They studied the impact of size, book to market value, beta, earning announcement, buy-and-hold (from the month t-12 to t-2) return on the stock market return and used descriptive statistics and regression analysis approach to analyze the data. They found that Seasonality anomaly is much stronger when it is consistent with information cycle.

(Carlos F. Alves & Duarte A. Reis, 2019) conducted research on the topic 'Exposition of evidence for idiosyncratic versus induced seasonality in ETF performance'. They studied the impact of alpha, beta, price and net asset value on the stock market return. They used i. Fama and French's (1993) three-factor model and ii. Carhart's (1997) four-factor model approach to analyze the data. For April returns, they discovered signs of induced seasonality.

(Dr. Silky Vigg Kushwah and Ms. Sulekha Munshi, 2018) conducted research on the topic 'The effect of Seasonality over stock exchanges in India'. They studied the impact of the week in which budget is announced by the Government of India. They also studied the impact due to change in financial and calendar year and the week in which Diwali is celebrated on the stock market return. They used the following statistics to analyze the data:

a) Descriptive statistics
b) Paired sample t-test approach

According to their findings, these four factors have no major impact on the nifty 50 returns. As a result, their results disprove the existence of seasonality in the Indian stock market, as no substantial difference in nifty returns existed before and after the four events studied. They also inferred that investors cannot use seasonality to book abnormal returns. They found an inverse relation of events like Diwali Festival and the change in calendar year with the returns received from Nifty Index. On the other hand, reporting of Budget by the Government of India and change in financial year activities have a direct association with Nifty returns due to a strong connection. Overall, the research contradicted seasonal effects.

(Steven L. Hestona, Ronnie Sadka, 2007) conducted research on the topic 'Seasonality in the cross-section of stock returns'. For a new periodic pattern, they looked at the cross-section of average stock returns. They found that stocks with higher-than-average monthly returns have higher-than-average annual returns for up to 20 years. Seasonal fluctuations in stock returns were the prime reasons according to them. They arrived at the conclusion that the seasonal effect was significant enough to be measured solely on the basis of return results. To quantify the seasonal effect on the cross-section of returns in stock market, they applied Conrad and Kaul's (1998) and Jegadeesh and Titman's (2002) methodologies. When comparing returns across all months, previous findings show that there is no impact. However, there was a significant economic impact, when the cross-section of expected stock returns was compared across

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months having seasonal events. Individual stocks in their sample had consistently different returns over the course of the year, which backed up their results.

(Steven L. Hestona, Ronnie Sadka, 2010) conducted research on the topic 'Seasonality in the cross-section of stock returns: The International Evidence'. This study looked at whether past stock returns can be used to forecast potential stock returns across international markets. It confirmed Canada's and Europe's short-term momentum anomalies, as well as Japan's apparent absence. However, it also depicted a new pattern i.e. long-term: stocks having extra ordinary performance than the market for a month appear to have the extra ordinary performance than the market for the next 12 months, thus resulting in underperformance in the interim. It is not a country effect since it compares country-neutral production to local markets. In contrast to the momentum anomaly, this pattern is visible in Canada, Japan and Twelve European countries. Annual strategies outperform nonannual strategies by more than 1% each month, and it can last up to 5 years.

(Eleftherios Giovanis, 2009) conducted research on the topic 'The Month-of-the-year Effect: Evidence from GARCH models in Fifty Five Stock Markets'. Asymmetric GARCH models are estimated using symmetric GARCH models and asymmetries tests. It was determined that January effects do not occur on a global scale and that they are a very week calendar effect, as they are only present in seven stock markets, while December returns are higher in twelve stock markets. Furthermore, this research demonstrates that the market efficiency theory, which is often focused on month-of-the-year results, is violated, as each stock market formulates monthly trends with the goal of benefit exploitation.

(Dr. Naveen Nandal, Ms. Nisha Nandal and Ms. Anuradha, 2020) conducted research on the topic 'Coronavirus and Its Impact on Stock Market'. They emphasized the negative impact of pandemic COVID 19 on the stock market returns across the globe. The paper suggested the impact of specific event on the stock market return and therefore supported the seasonality impact on the stock market return.

Conclusion

From the above discussion, it has been concluded that seasonality has a significance relation with the stock market return in one way or another. It has been observed that investors can earn abnormal profit by developing strategies during particular events. These factors/events can be found out by proper analyzing the data in the given area.

References

i. Alves, C. F., & Reis, D. A. (2020). Exposition of evidence for idiosyncratic versus induced seasonality in ETF performance. Applied Economics Letters, 27(1), 14–18. https://doi.org/10.1080/13504851.2019.1606397
ii. Bansal, V. P. (2017). The Effect of Seasonality over Stock Exchanges in India. Journal of Business Management and Information Systems, 4(1), 65–72. https://doi.org/10.48001/jbmis.2017.0401008
iii. Heston, S. L., & Sadka, R. (2008). Seasonality in the cross-section of stock returns. Journal of Financial Economics, 87(2), 418–445. https://doi.org/10.1016/j.jfineco.2007.02.003
iv. Heston, S. L., & Sadka, R. (2010). Seasonality in the cross section of stock returns: The international evidence. Journal of Financial and Quantitative Analysis, 45(5), 1133–1160. https://doi.org/10.1017/S0022109010000451
v. Kajol, K., Nath, M., Singh, R., Singh, H. R., & Das, A. K. (2020). Factors Affecting Seasonality in the Stock Market: a Social Network Analysis Approach. International Journal of Accounting & Finance Review, 5(4), 39–59. https://doi.org/10.46281/ijafr.v5i4.888
vi. Keloharju, M., Linnainmaa, J. T., & Nyberg, P. (2021). Are return seasonalities due to risk or mispricing? Journal of Financial Economics, 139(1), 138–161. https://doi.org/10.1016/j.jfineco.2020.07.009
vii. Lee, D. H., Min, B. K., & Xiao, Y. (2020). Testing the mood seasonality hypothesis: Evidence from down under. Pacific Basin Finance Journal, 64(September), 101440.

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http://ilkogretim-online.org
doi: 10.17051/ilkonline.2020.03.735481
https://doi.org/10.1016/j.pacfin.2020.101440

viii. Li, H., & Loh, R. (2020). The Information Cycle and Return Seasonality. SSRN Electronic Journal, December. https://doi.org/10.2139/ssrn.3746737

ix. N. Nandal, N. Nandal, A. (2020). Coronavirus and its impact on stock market. International Journal of Disaster Recovery and Business Continuity, 11(1), 943–948.