Research on The January Effect in Healthcare Sector Stock Prices

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Abstract. This paper studies the existence of the January effect in healthcare sector stocks, whether the magnitude of the January effect changes in the stock market under different company sizes and different special periods. The study examines 12 sets of data across four stocks in the healthcare sector and generates separate charts. The study finds that, firstly it is confirmed that the existence of the January effect in healthcare sector stocks is confirmed; Secondly, it finds that the January effect is more pronounced in small companies than in large companies; Thirdly, it suggests that the January effect disappears in the years following COVID-19 crisis; Moreover, the January effect persisted during the financial crisis, despite the slump in stock prices. These findings provide the evidence of the January effect in healthcare sector stock prices, which is valuable for investment strategies of the investors.

Keywords: Stock; Healthcare; January effect; Market anomalies; Moving average.

1. Introduction

The January effect refers to one kind of market anomaly in which the stock prices tend to rise in January every year, sometimes with a little drop in stock prices in December. Since its discovery in 1942, this calendar anomaly has been extensively studied by academic literature and practitioners. Early reports lingered on proving the existence of the January effect, such as Haugen's 1988 study mentioning that certain types of securities have been producing unexplained high levels of returns in the first month of each year in recent decades [1]. This has lifted the veil of mystery of the stock market, but also shed many unsolved questions, such as whether this trend is stable, whether the effect is valid for all sectors of stock, what causes it, and so on. In fact, in recent decades, these questions are being answered one by one. In recent years of research by Mahlope and Muzindutsi (2017) shows that “market anomalies tend to differ across sectors” which some sectors seem to be more sensible to the January effect than others [2]. In addition, scholars have gradually given some widely recognized speculations about the causes of the January effect; For example, tax law harvesting, year-end bonus investment, psychological factors [3]. However, there are also many voices of doubt about the January effect. Recent research papers provide evidence that the January effect is declining globally over time. Gu (2003) argues that the reason for this decline may be “...a trend toward market efficiency” [4]. In fact, many other market anomalies, including the widespread prevalence of the January effect, have been presented as evidence to support the notion that stock markets are not entirely efficient [5]. According to this line of reasoning, if such a market anomaly exists and is entirely legal in terms of transactions, then people behave better than the market, at least in theory, which goes against the notion that markets are efficient. In other words, such a market anomaly like the January effect cannot have a plausible explanation in an efficient market [6]. To this day, the issue of market efficiency and January effect is still debated among scholars.

This study aims to help find a balance on the January effect debate. In particular, the study focuses on stocks in the healthcare sector. In the stock market, Healthcare is regarded as the most trustworthy defense sector. When the stock market fluctuates, it can serve as an efficient investment buffer, which is a consistent consumer demand that other equity businesses have failed to maintain [7]. This stable structure and relatively low risk provide strong support for studying the tendency of January effect in the long run. The study starts off by re-examining the existence and magnitude of the January effect. Then, the study compares the magnitude between large and small market cap stocks. Finally, the
study analyzes the performance of the January effect in the two well-known world crises – COVID-19 Crisis in 2020 and Global Financial Crisis in 2007 and 2008 – that is, whether the existence and magnitude of the January effect has changed before and after. This study will provide reference for future research on market anomalies, and provide investment advice for investors at the same time.

2. Methodology

2.1 Object

To ensure that the diversity of objects chosen can be maximized within a limited number of objects to achieve a relatively generalized result, a total of four Healthcare stocks — UnitedHealth Group Incorporated (UNH), Pfizer Inc. (PFE), bluebird bio, Inc. (BLUE), and MeiraGTx Holdings plc (MGTX) — with different market caps, different current prices, and different company backgrounds are being selected. As more mature companies, Pfizer and UnitedHealth Group are considered as large market cap stocks, which is $15 billion or more, and the two companies’ stock prices ranked among the top stock prices in the Healthcare sector. MeiraGTx and bluebird are considered as small market cap stocks, which is under $15 billion, and their stock prices are much lower than the other two stocks with large market caps. In addition, to ensure the stability and authenticity of the data, the four companies include both old and new companies. In terms of company background, UnitedHealth Group, Pfizer, and bluebird are all established pharmaceutical companies founded for over 30 years, while MeiraGTx is a new company founded in 2015. Note that none of these four stocks are considered as a control group in this case; The market cap, current price, and company background are factors that used to improve the diversification of objects chosen to ensure the popularity of conclusions to the largest extent.

2.2 Data

This study tests the effect of January Effect on Healthcare sector stocks based on three aspects: (1) The general existence of January Effect; (2) January Effect in different market caps; (3) The trends of January Effect across special periods: COVID-19 Crisis and Global Financial Crisis. The daily stock close price data will be picked up in the following years to perform the test of these three aspects: 2006: year before Global Financial Crisis, 2009: year after Global Financial Crisis, 2020: year before COVID-19 Crisis, 2022: most recent year. In order to better visualize the effect of January on the stock market, for each selected year, the data is collected and presented over a six-month period (from October 1st to March 1st). Data collected on Yahoo Finance (https://finance.yahoo.com/) generates a table of the daily closing price of a particular stock. Next, a line chart of the daily closing price over the six-month period is generated in Excel. The 30-day moving average is then calculated according to daily closing price and presented as a curve on the same chart.

2.3 Procedure

Both the close price trend line and the 30-day moving average curve can be analyzed by looking at the axis, slopes and peaks. The close price trend line shows the general daily price fluctuation. The existence of the January Effect can be proved / denied by looking at the weekly, monthly, 6-month close price moving trend. The 30-day moving average curve shows the average stock prices 30 days ago from the current day stock price level. It smooths out price trends by filtering out short-term price fluctuations, so the curvilinear trends are easier to analyze by looking at the slopes and peaks. A positive slope of the 30-day moving average curve indicates that there is an increasing trend of the price in a particular stock, and vice versa. The peak of the 30-day moving average curve represents the highest stock average price over the last 30 days period.
2.4 Hypothesis

The null hypothesis of this study is that the stock price in the month of January shows no significant difference or little difference from the stock price in any other month; The January effect appears to affect large market cap companies more than small market cap companies; The January effect shows no significant difference or little difference between the year before and after COVID-19 crisis and Global Financial Crisis.

The alternative hypothesis of this study is that the stock price tends to rise in the month of January, or the tendency of price rising in January is more than any other month; The January effect in small market cap companies is more drastic than large market cap companies; The January effect on stock market tends to be less drastic after major world crisis.

3. Results

3.1 Basic Results - the general existence and magnitude of January Effect

Among all 12 charts present above, there are 6 charts (UnitedHealth Group in 2006, UnitedHealth Group in 2022, Pfizer in 2022, bluebird in 2022, MeiraGTx in 2020, MeiraGTx in 2022) that do not meet the characteristics of the January effect, in which all the data extracted on MeiraGTx fail to meet the characteristics of the January effect. This implies that the trigger conditions of the January effect are very harsh on the company itself and the current stock market situation. For newly established companies and some globalized stock market fluctuations, the magnitude of the January effect will be very insignificant or even has reversed phenomenon.

Nevertheless, other 6 charts (UnitedHealth Group in 2009, UnitedHealth Group in 2020, Pfizer in 2006, Pfizer in 2009, Pfizer in 2020, bluebird in 2020) all show a peak on the 30-day moving average curve either in late January or early February. This indicates that the monthly average stock price of a certain stock in a certain year reaches its highest point in the early January or mid-January, which meets the basic requirements of the January effect. In some stocks, it can be seen that there is a clear price drop in November or December and a price rebound in January, for example, UnitedHealth Group in 2009, Pfizer in 2006, and bluebird in 2020.

Based on the result above, the null hypothesis is rejected. The stock price in the month of January sometimes shows a difference from the stock price in any other month. The January effect still exists but market stability must be ensured.

3.2 January Effect in different market caps

Among all 12 charts, the 3 charts most affected by the January effect are UnitedHealth Group in 2009, Pfizer in 2006, and bluebird in 2020. As a member of the small company discussed in this study, bluebird's stock price in 2020 fell significantly from the beginning of November to December, then rose sharply around the New Year and fell again at the end of February. This company has been greatly affected by the January effect in 2020. UnitedHealth Group and Pfizer, as large companies, also show high returns in January. However, those data are collected from 2006 and 2009, the year before the two companies went huge. That said, it's reasonable to suspect that the January effect is more pronounced when UnitedHealth Group and Pfizer were small companies.

Based on the result above, the null hypothesis is rejected. The January effect in small market cap companies is typically more drastic than large market cap companies.

3.3 The trends of January Effect across different special periods

3.3.1 before & after COVID-19 Crisis (2020 vs. 2022)

All 4 stocks analyzed in this study show the existence of the January effect before COVID, but a counter-effect in the year of 2022: a price peak in December followed by a sudden drop in January. COVID-19 Crisis does affect the existence and magnitude of the January effect in healthcare stocks.
Based on the result above, the null hypothesis is rejected. The January effect shows a difference between the year before and after COVID-19, and its effect on the stock market tends to be less drastic after COVID.

3.3.2 before & after Global Financial Crisis (2006 vs. 2009)

In UnitedHealth Group and Pfizer’s charts for 2006 and 2009, no clear before-and-after trends were found. Although the stock price did drop after the Global Financial Crisis, Pfizer shows a clear sign of the January effect both in 2006 and 2009.

Based on the result above, the null hypothesis fails to be rejected. The January effect shows no significant difference or little difference between the year before and after the Global Financial Crisis.

Figure 1. UNH - Close Price & 30-Day Moving Average (10/1/2005 ~ 3/1/2006)

Figure 2. UNH - Close Price & 30-Day Moving Average (10/1/2008 ~ 3/1/2009)

Figure 3. UNH - Close Price & 30-Day Moving Average (10/1/2019 ~ 3/1/2020)

Figure 4. UNH - Close Price & 30-Day Moving Average (10/1/2021 ~ 3/1/2022)

Figure 5. PFE - Close Price & 30-Day Moving Average (10/1/2005 ~ 3/1/2006)

Figure 6. PFE - Close Price & 30-Day Moving Average (10/1/2008 ~ 3/1/2009)
4. Discussion

Overall, with the exception of the results from the financial crisis period, the other results meet the previous stated hypotheses. The results of the study show that the January effect has always existed in the stock market, whether it was 15 years ago or now, which is consistent with the conclusions reached by previous scholars: Haugen and Jorion once mentioned the insignificant change of the magnitude of the January effect, and it is "still going strong" [8]. It can be seen that the existence of the January effect has been widely recognized among researchers.

In addition, in terms of company size, evidence shows that the January effect is more of a small-company effect: it is more pronounced in small-cap firms than in large-cap firms. In fact, many
researchers refer to the January effect as the small firm effect in particular. A study by Salomon Smith Barney found that over the three decades from 1972 to 2002, the overall January effect of small companies outperformed larger companies by 0.82% [9]. However, there is no single explanation that can explain this phenomenon uniformly. As an example, Reinganum writes in his essay that although the January effect appears to be consistent with tax-loss sales, tax-loss sales do not explain the January effect: in fact, small firms that are least likely to be sold for tax reasons also exhibit a larger January effect [10]. The reasons why lower liquidity small companies are more affected by the January effect can be multifaceted and complex.

Consistent with previous forecasts, COVID-19, as the world's largest healthcare crisis in recent years, has had a significant negative impact on healthcare stocks, even as governments across the country are encouraging the market to remain in place [11]. More unexpected is the market performance during the financial crisis. The study finds that the January effect did not go away during the 2008 financial crisis; This is contrary to the previous hypothesis. A paper written by Al-rjoub and Alwaked mentions the performance of the January effect during financial crises, that the “average loss in returns of January during crises are much smaller than average loss in returns during other months of the crises”, and January is typically “more immune against the losses of crises” [12]. This suggests that January stocks are generally in better shape than other months, despite the financial crisis.

5. Conclusions

Based on analysis on the January effect in healthcare sector stock prices, this study draws the following conclusions:

Firstly, before 2022, stocks in the healthcare sector typically fall in December and rise in January, reaching their 30-day average highest stock prices in late January; This is a sign of the existence of the January effect in the healthcare stock market. Notice that in the most recent year 2022, all 4 stocks fail to satisfy the characteristics of a January effect. This can be a sign of a dissipation of the January effect, but other idiosyncratic factors need to be ruled out, such as widespread stock market volatility guided by special events, if this conclusion is to be confirmed.

Secondly, the January effect is overall more pronounced in small companies than in large companies; even within the same company, the January effect is more pronounced when the company is smaller and has a lower stock price in the early days.

Thirdly, COVID-19 Crisis, as the largest world crisis in the past decade, had a huge impact on the January effect in healthcare stocks. After COVID, all 4 stocks experience a counter-effect phenomenon, indicating a majority of people choose to sell stocks rather than buy them at the beginning of the year due to the overall stock market fall after the pandemic.

Fourthly, although the financial crisis sends stocks of various companies plummeting, the January effect does not disappear: the impact of the financial crisis on overall stock prices is far greater than the impact on the January effect.

This study highlights the existence of the January effect in the healthcare sector, in particular posing challenges to small companies, and plays a role in a large-scale world crisis. The January effect has deepened people’s understanding of stock market efficiency and remains a topic worthy of in-depth study for market researchers. In today’s healthcare stock market, people still have the habit of selling stocks in December and re-buying in January. This phenomenon, in the short term, will not disappear. However, this study does not have a clear conclusion on the specific magnitude and future trend of the January effect in the stock market. The reason for this is that the number of objects studied is not large enough to give an accurate numerical reference. The study also raises new questions, particularly given the evidence that the impact of the global financial crisis on the January effect is not as great as expected; follow-up research will aim to explain this issue.
References


