Behavioral finance:

The January effect

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Abstract

The January effect is a thoroughly and well researched anomaly in the academic financial world. However, even after all this research a definite explanation for this effect has not been given yet. The explanation that has gotten the most attention from the most cited papers is the tax-loss selling effect. This explanation states that investors sell their losing stock at the end of the year, thus generating a loss so they can reduce the amount of tax they have to pay at the end of the fiscal year. After the tax-loss selling hypothesis some other possible explanations for the January effect are discussed together with a review of the Other January effect. Furthermore, an empirical research is conducted using index data from the Standards and Poor's 500 (S&P 500) between 1975 and 2000. This thesis does not find significant evidence for the existence of the January effect at a 0.05 probability level. There is some indication that January is a good indicator for the rest of the year in the literate, but the empirical results are not significant for this to be concluded.

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1. Introduction and Problem formulation

1.1 Introduction

The topic for this bachelor thesis is the January effect. This effect is an anomaly found in the month January. Stocks, and especially small stocks, tend to perform very well in January compared to the other months. Wachtel (1942) is generally seen as the first researcher that found the January effect. After his discovery, Rozeff and Kinney (1976) were one of the first that investigated this particular pattern. To be more precise, Rozeff and Kinney (1976) found seasonal patterns in an equal-weighted index of the New York Stock Exchange prices over the period 1904-74. In their study they established that the average monthly return in January was 3.5 percent. In other months this was only 0.5 percent. Another important finding was that this effect was not observed in an index that was only composed of large firms.

After Rozeff and Kinney made this first step in exploring this phenomenon, others quickly followed in their footsteps. In a study performed by Banz (1981), evidence was found that small firms earn higher returns than the expected returns. Keim (1983) investigated whether the excess returns of small firms were temporally concentrated. He found that half of the returns in January came from the first five trading days. Over the years researchers have come with up answers to why this January effect occurs. Reinganum (1983) investigated a possible explanation of the January effect based on tax-loss selling. The idea is that firms will sell their losing shares at the end of the year, this way trying to realize some capital losses. While the evidence found by the researchers suggest that taxes have something to do with the January effect, it cannot be the entire explanation. Kato and Schallheim (1985) also found a January effect in Japan. Because there are no capital gains/loss tax offsets in Japan, there has to be another explanation for the higher returns in January. Japan is not the only example where the tax argument doesn't hold up. In countries like Canada, Australia and Great Britain researchers also found a January effect, but their tax years start at respectively 1 April and 1 July. Gultekin and Gultekin (1983) found more international evidence to support the January effect.

Another interesting idea found by De Bondt and Thaler (1985) is that firms who have been big winners or losers in the last five years will often have excess returns in the opposite direction. These excess returns, again, tend to concentrate in January. These findings all

contradict the idea of the Efficient Market Hypothesis (EMH). The January effect is still a well debated topic by researchers who all have different ideas and explanations for the effect.

The goal of this paper is to investigate whether the January effect exists and to what extend it has influence on the financial markets. First of all I will test whether I can find an effect with data from the Standard and Poor's 500 (S&P 500). After that I will investigate whether the data gives evidence for the idea that January is a good indicator for the rest of the year. At last I will try to answer the question whether it is possible for an investor to make an easy profit if he or she knows of the January effect and tries to use it for financial gain.

In other words, I will try to find the answers to the following questions:

"Is there enough evidence for the existence of the January effect?"

"Is there enough evidence for the existence of the Other January effect?"

To answer these questions I will perform both a literature review as well as an empirical research. For the empirical research I will use data from the S&P 500 from 1975 to 2000. Chapter 2 gives a review of the related literature. Starting with the Efficient Market Hypothesis (EMH), which has been the starting point for many financial researches, I will explain why the January effect in theory cannot exist according to the EMH. I will explain what the January effect does in the stock market and what are the possible causes and explanations for this effect. In Chapter 3 I will give an overview of the used data and I will explain the methods that I have used. In Chapter 4 the results of the empirical research are given. All of the above will the summarized in Chapter 5 and the research questions will be answered. Chapter 5 also gives some recommendations for further research.

2. Literature Review

This chapter starts with a brief explanation of the Efficient Market Hypothesis. This theory states that it should not be possible to make a higher return than the market return. This statement contradicts the finding of the January Effect, where investors could try to make a profit higher than the market return. After that the most important papers on the findings of the January effect are discussed. The most discussed and therefore most important explanation for the January effect is the tax-loss selling explanation. Other possible explanations are also discussed in the next paragraph. In the last paragraph the effects of data-snooping are discussed briefly.

2.1 Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH) has been the main starting point for many financial papers in the last decennia. The hypothesis is a heavily debated topic. Fama (1965) was the first to define the efficient market, which he described as 'a large number of rational, profit-maximizers actively competing, with each trying to predict future market values of individual securities, and where important current information is almost freely available to all participants'. After a few years Fama (1970) established his famous Efficient Market Hypothesis. His hypothesis was built on the idea of Jules Regnault (1863) who had already modeled the random character of the stock market price. This later became the Random Walk Theory by Kendall (1953) who observed that 'stock prices seem to wander randomly over time'. The main idea of the EMH is that it will be impossible to get a higher return than the market return. The hypothesis is further based on the idea that all available information is directly reflected in the stock price, therefore making it impossible to make a profit by having more information than other traders. Fama came up with three types of efficiency: the strong form, the semi-strong form and the weak form. In short, the difference between the three forms is what kind of information is factored in the price of the stock. In the weak form the only information available are the historical prices. The semi-strong form states that all publicly known information is reflected in the price. The final strong form states that all information, including inside or private information, is reflected in the price. The EMH has been widely accepted as a correct and useful hypothesis.

However, the January effect is one of the anomalies that seem to be inconsistent with the Efficient Market Hypothesis. If the stock return in January is indeed higher than in the rest of the year, according to the EMH investors should start buying stock in December and selling it

again at the end of January, efficiently negating the January effect to zero. The January effect is not the only anomaly found in the last decennia. For example Basu (1972) found convincing evidence on a P/E (price/earnings ratio) study that the EMH does not work correctly. Ball (1978) also found evidence in his study about post-announcement earnings that could create excessive returns. Another well known study by Banz (1981) found out that smaller firms seem to outperform bigger firms in the New York Stock Exchange market for over forty years. Over the years many more researchers have found enough evidence that the EMH is not always working as intended. A fine example of real life evidence that people can actually beat the market is Warren Buffett. With his strategy of buying undervalued stocks he has made millions over the last years and he has shown the world that it is indeed possible to beat the stock market. Overall, there is enough evidence that anomalies exist and that things like the January effect might be a true phenomenon.

2.2 The January effect

The January effect is a so called seasonal effect and throughout the years it has been studied by many different researchers. The January effect is a phenomenon where the stock return is higher in January than in the rest of the year. The first to discover the January effect was Wachtel (1942). In his paper, Watchel makes a reference to earlier performed researches that had not found a January effect. He was the first to find a significant seasonal effect in the Dow Jones Industrial Average data from 1927 till 1942. With his paper the search for more evidence of a January effect had officially started. Many years after Watchel made his discovery another important paper was published about the January effect. Rozeff and Kinney (1976) performed a study about the New York stock exchange prices for the period 1904 to 1974. They discovered that the average return in January was 3.5% while the average return in other months was only 0.5%. After Rozeff and Kinney many more researchers went looking for the January effect. Reinganum (1983) and Ross (1983) provided more evidence to support the January effect in the Western world. They confirmed the idea that the January effect is especially a small cap phenomenon. But it was not only in certain parts of the world where an effect was discovered. Kato and Schallheim (1985) found a January effect in Japan and Gultekin and Gultekin (1983) found a January effect in 15 different countries. This provided the information that the January effect was a global anomaly. Many researchers have searched for evidence on tax-loss selling as an explanation for the January effect, which will be discussed in the next paragraph.

2.3 The tax-loss selling explanation

While still a bit of a mystery, the January effect explanation that has received the most attention, and also has the most valid answers, is the tax-loss selling hypothesis. According to this hypothesis, a rational investor will sell the losing stocks at the end of the fiscal year. By doing so, the investor will try to reduce the amount of tax he or she has to pay by increasing capital losses. The consequence of this kind of behavior is that the (already) losing stocks will suffer a downward pressure from people selling their stocks at the end of the fiscal year. In the beginning of January the downward pressure will disappear, because investors are not selling the stock for the tax purpose anymore, and the stock can go back up to its real market value. In January the investors who have sold their stocks in December can now buy new stocks with their money gained in December, effectively increasing the stock prices. During the first research on the January effect by Wachtel (1942) his most plausible explanation was tax-loss selling. In his paper he writes that the effect is merely a reaction to the (too) low stock prices in the end of December and in the beginning of January. In a well known article by Reinganum (1983), his findings that small firms generate higher returns are largely explained by tax-loss selling. However, he cannot explain all the variation in the return by tax-loss selling, so there has to be something else that generates this anomaly.

In another important paper, Ritter (1988) finds more evidence for the tax-loss selling explanation by observing that investors seem to wait with reinvesting their money into small stocks till January. Ritter also finds that the January effect is explained by portfolio rebalancing from individual investors, who are mostly driving by taxes at the end of the year. An interesting supporting paper by Johnston and Cox (1996) find a strong positive relationship between higher market return in January and the level of individual ownership of a stock. In a study by Eakins and Sewell (1993) evidence is provided for large firms with relatively much individual ownership. Here the January effect is also observed. Brailsford and Easton (1993) conduct a series of tests on larger firms, trying to provide evidence that the January effect is not only small cap phenomenon, but they cannot get significant answers.

There are also researchers that do not agree with the tax-loss selling explanation and disregard the idea with multiple reasons. First of all, amongst others, Berges, McConnell and Schlarbaum (1984) and Jones, Pearce and Wilson (1987) argue and that the phenomenon had existed prior the introduction of a tax system and thus making it an impossible explanation. Roll (1983) does not find any evidence to support the tax-loss selling hypothesis. In a study in

Canada, where a capital gain tax was implemented only in 1973, by Berges, McConnell and Schlarbaum (1984) find evidence for a January effect from 1951 to 1980, clearly stating that the tax-loss selling hypothesis cannot be the reason for the seasonal effect. In a more recent study on emerging markets by Fountas and Segredakis (2002) no support for the tax-loss selling explanation is found. They do however find a January effect and thus stating that tax-loss selling hypothesis cannot be the answer to this phenomenon.

To conclude, there are many papers that have researched the tax-loss selling effect. Many papers support the hypothesis, but there are also many papers that do not find enough evidence for such an effect. Overall, there is not enough clear evidence to clearly support the tax-loss selling explanation. Further research might be needed to reach consensus between the researchers.

2.4 Others explanations

As we have seen in the last paragraph the tax-loss selling explanation might not provide a satisfactory answer to the question why the January effect exists. Throughout the years researchers have come up with other possible answers. An alternative explanation first proposed by Haugen and Lakonishok (1988) is institutional investor window-dressing. Window dressing refers to actions by portfolio managers in which they sell losing issues before the end of the year when they must disclose their portfolio holdings. The selling of these stocks is usually an attempt to avoid revealing that they have held poorly performing stock. Among others, Ritter and Chopra (1989) and Musto 1997) find evidence for the window-dressing hypothesis. Portfolio managers wish to show their bosses that they have done well at the end of the year and that they have not taken too much risky investments. In the end of the year these managers sell their small and speculative stock positions and buy stock from large and secure companies. In January the exact opposite will happen. Institutional investors sell their stocks in the large companies and they once again invest in the smaller, riskier, but also probably more profitable companies.

This movement might be (one of) the explanation(s) for the January effect. However, there are also quite a number of studies that find evidence that do not support this view. Lakonishok, Shleifer and Vishny (1992) find that window dressing does not have any effect on the stock prices. They argue that institutional investors follow many different styles of investment and because of this it acts as a stabilizing mechanism. Eakins and Sewell (1994)

also find no evidence of window dressing by institutional portfolio rebalancing. Ligon (1997) claims that window dressing does not contribute to the January effect, at least not significantly.

Rozeff and Kinney (1976) suggest that the higher returns in January might be explained by new information that is generally provided by the firms at the end of the year. Because of this new information investors will sell and buy their stock according to the news. January is also the month where the news about the financial earnings is released, providing even more information for the investors to react upon. These important information factors might be a powerful influential factor to increase the stock return in January.

Another observed phenomenon by Rogalski and Tinic (1986) is the firm size. In their study Rogalski and Tinic find out that small firms had a significantly higher amount of risk in the beginning of the year than in the rest of the year. According to the Capital Asset Pricing Model the investors should have higher returns, because they should get compensation for the higher amount of risk they take in the beginning of the year.

Three years later, Keim (1989) expanded on the idea that a structure problem might be the reason for a January effect. In his paper he found systematic tendencies for closing prices to be recorded at the bid, in the last trading days in December, and at the ask in early January. Because of this the return in the early days of January is very high, while the bid-ask spread did not change. The observed phenomenon was especially noticeable for the small firms. Keim states that the small firm caused bias might be a main contribution to the January effect. Following his study, more researchers found that the January effect was mainly caused by higher returns in the first few days of the month.

2.5 The Other January effect

More recently, Cooper, McConnell and Ovtchinnikov (2006) provided more insight about the so called ‘Second January effect’ or the ‘Other January effect’. This effect does not focus on the cause and history of the January effect by looking at the last year, but it states that the January effect is a good indicator and precursor for the rest of the year. In other words, the return in January will predict what the return will be over the rest of the year. When the return in January is positive, the yearly return will probably also be positive and vice versa. One of the their findings is that, using CRSP value-weighted data from 1940 to 2003, when the market return in January was positive, the value-weighted market return over the next eleven

months was on average 14.8%. When the value-weighted market return in January was negative, the value-weighted market return over the next 11 months was only 2.92%. A difference of almost 12%. Measured with equal-weighted market returns, the spread turned out to be even larger at 18%. Cooper, McConnell and Ovtchinnikov also found that the Other January effect is not just short-term continuation of the original January effect. When the return in January is positive, the subsequent returns over the rest of the year are not clustered in the first months, but they are nicely dispersed throughout the year.

While providing strong evidence for the Second January effect, other studies tend to disagree with their findings. Amongst others, Bohl and Salm (2007) argue that the Other January effect is not a real phenomenon, but merely a result of data-snooping. In their research they investigate the predictive power of January for the rest of the year across 14 countries. In only three of the 14 countries they are able to find evidence for the Other January effect. To make matters worse this effect seems to completely disappear after 1980. They are not able to find a consistent pattern to provide enough evidence that an individual month has any predictive power. Cooper, McConnell and Ovtchinnikov were not the first to find the Other January effect. The first discovery of such an effect was done by Hirsch (1972) and he named it the 'January Barometer'. He used data from the United States and he found a high accuracy ratio for this effect. After his discovery Fuller (1978) doesn't find a way to make a more profitable trading strategy with the January Barometer then with any other commonly used strategy. Bloch and Pupp (1983) test the Barometer using data from the S&P 500 but they too cannot find a significant forecasting power. Hensel and Ziemba (1995) do find a profitable trading strategy suggesting that investors should buy stocks when January shows a positive result. No advice can be given for a negative stock return in January. Brown and Juo (2006) come up with a different answer providing evidence that negative stock returns in January are a reliable predictor for the rest of the year, while the predictive power of positive January returns is much weaker.

2.6 Data snooping

A problem with researching calendar and seasonal effects like the January effect is data-snooping. According to Sullivan, Timmermann and White (2001) calendar and seasonal effects in stock markets that seem to be significant can easily be the result of extensive search for abnormal patterns in non–experimental and limited datasets. They point out that apparent deviations from unpredictable stock returns are deemed surprising and hence journals publish

disproportionately more papers on the various topics. The problem is that most economic studies are usually tested on the same data that first of all exposed the anomaly. The danger of data-snooping, or data-mining, is high, especially with heavily researched topics like the January effect. Because the stock market is very vulnerable, Sullivan, Timmermann and White point out that the strength of evidence on calendar and seasonal anomalies like the January effect is much weaker. Lo and MacKinlay (1990) argue that statistical inference based on the empirical properties of a particular sample or times series is prone to data snooping biases. Because of this, the results of this kind of research can be misleading. A couple of solutions are proposed. Cooper, McConnell and Octchinnikov (2006) want to perform a randomized-bootstrap procedure. Schwert (2003) suggest using more data from counties other than the United States, as this might yield more reliable results.

3. Data and methodology

Most of the research on the January effect has been done in the Western market, especially on American stock exchanges. For my research I have also chosen to use data from an American source; the S&P 500. The S&P 500 is considered as one of the leading and most important stock indexes of the world. The index has naturally been used by many researchers and I think that it will be possible to find reliable results using the S&P 500. For my research I needed a data set that was large enough to provide reliable results. I have also chosen to stop my research at the year 2000, because I did not want to let my research be corrupted by the economic crisis from the last decade. Because of these reasons I have performed my empirical research between 1975 and 2000.

4. Empirical Results

This chapter will show the results of the performed empirical research.

4.1 The January effect

As explained in the last chapter I have first of all tested whether a January effect exist. I have tested the monthly results of the S&P 500 during 1975-2000 with and without the received dividend. The mean returns of every month without dividend are stated under 'Average monthly capital return 1975-2000', while the mean returns of every month with dividend are stated under 'Average monthly total return 1975-2000'. The following table gives an overview of the results.

	Average monthly capital return 1975-2000 (%)	**Average monthly total return 1975-2000 (%)**
January	1,9033	2,6389
February	0,3726	0,9387
March	1,1802	1,5500
April	1,3356	1,7853
May	0,9279	1,4733
June	1,3367	1,8042
July	0,8017	0,7804
August	0,5551	0,8226
September	-0,3191	-0,1616
October	-0,0498	0,4541
November	1,5597	1,9991
December	1,8324	2,0805

Table 4.1: Average return per month with and without received dividend

The results show that the return in September and October (only for the capital return) are negative. In all the other months the mean return has been positive between 1975 and 2000. From the figure we can clearly see that January indeed has been the best month in terms of monthly return with respectively 1.9033% and 2.5389%. Market return does seem higher in January than in the other eleven months.

The following graphic figures give a better understanding of the results.

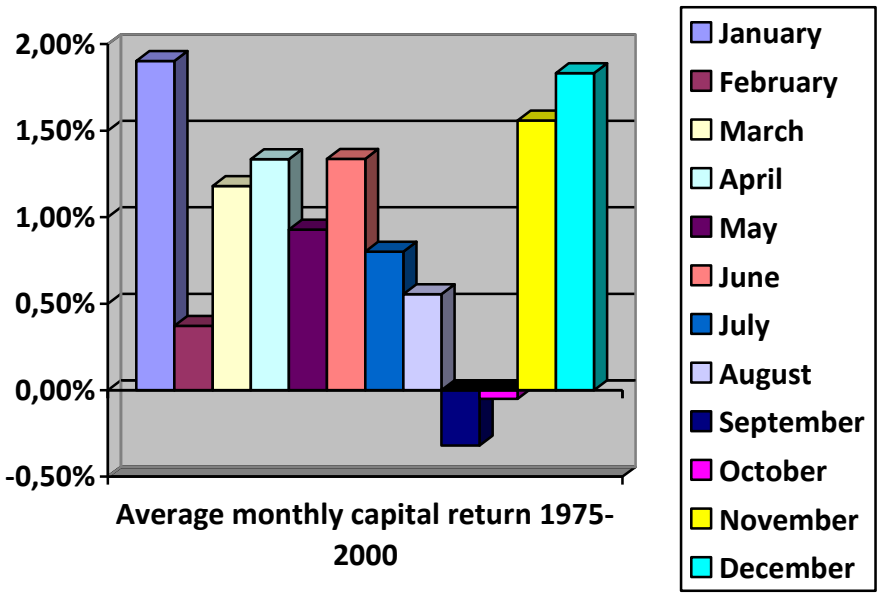

Figure 1: Empirical results excluding dividend

The next figure gives the results with the received dividend.

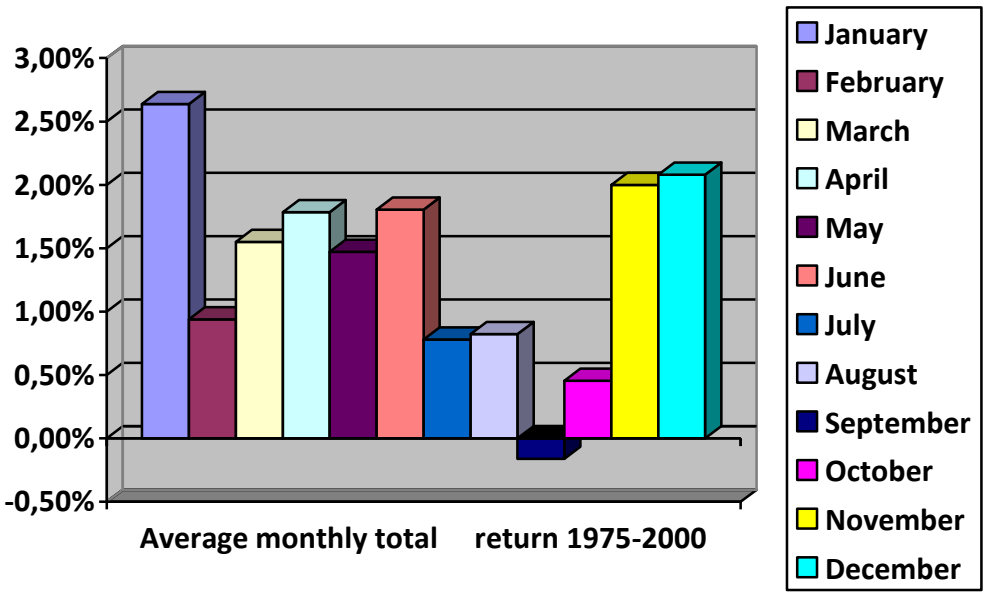

Figure 2: Empirical results including dividend

To summarize the results I have created the following table which shows the average capital and total return of January, the other months (February-December) and all the months (January-December).

	Average monthly capital return 1975-2000 (%)	Average monthly total return 1975-2000 (%)
January	1,9033	2,6389
Other months	0,8666	1,2297
All months	0,9530	1,3471

Table 2: Summary of the monthly and capital total return

As the last few tables and charts show the return in January has been significantly higher than in the others months. January has the highest overall return in both the capital as in the total return. The mean return in January is more than twice as high as the mean return of all the other months.

Using these data I can a test whether I can find evidence for the January effect. I need to find a significant positive difference between the mean return in January and the mean return for the other months of the year. For this test I have used the following formula:

$$R_{it} = O_i + \beta_i d_{it} + E_{it}$$

Where R_{it} is the monthly return of the stock market index (i) at time (t), O_i is the average return of all months other than January, β_i will be the difference between the return of January and the mean of the other months, d_{it} is a dummy variable where i=1 for January and i=0 for all other months and E is the error term. The sum of the intercept and the slope is equal to the January mean return.

The statistical results are given in the following table using the average monthly capital returns.

	O	t-stat	β	t-stat	Jan Mean	p-value
S&P 500 1975-2000	0,8666	3,333	1,0367	1,668	1,9033	0.096

Table 3: Test statistics for the January effect

With a p-value of 0.096 we can conclude that the January effect is significant when we use a 0.1 probability level. However, this is one of the lowest confidence levels that are used in statistics; most researchers test at 0.05 probability level, so I too will also use the 0.05 level and conclude that I am not able to find evidence for the January effect.

4.2 The Other January effect

After the testing of the January effect, I have also tested the Other January effect. I have tested whether January is a good indicator for the remainder of the year. In the following table the results of this research are given. I will be able to provide evidence for this theory if the return in January will be the same as the return of the entire year, with 'the same' being positive in January and positive over the entire year or negative in January and negative over the entire year. By using the same S&P 500 data from 1975 to 2000 the following table provides the distribution of the 26 years in the data.

	Yearly return positive	Yearly return negative
January return positive	17	1
January return negative	4	4

Table 4: Positive/negative January returns compared to yearly returns

This table shows that in 21 of the 26 years during 1975 and 2000 the return in January gives a good indication whether the total return of the year is going to be positive or negative. This equals 80, 77 percent. Before I can conclude whether January is a good indicator I first have

to perform a test using a formula that was also used in the papers from Cooper, McConnell and Ovtchinnikov (2006) and Stivers, Sun and Sun (2009). The formula is as follows:

$$R_t = a + \beta j_t + e_t$$

Where R_t is the 11-month excess return from February to December in year t, βj_t is 1 if the excess return in January is positive, otherwise βj_t is 0. βj_t should be significantly different than zero. If β is positive and significant then I have found evidence to support the Other January effect. An important note is that β can also be interpreted as the spread in returns between positive and negative January's. This knowledge is also used in the following table.

The following table gives the results of this test.

	Positive Januarys		**Negative Januarys**		**Spread (%)**	***p*-value**
	Returns (%)	**N**	**Returns (%)**	**N**		
S&P 500 1975-2000	1.07	18	0.24	8	0.83	0.216

Table 5: Test statistics of the Other January effect

With a p-value of 0.216 it cannot be concluded that there is significant relation between January and the other eleven months. Stivers, Sun and Sun (2009) also used another regression where the excess January return is used instead of the January dummy as the explanatory variable. Stivers, Sun and sun conclude that the results are broadly consistent with the case where the January dummy is used.

5. Conclusion

This Chapter will conclude my thesis. After a brief summary of the literature this chapter will furthermore discuss the findings of the performed empirical research. After that the research questions stated at the beginning of the thesis will be answered as good as possible. At last some recommendations for future research will be provided.

5.1 Conclusions & limitations

This thesis started with the Efficient Market Hypothesis from Fama (1970). According to this theory it should be impossible to beat the market and receive a higher return than the market. The January effect was one of the anomalies that contradicted the EMH. The existence of the January effect is well documented. Wachtel (1942) was the first to find significant evidence in favor of the January effect in the Dow Jones Industrial Index. Rozeff and Kinney (1976) continued the search for seasonal anomalies in their study on the New York stock exchange. One of their results was that January had an average return of 3.5% while the other months only had a mean return of 0.5%. After Rozeff and Kinney more people started to investigate the January effect, including Reinganum (1983) and Ross (1983) which both found results that confirmed that there was a January effect.

A fast majority of the research performed states that the tax-loss selling explanation makes the most economical and financial sense. Among many others, Reinganum (1983) and Ritter (1988) provide evidence for this hypothesis. However, there are also quite some researchers that disregard the idea of tax-loss selling being the explanation for the January effect, stating among other reasons that the effect already existed before capital returns were taxed.

The tax-loss selling hypothesis might be or might not be the best answer to the January effect, but even now it is still highly debated among the academics. There may also be other reasons for the January effect. Over the years, there are quite a large amount of other possible explanations that researchers have addressed as a possible reason for the effect including window dressing, the release of new information at the end of the (fiscal) year, the firm size and the possibility of a structure problem. All these other explanations have received enough attention in the academic world and they just might have something to do with the January effect. Several reasons how the January effect happens have been discussed in this thesis, but none can fully explain the phenomenon, even the most popular tax-loss selling hypothesis. More studies are to be carried out for a better understanding of the January effect.

During 1975 and 2000 January was the month with the highest return with and without the dividend included in the return. While these results may have looked promising, the performed research on the S&P 500 data does not show significant evidence in favor of the January effect. In the literature there is quite enough evidence for the existence of the January effect, but I am not able to significantly prove it in my research with a 0.05 probability level. This means that the answer to my research question has to be inconclusive.

The Other January effect, which is elaborated in a paper by Cooper, McConnell and Ovtchinnikov (2006), is a hypothesis that the returns in January are a good indicator for the stock market return of the rest of the year. There seems to be some evidence in the literature for this phenomenon, but in my own research I cannot find significant evidence to support this idea. In 80, 77 percent of the years during 1975-2000 the positive or negative return in January was the same as in the entire year, which was not enough especially compared to the other months of the year. A few of the remaining eleven months also performed around this percentage, which might be one of the reasons why I could not provide enough support for the Other January effect. My empirical research does not provide significant results to support the Other January effect. More research has to be performed on this particular phenomenon before a definite answer can be given.

If the January effect exists it comes to mind that smart investors should be able to take advantage of this investment opportunity. If you would buy stock at the end of December you would be able to make a decent profit. If enough investors would use this strategy then the entire January effect should quickly disappear. There is enough evidence that a January effect does exist, so there must be a reason why this otherwise profitable strategy does not work. One of the problems cited by literate is a study by Lakonishok and Smidt (1984) who state that the opportunity for large profits are hard in a market with small firms, small trading volumes and large bid-ask spreads. Because of this the ability to generate a large amount of profit is not as easy as it might sound, especially for individual investors who have to pay transaction costs. Still, there are some large traders that do not have to face transaction costs. This is just one of the issues at hand why more research has to be performed on the January effect.

5.2 Recommendations for future research

In this thesis I have mainly focused on the American stock market using data from the S&P 500. Future research can be conducted about other foreign stock indexes like the Chinese or the Brazilian stock market. It would be interesting to see if seasonal effects like the January effect are also apparent on other stock market. This would greatly enhance the power of the conclusions drawn. Another possibility is to expand the data to include the financial crisis. It would be interesting to see if the January effect also exists in a crisis situation.

Herbst and Slinkman (1984), Huang (1985), Hensel and Ziemba (1995), and Santa-Clara and Valkanov (2003) report that common stocks earn higher returns when a Democrat is president than when a Republican is president. With the upcoming presidential elections this might be an interesting case. It might even be useful in Obama's campaign. Beside the presidential anomaly there are many more seasonal phenomenons that are worth looking into. There is for example the day of the week effect, the turn of the year effect and the holiday effect.

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