

The effect of elections' results on British stock markets: An event study on health care stock returns

Msc Thesis

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Abstract

In this paper I examine the impact of elections' results on stock returns. By analyzing a sample of 237 British Health care and equipment companies for the period 1997 to 2015 and using event study methodology, I find that the victory of the Labour Party in the elections is mostly associated with positive cumulative abnormal returns and the victory of Conservatives is partially associated with negative cumulative abnormal returns. In order to examine a more general relationship between the Labour Party and the health care sector, I run a regression with the excess returns of the health care companies, and companies belonging to the FTSE100 index with a dummy variable which indicates if the Labour Party is in power, and I find a positive relationship. Furthermore, I include the Fama-French factors in the regressions with the excess return as dependent variable, and I find positive relationship with all factors.

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CHAPTER 1 Introduction

Elections results change a country's general economic policy, depended on the political ideology of the winning party. They may also have a significant impact on a firm's general corporate performance. For example, a firm might change its investment decisions or capital structure if there is a change in the political environment. The impact of the elections may differ between specific sectors of firms. The financial markets react to the political change. Stocks, bonds, options, interest rates, all of them are affected by the political events. The investors will change their behavior, and this will be incorporated in the financial markets.

The last years the changes in the political leadership of European countries may have significant impact in the stock markets mainly because of the global financial crisis of 2008, which also triggered the Eurozone crisis of 2010 that affected several European countries. The economies of countries of the European Union are closely related to each other, so it is expected that a change in the political leadership of one country, would affect the economic policy of another country and a firm's strategy. Since the crisis and the beginning of the austerity measures, the economic policy is the number one criterion for the voters in their choice at the elections.

The global financial crisis has affected significantly the economic decisions of the European countries. The financial stability is the first matter in the political agenda of parties that aim to win the elections. It is essential to search how important is the elections results to the stock market, since investors could incorporate the changes of the stock market in their decisions, and it would be easier to construct an optimal portfolio. The shareholders of different firms will show also interest because changes in the stock price performance affect their investment decisions, so they might decide to increase or to decrease their corporate investments. Moreover, firms might change their policy regarding their capital structure. For example, they might decide to issue more debt or issue more equity.

The economic policy of each elected government could differ depended on the political spectrum that the winning party belongs. In the United States there are the Democrats who are classified as liberals and the Republicans who are classified as conservatives. The logical thought is that a win of a Republican president will have a positive impact on stock returns and volatility, since Republicans have a more "market-friendly agenda" due to their support of laissez-faire capitalism. On the other hand, many people will support that the win of a Democratic president could have a negative impact on the stock market due to state

intervention policies that they follow. Likewise, in the European countries the elected party is usually either Centre-left/ left-wing or Centre-right/ right-wing. The effect on the stock market could be different in each case. According to the existing literature this belief is not always confirmed, since it is possible that during democratic presidencies, excess returns could be higher (Santa-Clara and Valkanov, 2003) or, in a broader sample of countries, they are no statistical significant references in returns between left-wing and right-wing governments neither in the election period nor throughout the tenure (Bialkowski, Gotschalk and Wisniewski, 2007).

The firms want to know if the electoral victory of some parties will have an impact on their corporate strategy. Likewise, in the European countries the elected party is usually either Centre-left/ left-wing or Centre-right/ right-wing. The effect on the stock market could be different in each case.

In this paper I try to examine if the political events in United Kingdom affect the domestic stock markets and more specifically the stock returns of the British health care sector. The general research question is the following:

What is effect of the 5 past UK elections on the UK stock markets in general, and the stocks of UK health care companies in particular?

This paper focuses on the British elections and polls, over the period 1997-2015. I chose this period because it starts with the election of Tony Blair as a Prime Minister, and the rise in power of the Labour Party, after almost 20 years in opposition. Also, the UK is a country with a stable two party political system (Conservative Party and Labour Party) which makes it ideal for the research.

Based on the literature, when a right-wing party wins the elections, the impact on the returns of the health care sector is negative, whereas a win of left-wing party causes positive impact. The reason for this partisan effect is that left-wing parties often have plans for an increase in health expenditure in terms of GDP, in their political agenda. An increased government expenditure on healthcare generally is associated with a left wing political regime (Vatter & Rüeßli, 2003). Investors that invest in healthcare industries are likely to be interested in the effect of change in political regime on that particular industry. In light of this particular interest it is relevant to investigate the effect of change in political regime on returns of healthcare stocks.

In order to test this hypothesis, the appropriate statistical method is event studies. An event study is a statistical method to assess the impact of an event on the value of a firm. The basic idea is to find the abnormal return attributable to the event being studied by adjusting for the return that stems from the price fluctuation of the market as a whole. The focus will be on daily stock returns as describe by Brown and Warner (1985), and MacKinlay (1997). The main hypotheses are the following:

H₁: When the Conservative party wins the elections or leads the polls, the abnormal returns of the health care sector are negative.

H₂: When the Labour party wins the elections or leads the polls, the abnormal returns of the health care sector are positive.

Furthermore, I expand the research in order to examine the relationship between the possibility that the Labour Party is in power and the daily excess returns of the health care industry.

H₃: The daily excess returns of the British health care industry have a positive relationship with the possibility that the Labour Party is in power.

The results indicate that, indeed the abnormal returns are positive after the win of the Labour Party, and negative following the win of the Conservative Party in the general elections of 2010. Moreover, I prove also that there is positive relationship with the Labour Party being in power and the daily excess returns of the health care sector firms, but also the firms including in the FTSE100.

The thesis is constructed as follows. Chapter 2 presents the literature review, chapters 3 and 4 discuss the data and methodology respectively, chapters 5 and 6 present the results and the robustness check, and finally chapter 7 concludes and adds some suggestions for future research.

CHAPTER 2 Literature Review

2.1. Elections in UK

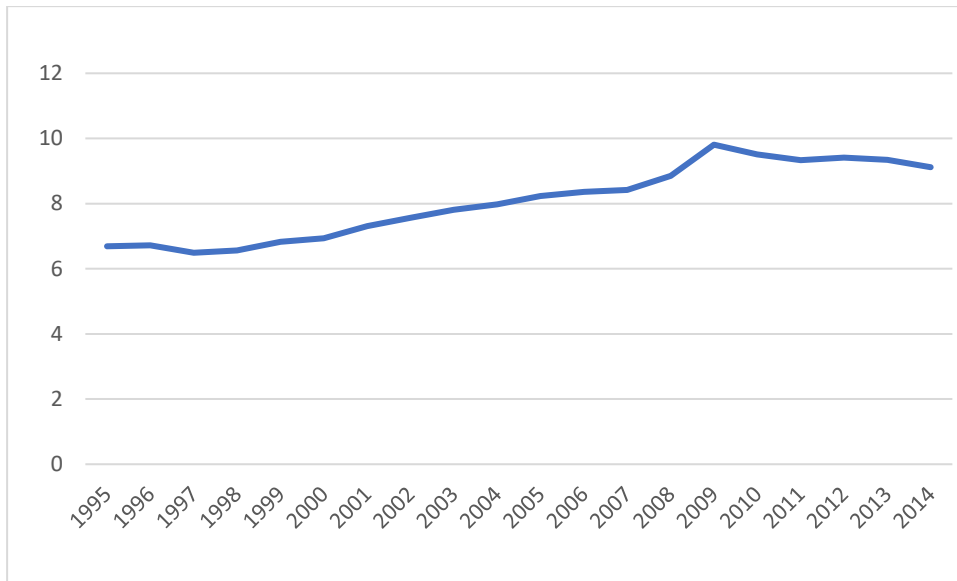
The last century, two parties have dominated the political dynamics of the United Kingdom, the centre-right Conservative Party which its main ideology focuses on economic liberalism, and the centre-left Labour Party which is considered social democratic. In the last twenty years, that I will focus my research on, five elections were held in the United Kingdom. The Conservative Party won in the two of them, and the Labour Party in the other three (table 1.1. above).

Table 1. Results on the British Elections

Election date	Party	Prime Minister	Political orientation
1 May 1997	Labour Party	Tony Blair	Centre-left
7 June 2001	Labour Party	Tony Blair	Centre-left
5 May 2005	Labour Party	Tony Blair	Centre-left
6 May 2010	Conservative Party	David Cameron	Centre-right
7 May 2015	Conservative Party	David Cameron	Centre-right

In 1997, the Labour Party, under the leadership of Tony Blair, won the election, ending its years in opposition. Under Blair's leadership, the Labour Party had adopted a more centrist policy platform, and this was seen as moving away from the traditionally more left-wing stance of the Labour Party. In the years 2001 and 2005 the Labour Party again won the elections. During Blair's ministry the government spending for the National Health System increased, as well as for other public sectors. In 2010, the Conservatives came again to power under the leadership of David Cameron, who won also the elections in 2015. Cameron introduced an austerity program in order to reduce the deficit, and as results there was a slightly decrease in the percentage of GDP spent for health expenditure. (See figure 1)

Figure 1. Health expenditure of UK as percentage of GDP



Source: oecd.library

Besides the elections, I conduct event studies for the polls in the period 1997-2015. The reason is to have a clearer picture if there is a partisan effect on health care industry from the two major British parties. I use <http://ukpollingreport.co.uk/> as a source for the poll dates, and from this source I choose polls that were made from Ipsos MORI since it is one of the most reliable market research organizations. I focus on 74 polls, on average 1 every 3 months. The Labour Party was the leader in 49 of them, and the Conservatives in 25. (See table 1.2.)

Table 2. Poll dates and leading parties in the period 1997-2015

Poll date	Party	Poll date	Party
24/03/1997	Labour	12/12/2006	Conservative
23/06/1997	Labour	15/03/2007	Conservative
29/09/1997	Labour	10/06/2007	Conservative
15/12/1997	Labour	02/09/2007	Labour
23/03/1998	Labour	07/12/2007	Conservative
26/06/1998	Labour	07/03/2008	Conservative
21/09/1998	Labour	15/06/2008	Conservative
14/12/1998	Labour	14/09/2008	Conservative
22/03/1999	Labour	14/12/2008	Conservative
21/06/1999	Labour	15/03/2009	Conservative
27/09/1999	Labour	21/06/2009	Conservative
28/03/2000	Labour	27/09/2009	Conservative

30/06/2000	Labour	13/12/2009	Conservative
15/09/2000	Conservative	22/03/2010	Conservative
15/12/2000	Labour	20/06/2010	Conservative
27/03/2001	Labour	17/10/2010	Conservative
06/05/2001	Labour	12/12/2010	Labour
05/12/2001	Labour	13/03/2011	Labour
26/02/2002	Labour	19/06/2011	Labour
22/04/2002	Labour	12/09/2011	Labour
22/07/2002	Labour	12/12/2011	Conservative
17/12/2002	Labour	19/03/2012	Labour
24/03/2003	Labour	11/06/2012	Labour
24/06/2003	Labour	17/09/2012	Labour
16/09/2003	Labour	10/12/2012	Labour
17/12/2003	Labour	11/03/2013	Labour
24/03/2004	Labour	10/06/2013	Labour
12/06/2004	Labour	09/09/2013	Labour
16/08/2004	Labour	09/12/2013	Labour
14/09/2004	Conservative	12/03/2014	Labour
23/05/2005	Labour	17/06/2014	Labour
18/07/2005	Labour	09/09/2014	Conservative
26/09/2005	Labour	15/12/2014	Conservative
12/12/2005	Conservative	11/03/2015	Labour
21/03/2006	Labour	16/06/2015	Conservative
18/06/2006	Conservative	23/09/2015	Conservative
06/09/2006	Labour	14/12/2015	Conservative

A characteristic of the British electoral system is that it works with constituencies. More specifically the UK is divided into 650 constituencies, which all have a similar number of inhabitants. Each constituency is represented by one MP (Member of Parliament) who has a “seat” in the House of Commons, the UK’s lower chamber of parliament. When the general elections approach, the parties choose their candidates for each constituency, so when the people vote for a candidate, they vote the political party that he or she belongs. The candidate who gets the most votes is the only winner in each constituency.

2.2. Empirical papers on Elections’ results

There have been papers that examine the effects of the win of a left-wing or right-wing party in UK. Leblang and Mukherjee (2005) examine how mean and volatility in the British stock market are affected by government partisanship of a left-wing or a right-wing party election. By using a GARCH model to estimate volatility, they find that financial markets become more volatile under left-wing administration and right-wing administration leads to higher trading volume, in the period 1930 to 2000. The same authors in another paper (Presidential Elections and the Stock Market: Comparing Markov-Switching and Fractionally Integrated GARCH Models of Volatility) find that -contrary to the existing literature- the stock market volatility decreases, when investors expect a left-wing party to win the elections. Moreover, studies such as Hudson, Keasey and Dempsey (1998) have found that stock markets react to both elections and opinion polls, and that there is no statistical significant evidence which proves that stock prices have better performance during a Tory government. Also, Gemill (1991) focused on the behavior of options market during the 1987 election. The results showed that there was a huge increase in the volatility of the option prices.

Besides UK, the impact of elections in stock markets, has been discussed in many researches regarding the USA. The difference is that in the US presidential system, there is not the right-wing/left-wing perspective, but the Democratic/Republican. Oehler, Walker and Wendt (2012), found that the election of US presidents has prompted abnormal company and sector returns. The main hypothesis in their paper was that following the presidential election the market corrects, and this is supported by their results. More specifically they focus on the US presidential elections between 1976 and 2008 and the results showed that the election of US president causes abnormal returns in specific sectors either with a democratic or a republican president. Moreover, Santa-Clara and Valkanov (2003) proved that excess return under Democratic presidential term is higher than Republican presidencies. Booth et al. (2003) partially prove the results of Santa-Clara and Valkanov, since they find that small stock excess returns are significantly higher under the Democratic presidents than under the Republican presidents but there is not a same pattern for the large stock excess returns. Jones and Banning (2008) demonstrated that there is no significant difference in monthly stock market returns based on which president won the elections, although they believe that this might be due to the larger sample they used, in comparison with previous studies. Belo, Gala, and Li (2011) found that Democratic presidencies are linked to higher expected profitability relative to Republican presidencies for firms with high government exposure. Also, Li et al. (2006) observe that the mean of the daily common stock increases over a period of 3 months

before the elections, if the outcome is uncertain. Apart from USA, the impact of political uncertainty on stock returns has also been examined in Canadian market. Beaulieu et al. (2005) find that political news in Canada plays an important role in the volatility of stock returns and this volatility varies with the degree of firm's exposure to political risk.

There have been also studies that focus on specific European countries and provide evidence on the stock's market reaction to the elections. Bechtel and Fuss (2010), analyze the stock price performance and volatility of four economic sectors after the election of the German parliament (Bundestag), and found that a conservative government increases the returns in defense and pharmaceutical sector, whereas a socialist government increases the returns in the energy sector. In another paper regarding the German market, Döpke and Pierzdioch (2006), find weak evidence that stock returns tend to be higher under right-wing government than a left-wing government. For the Greek market, Siokis and Kapopoulos (2007), examine if the stock prices in the Athens Stock Exchange could be affected by the dynamics of the political environment. Their results demonstrate that conditional mean and variance of the stock market index are affected by political developments in Greece, and that government partisanship could play an important role in any potential movements of the stock prices. Ortega and Tornero (2009), examine how national elections in Spain influence the volatility. According to their findings there is no significant difference in excess return in the last two years after the elections, and there is no difference in excess returns under left-wing or right-wing government. Regarding the Dutch stock market, Brunner (2009), tried to answer the question, whether and how financial markets react to political uncertainty. His main findings were that participation of left-wing parties in the government increases volatility, but the negative effect on returns cannot be confirmed. Kim and Mei (2001), examine the impact of political events in the stock market of Hong-Kong, in a paper outside of the USA/Europe area. They found that movements in the stock prices can be linked to political news, with bad news causing greater volatility effects relative to good news.

Moreover, there is cross-country research that provides international evidence about the impact of national elections on stock markets. Pantzalis, Stangeland and Turtle (1997), examine the behavior of stock market indices in 33 different countries and found positive abnormal returns 2 weeks prior to the elections. Also, Bialkowski et al. (2008), inquire if national elections in 27 OECD countries induce higher stock market volatility. They show

that the country-specific component of index return variance can even be doubled the week around the election, with many factors contributing to that such as the narrow margin of victory and the change in the political orientation of the government. Their results showed that uncertainty indeed affect volatility based on the finding that the implied volatility of the S&P 500 index increases along with positive changes in the probability of the eventual winner.

2.3. Political uncertainty

Election results are part of the general political uncertainty that causes implications on the economy. Goodell and Vähämaa (2003) examine the impact of political uncertainty in implied stock volatility during the US elections. A simple change in a government's policy is enough to cause impact on the stock prices. Pastor et al. (2012) predict that after government policy changes stock prices should decline, volatility increases just as correlations among stocks. Furthermore, Born et al. (2014), examine the role of political uncertainty in explaining the business cycles. By using a Keynesian model to analyze policy risk, they indicate the role of policy risk in in explaining business cycles is overstated. Nickles (2004), finds a potentially profitably investment strategy based on election cycles. The strategy that he discovers is that investing in the period before a presidential election is more profitable than investing in the period afterwards.

Political uncertainty has always an impact on firms' investment decisions. Baker, Bloom, and Davis (2016) examine the relationship of policy uncertainty to firms and they find that policy uncertainty in USA and Europe is associated with greater stock price volatility, harmful macroeconomic performance and reduced investments in policy sensitive sectors. Also, Herron et al. (1999) prove the existence of political sensitive sectors in the 1992 presidential elections. In another research regarding the policy sensitive industries, Boutchkova et al. (2011) show that these 21 trade-dependend industries (the health care is not included) exhibit greater volatility, when political risks are higher.

If we want to observe a deeper effect of uncertainty to firms' decisions, then, Bloom et al. (2007) show that higher uncertainty reduces the impact of demand shocks on investment and that due to uncertainty firms are more cautious regarding their investment decisions. Julio and Yook (2010), examine the corporate investment, during national elections of a sample of countries between 1980 and 2005. The main results were that, electoral uncertainty leads

firms to temporarily reduce investment expenditures prior to the election outcome. The reduction in investment is larger around elections with less predictable outcomes. Firms become more cautious during the election period and hold back their investments until the uncertainty is resolved.

We should bear in mind that the election results have impact not only in stock price performance but also in other financial securities such as bond and derivatives. Kelly, Pastor, and Veronesi (2014), analyze the price of political uncertainty based on a theoretical model that they developed, and they find that political uncertainty is priced in the option market and the protection that the options offer, is more valuable when the economy is weaker and when political uncertainty is higher. Focusing on major political events, their results suggest a sizeable risk premium for political uncertainty, with longer magnitudes in weaker economic conditions.

The effect of the political uncertainty could also be observed on the changes on the consumer confidence and the investors' behavior. Duch and Kellstedt (2011) define consumer confidence as "broad set of subjective assessments by the mass public pertaining to the state of the economy". Vuchelen (1994) focused on the Belgian elections and suggests that elections could influence consumer confidence. De Boef and Kellstedt (2004) support that politics is important for understanding the consumer confidence. They find that when news coverage of the economy affects how citizens view the president's ability to manage economy, which in turn has both a long-run and short-run effect on consumer sentiment. Also, Neisingh and Stokman 2013 provide evidence that general economic indicators are not sufficient to explain consumer sentiment. Regarding the investor behavior, Bonapart, Kumar, and Page (2012) suggest that the political environment influences the investment decisions of the households.

2.4. Healthcare sector and healthcare spending

It has been a debatable issue the importance of the health care system regarding the government's policies. Freeman (2003) demonstrates that health care spending is a good necessity. The same author in 2012, finds that if the increasing share of health care in the nation's budget is a concern, controlling these costs and finding more efficiency in health care delivery will be of paramount importance. Vatter and Ruefli (2003) made an investigation of the differences in health care expenses between the 26 cantons of Switzerland and they found that policy decisions play an important role in the level of health care expenses.

The relationship between health care expenditure and political partisanship has been examined in several academic papers. Most of them find a positive relationship between health care expenditure and parties that belong to the centre-left/left-wing political spectrum. According to Bellido et al., there is partisan effect between public health expenditure and the left-wing parties. They examine this relationship in a sample that includes OECD countries, in the period 1970 to 2014, and their results show the presence of this particular partisan effect. Clemente et al., show that the larger the coincidence of the Democratic party in both US federal and state government, the larger the health expenditure of the states.

CHAPTER 3 Data

3.1. Data description

I obtain the data for the stock prices and the company characteristics for the companies of the British health care sector and those of FTSE100 from the Datastream database which can be accessed from the computers of the university. I choose to focus on a seven-year period from 1997 to 2015, mainly because in the year 1997 the Labour party rose in power after a period of 18 years in opposition.

Regarding the data for the event studies on polls and elections, I choose all the British health care services and equipment that have been active during the period 1997-2015. The number of companies that are available in Datastream with the aforementioned criteria, is 237, and you can see a list of these companies at the appendix of the paper. For the benchmark of the event studies I use the FTSE 250 health care index, which is considered a representative index for the health care industry in United Kingdom. I download the prices of these data in excel files and I import them to Stata, where I calculate the returns for the companies and the index as well. After the calculation of the returns I delete all the missing values of the sample, and also, I delete some observations in which the returns have extreme values. This leads to a total number of 706,743 observations. I acknowledge that the number of the sample seems quite large, but during the process of the event studies, the companies that do not have at least 250 observations prior to the event date are excluded, since the estimation window is 250 trading

days. This process is repeated for every event date. On table 3 below, you can see the descriptive statistics for the event studies.

Table 3. (descriptive statistics for event studies)

Variable	Obs	Mean	Std. Dev.	Min	Max
return	706,786	-.000186	.014488	-.068853	.071429
market return	706,786	.000235	.010933	-.031384	.032149

I have to mention that for the part of the research with the regressions, I choose the health care companies of UK that have continuous observations in all the variables for the years 1997 to 2015, and I exclude all the other companies from the sample. Again, I download the data from Datastream. To be more specific, the data that I download are stock prices, index price, market value, dividend yield, the number of common shares outstanding for each company, the market capitalization, the net income, the total assets, and also the prices of the health care excluding UK index. In the appendix, you can find the description and the calculation method of each variable. I do the same process for the data about the companies of the FTSE100 index. The two tables below present the descriptive statistics for the data used for the event studies and the regressions.

Table 4. (descriptive statistics for regressions on health care)

Variable	Obs	Mean	Std. Dev.	Min	Max
excess return	66,913	-0.00032	0.02984	-0.786	0.7516
dividend yield	66,913	1.605	1.887	0	16.03
leverage	66,913	39.1142	226.085	-3016.18	1387.77
roa	66,913	-.025682	.2614108	-1.51	.4971209
book_to_market	66,913	437.891	1527.49	-19685.71	8293.75
ln(market_value)	66,913	4.0658	2.0238	-1.4696	9.293
firm_size	66,913	10.7774	1.732	6.418	15.38
return (excluding UK)	66,913	.0002659	.0108143	-.0604407	.0785

Table 5. (descriptive statistics for regressions on FTSE100)

Variable	Obs	Mean	Std. Dev.	Min	Max
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excess return	322,638	.000124	.0188911	-1.192273	.6110466
dividend yield	322,638	3.38	2.77	0	232.95
leverage	322,638	150.0877	893.6959	-4287.5	24866.67
roa	322,638	.0550367	.0735639	-.7862196	.3940126
book_to_market	322,638	599.8904	632.0967	-882.0485	35971.14
firm_size	322,638	16.20403	1.841485	10.24495	21.59647
ln (market value)	322,638	8.777948	1.355737	2.095561	12.34486

3.2 Data analysis

As we see in the descriptive statistics the average mean of the returns of the health care industry is negative in the large sample of the health care companies. Also, the average mean of the excess returns of the smaller sample of health care companies is negative, whereas the mean of the excess returns in the sample of FTSE100 is positive.

4. Methodology

4.1. Event Study

The event study methodology is extensively applicable and hence widely used. It is often used both for firm-specific and economy-wide events (MacKinlay, 1997). I examine the effect of a political event to the stock prices using financial market data. Based on the efficient market hypothesis (Fama 1970), in rational markets, the information of an event must be incorporated in the stock prices instantaneously and therefore we should be able to see the effect of the event in a relatively short time period.

4.1.1. Event definition

Our event dates ($\tau = 0$) are defined as the first trading day after each of the parliamentary elections and the polls since the stock exchanges are closed during the evenings when the election results are published. The event window is defined as the period in which the abnormal returns are calculated. In practice the event window is normally expanded to include at least one day after the announcement (MacKinlay, 1997).

The estimation window will consist of 250 trading days prior to event window as suggested by Brown and Warner (1985).

4.1.2 Cumulative Abnormal Returns

When measuring the impact of an event, we need to calculate the abnormal returns. I will calculate the abnormal returns based on the market adjusted model which is the following:

$$AR_{i,t} = R_{i,t} - R_{m,t}$$

where $R_{i,t}$ is the arithmetic return of the security i on day t , $AR_{i,t}$ is the excess return of the security i on day t , and $R_{m,t}$ is the return of the index on day t .

OLS Market Model

$$AR_{i,t} = R_{i,t} - \hat{\alpha}_i - \hat{\beta}_i R_{m,t}$$

Where $\hat{\alpha}_i$ and $\hat{\beta}_i$ are OLS values from the estimation period.

The abnormal returns need to be aggregated across time and across securities in order to get the cumulative abnormal returns. We define the sample cumulative abnormal return (CAR) from τ_1 to τ_2 where $T_1 \leq \tau_1 \leq \tau_2 \leq T_2$. T_1 is the first day of the event window and T_2 the last day. We calculate the sum of the abnormal returns from to and get the CAR:

$$CAR_{it}(\tau_1, \tau_2) = \sum_{\tau=\tau_1}^{\tau_2} AR_{it}$$

I calculate the health care industry cumulative abnormal return, $CAR_{t1,t2}^{health}$, as the mean value of the cumulative abnormal stock price returns of the single companies in the health care industry:

$$CAR_{t1,t2}^{health} = \frac{1}{N} \sum_i^N CAR_{i,t1,t2}$$

Now, that I have develop the methodology for the event studies, the hypotheses can be expressed also mathematically. More specifically, the hypotheses could be expressed mathematically as:

$$H_0: CAR_{health} = 0, H_1: CAR_{health} > 0$$

Where CAR_{health} represents the mean of the cumulative abnormal returns of the health care industry in election/poll. Overall the alternative hypothesis is that abnormal returns differ in election periods. They are positive for Labour and negative for conservatives.

$H_0: CAR_{\text{health}} = 0, H_1: CAR_{\text{health}} < 0$ for Conservatives

4.2. Regressions

The model used to determine the effect of political regime on returns on UK healthcare industry stocks is given as:

$$\begin{aligned} \text{excess_return}(\text{health})_t &= a + \beta * \text{lab}_t + \beta_1 r(\text{healthexuk})_t + \beta_2 \ln(\text{marketvalue})_t + \beta_3 dy_t \\ &+ \beta_4 \text{leverage}_t + \beta_5 * \text{roa}_t + \beta_6 * \text{book_to_market}_t + \varepsilon_t + \text{yearFE} \end{aligned}$$

The dependent variable excess return represents the returns on the UK stock market at time t , minus the returns of the FTSE health care index on time t .

In order to examine if there is a general effect of political partisanship in the UK stock market, I run the same regression but with the returns of the companies that are included on the FTSE100 index. The regression is the following:

$$\begin{aligned} \text{excess_return}(\text{FTSE100})_t &= a + \beta * \text{lab}_t + \beta_1 (\text{marketvalue})_t + \beta_2 dy_t + \beta_3 \text{leverage}_t + \beta_4 \\ &* \text{roa}_t + \beta_5 * \text{book_to_market}_t + \varepsilon_t + \text{yearFE} \end{aligned}$$

The hypotheses can be mathematically expressed as the following:

$$H_0: \beta = 0, H_1: \beta > 0$$

Where β_h represents the coefficient of the binary variable that equals 1 when a Labour political regime is expected by the polls/Labour wins election.

Political variables

I define the political dummy variables in the same way that Santa-Clara and Valkanov (2003) did in their paper.

- $LAB_t = 1$ if the Labour party is in government at time t ; $LAB_t = 0$ otherwise.
- $CON_t = 1$ if the Conservative party is in government at time t ; $CON_t = 0$ otherwise.

Control variables

I use the return of the index FTSE health care excluding UK companies as an important control variable for the regression with the health returns. I include the natural logarithm of the market value for each company, the leverage, and the ratio of net income to total assets (roa), in order to control for possible size, risk, and performance effects, respectively (Oehler, Walker and Wendt, -2012-). The other control variables that are included in both regressions are the dividend yield (dy) which expresses the dividend per share as a percentage of the share price, and the book-to-market ratio (book_to_market), which is the ratio of the common shareholders' equity to the market value. Since, the research involves panel data, I control for fixed yearly effects in the model in order to capture the influence of time series trends. In the appendix, you can find an analytical description of each variable.

5. Results

5.1. Elections

The table 6 presents the results for the event studies for the elections with using an event window of one day before the election and one day after the election. The results indicate that there are positive CARs after the victory of the Labour Party at the first three elections, so the hypothesis about positive CARs following the victory of the Labour is confirmed. But on the other hand, it is important to mention there is no statistical significance in the CARs. Regarding the Conservatives it is very important finding that their victory in 2010 elections caused a negative CAR, which is also statistical significant at 1% level. On the other hand, I find a positive CAR, following the 2015 elections. A behavioral explanation for this phenomenon might be that the rise of the Conservatives in power after 13 years caused a negative reaction to the health care sector, since their policy is associated with less government spending, but during the years between the elections of 2010 and 2015, investors noticed that their policy does not significantly differ from the policy of the Labour, thus the positive CAR.

Table 6. CARs for [-1,1] event window

Election date	Winning party	CAR	P-value	Event window
01/05/1997	Labour	.000306	0.92	[-1,1]

07/06/2001	Labour	.004354	0.23	[-1,1]
05/05/2005	Labour	.003953	0.22	[-1,1]
06/05/2010	Conservative	-.0065827	0.00	[-1,1]
07/05/2015	Conservative	.001045	0.44	[-1,1]

The difference of table 7 from the table 6, is that it indicates the results for the event studies with using an event window of [0,1] days. According to these findings, there is the same pattern with the previous event window. All the CARs following the victory of the Labour are positive, and the CARs of 2010 and 2015 elections are positive and negative respectively. The only difference from the previous results is that there is statistical significance at 5% level for the CAR of 2015 elections.

Table 7. CARs for [0,1] event window

Election date	Winning Party	CAR	P-value	Event window
01/05/1997	Labour	.002188	0.35	[0,1]
07/06/2001	Labour	.002177	0.42	[0,1]
05/05/2005	Labour	.003925	0.1	[0,1]
06/05/2010	Conservative	-.0035039	0.01	[0,1]
07/05/2015	Conservative	.002471	0.04	[0,1]

5.2. Polls

The table 8 presents the results of the event studies for the polls in the period 1997 to 2015. In the total number of 74 polls, the Labour party is the leader in 49 polls and the conservative party in 25. The 1st panel of table demonstrates the results for an event window of [-1,1]. As we can see there are 30 positive CARs, and 23 of them occurred when the Labour Party is leading the polls. So, there is evidence that the Labour party has a higher number of positive abnormal returns, but on the other hand the Labour party has also a higher number of negative CARs than the conservative party. The reason for this is that during the majority of the period that the polls were held the Labour party had more popularity in the UK, thus it leads most of the polls, so it has both higher number of positive and negative CARs than the conservatives.

Also, most of the CARs do not exhibit statistical significance. More specifically, only 23 of the CARs are statistically significant 8 of them at 1% level.

I proceed with the analysis of the results for the [0,1] event window. The Labour party induces positive CARs in 24 of the events, and negative in 25 of the events. On the other hand, the Conservatives induce positive CARs in 8 events and negative in 17 events. Again, most of the CARs of the events are statistically insignificant, more specifically only 19 of the 74 CARs exhibit significance, 8 at 10% level, 6 at 5% level, and 5 at 1% level.

Table 8. CARs after the polls

Date	Leading Party	[-1,1]		[0,1]	
		CAR	P-VALUE	CAR	P-VALUE
14/12/2015	Conservative	-0.0010129	0.353	-0.0023186	0.132
23/09/2015	Conservative	-0.0066722	0.001	-0.0063251	0.002
16/06/2015	Conservative	-0.0010589	0.324	-0.0007655	0.319
11/03/2015	Labour	-0.0015758	0.625	.0013298	0.597
15/12/2014	Conservative	-0.0018208	0.326	-0.0027335	0.059
09/09/2014	Conservative	-0.0023101	0.092	-0.0020616	0.083
17/06/2014	Labour	-0.0085776	0.001	-0.0034762	0.065
12/03/2014	Labour	-0.0049642	0.019	-0.0029552	0.075
09/12/2013	Labour	.0010535	0.703	.0016251	0.423
09/09/2013	Labour	.0004548	0.889	.0007257	0.801
10/06/2013	Labour	.0013289	0.644	.0003548	0.888
11/03/2013	Labour	-0.0028386	0.082	-0.0019872	0.108
10/12/2012	Labour	-0.0024015	0.243	-0.002619	0.133
17/09/2012	Labour	.0007983	0.767	.0015322	0.610
11/06/2012	Labour	.0019791	0.623	.0032124	0.427
19/03/2012	Labour	-0.0020072	0.256	-0.0035178	0.032

12/12/2011	Conservative	-0.0019697	0.025	-0.0013534	0.101
12/09/2011	Labour	-0.0036159	0.084	-0.0020068	0.247
19/06/2011	Labour	-0.0045565	0.003	-0.003629	0.006
13/03/2011	Labour	-0.0023824	0.653	-0.0001696	0.976
12/12/2010	Labour	-0.0060415	0.248	-0.0050522	0.254
17/10/2010	Conservative	-0.001105	0.643	-0.0030972	0.127
20/06/2010	Conservative	-0.0015669	0.374	-0.0017527	0.178
22/03/2010	Conservative	-0.0038175	0.210	-0.0043934	0.018
13/12/2009	Conservative	-0.0012208	0.847	-0.0001577	0.979
27/09/2009	Conservative	-0.0085498	0.006	-0.0023907	0.197
21/06/2009	Conservative	.0029231	0.353	.0028744	0.435
15/03/2009	Conservative	0,0001327	0,974	0,0000529	0,987
14/12/2008	Conservative	-0,0029014	0,712	0,0039027	0,603
14/09/2008	Conservative	-0,0001844	0,941	-0,0040704	0,118
15/06/2008	Conservative	-0,0016681	0,592	-0,0001032	0,958
07/03/2008	Conservative	-0,0019394	0,517	-0,0025913	0,217
07/12/2007	Conservative	0,0065228	0,294	0,0031837	0,398
02/09/2007	Labour	0,0105279	0,001	0,0086444	0,002
10/06/2007	Conservative	-0,0018246	0,671	0,0037806	0,061
15/03/2007	Conservative	-0,0079638	0,022	0,0009717	0,754
12/12/2006	Conservative	-0,0020168	0,683	-0,0011473	0,685
06/09/2006	Labour	0,0056887	0,1	0,0019221	0,531
18/06/2006	Conservative	0,0031052	0,353	0,0016395	0,56
21/03/2006	Labour	0,0017858	0,737	0,0009209	0,82
12/12/2005	Conservative	0,0005355	0,892	-0,0027231	0,341

26/09/2005	Labour	-0,006533	0,057	-0,0034766	0,126
18/07/2005	Labour	0,0049585	0,09	0,0025767	0,263
23/05/2005	Labour	-0,001914	0,493	-0,0003925	0,881
14/09/2004	Conservative	0,0052493	0,109	0,0026668	0,326
16/08/2004	Labour	-0,0065905	0,013	-0,0047771	0,025
12/06/2004	Labour	-0,0020554	0,421	-0,0028095	0,216
24/03/2004	Labour	-0,0058167	0,054	-0,0044406	0,06
17/12/2003	Labour	-0,0002937	0,938	-0,0018086	0,441
16/09/2003	Labour	-0,0029309	0,364	0,0004573	0,874
24/06/2003	Labour	0,0072653	0,386	0,001278	0,793
24/03/2003	Labour	0,0002879	0,962	-0,0015717	0,701
17/12/2002	Labour	0,0036071	0,418	0,0091967	0,015
22/07/2002	Labour	0,0079644	0,024	0,0029139	0,252
22/04/2002	Labour	0,0065962	0,253	0,0073867	0,164
26/02/2002	Labour	0,0120802	0,012	0,0104121	0,033
05/12/2001	Labour	0,0155634	0,001	0,0132376	0,001
06/05/2001	Labour	0,0079946	0,004	0,0037021	0,055
27/03/2001	Labour	0,0147923	0,004	0,0094054	0,021
15/12/2000	Labour	-0,0181836	0,039	-0,0122439	0,006
15/09/2000	Conservative	0,0003401	0,882	-0,0017606	0,43
30/06/2000	Labour	0,0013934	0,662	0,0000665	0,975
28/03/2000	Labour	-0,0102123	0,155	-0,0100947	0,08
27/09/1999	Labour	-0,0105313	0,011	-0,002702	0,404
21/06/1999	Labour	-0,0012448	0,736	0,0004464	0,89
22/03/1999	Labour	-0,0004777	0,877	-0,0001916	0,937

14/12/1998	Labour	0,0023274	0,342	-0,0046455	0,427
21/09/1998	Labour	-0,0102605	0,408	-0,0138217	0,265
26/06/1998	Labour	0,0007412	0,824	0,0015746	0,52
23/03/1998	Labour	0,0087834	0,121	0,0048903	0,189
15/12/1997	Labour	-.0048315	0.323	-.0047905	0.297
29/09/1997	Labour	.0017172	0.685	.002202	0.514
23/06/1997	Labour	-.0020126	0.679	-.005495	0.307
24/03/1997	Labour	-.0079304	0.154	-.0062706	0.236

In order to summarize the results of the polls, on table 9 you can observe the percentage of positive CARs by party. The percentage of CARs of the Labour is higher for both event windows, thus indicates strong evidence between the relationship with the health care returns.

Table 9. Percentage of CARs>0

Party	Percentage of CARs>0	Event window
Labour	0.47	[-1,1]
Conservative	0.28	[-1,1]
Labour	0.49	[0,1]
Conservative	0.32	[0,1]

5.2.1. Regressions results

The panel A of table 10 presents the results for the regressions. As we can observe there is positive relationship between the daily excess return and the dummy variable of the Labour party although there is no statistical significance, and the economic significance is very small since the coefficient of the dummy variable is 0.001. But, since the coefficient is positive, this finding confirms the hypothesis about the positive relationship between the Labour party and the health care firms. Also, there is a positive relationship between the returns and the natural logarithm of the market value, the leverage and the return on assets, but only the last one is statistically significant at 1% level. There is negative relationship with the dividend yield, the

book to market ratio and return of the health index excluding UK, and all of them are significant at 1% level.

On the panel B of the table 10, with the companies from FTSE100, we observe there is a positive relationship with the returns and the dummy for the Labour party, but again it is not statistically significant. As a result, the hypothesis is also confirmed for a more general sample of companies, in this case, the companies of FTSE100. More specifically, we observe that the coefficient for the Labour party is 0.000336, meaning that during the period that the party is in power there is positive impact on the stock returns of the health care industry, but the economic significance is not very high. Also, it is important to mention that the R-squared of this regression is lower than the regression with the returns of the of the British health care industry. Regarding the control variables, there is negative relationship between the returns and the natural logarithm of the market value and the dividend yield, which is also statistical significant at 1% level. The relationship with the other control variables is positive but yet not statistically significant at any level.

Table 10. Regression results

Panel A. Results for the health care companies

Panel B. Results for FTSE100 companies

VARIABLES	(1) excess
lab	0.00101 (0.00169)
dy	-0.000306*** (6.23e-05)
leverage	1.68e-07 (5.10e-07)
roa	0.00404*** (0.000526)
rtrn_exuk	-0.602*** (0.0104)
book_to_market	-2.93e-07*** (8.44e-08)
ln_mv	0.000116* (6.01e-05)
Constant	-0.000811 (0.00154)
Observations	66,913
R-squared	0.050

VARIABLES	(1) excess
lab	0.000336 (0.000300)
dy	-0.000248*** (1.35e-05)
leverage	3.87e-08 (3.77e-08)
roa	0.000565 (0.000486)
book_to_market	-5.45e-07*** (6.10e-08)
ln_mv	-1.47e-05 (2.57e-05)
Constant	0.00115*** (0.000318)
Observations	322,638
R-squared	0.002

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.2.2. Regressions with Fama-French 3-Factor model

In order to expand the research from the investor perspective I run regressions of the excess returns both for the companies of health care sector and FTSE100 with Fama-French 3-factor model, also with the inclusion of the political dummy variable. In asset pricing and portfolio management the Fama–French three-factor model is a model designed by Eugene Fama and Kenneth French to describe stock returns (Fama and French, 1992) I choose the daily factors from Europe which I download from the website of Kenneth R. French (data library).

As you observe again the coefficient of the Labour is positive in both samples, proving again the positive relationship. The relationship between the excess returns and the market factor (Rm-risk free rate) is positive and statistically significant at 1% level in both samples meaning that the performance of a portfolio consisted of stocks from these two samples is positively associated with the performance of the market. The size factor (Small market cap minus big) is also positive and statistically significant at 1% in both regressions, so there is evidence for exposure to small sized companies in the samples of British health care sector and FTSE100, although the SMB coefficient for the health care firms is larger than the coefficient of FTSE100, which is rational since there are more small cap firms in the British Health Care sector. Regarding the value factor HML (High minus low), the coefficients are positive, but only in the FTSE100 there is statistical significance. Since there is a positive relation with the HML factor it is implied that these returns are accredited to value premium and the exposure to value stocks is larger than the exposure of growth stocks in the portfolio. More specifically, the positive relation shows that if a manager chooses to invest in a portfolio consisted of stocks either from the British health sector or from FTSE100, then he or she relies in stocks with high book-to-market ratios in order to gain an abnormal return.

Table 11. Regressions including the 3 Fama-French Factors

Panel A

VARIABLES	(1) excess
lab	0.00101 (0.00169)
mkt_rf	0.00226*** (0.000128)
smb	0.0122*** (0.000212)
hml	0.000299 (0.000238)
Constant	-0.00124 (0.00150)
Observations	66,913
R-squared	0.060

Panel B

VARIABLES	(1) excess
lab	0.000324 (0.000298)
mkt_rf	0.000417*** (3.66e-05)
smb	0.00336*** (6.81e-05)
hml	0.00326*** (6.99e-05)
Constant	-0.000165 (0.000209)
Observations	322,638
R-squared	0.016

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

6. Robustness

For robustness for the event studies on elections I use a larger event window [-10,10]. As you observe, by using a larger event window, the CARs following the victory of the Labour are negative. Also, we have more statistically significant CARs.

Table 12. CARs for [-10,10] event window

Election date	Winning Party	CAR	P-value	Event window
01/05/1997	Labour	-.0066984	0.56	[-10,10]
07/06/2001	Labour	-.0220713	0.00	[-10,10]
05/05/2005	Labour	-.0181391	0.01	[-10,10]
06/05/2010	Conservative	-.0081857	0.13	[-10,10]
07/05/2015	Conservative	.018876	0.00	[-10,10]

For the robustness on the regressions, I choose to include the variable firm size (which is calculated as the natural logarithm of the total assets) instead of the logarithm of the market value. As you observe the positive relationship between the Labour and the excess returns for both samples is still evident, since the coefficient is positive.

Table 13. Regressions including firm size as a control variable

Panel A		Panel B	
VARIABLES	(1) excess	VARIABLES	(1) excess
lab	0.000994 (0.00169)	Lab	0.000337 (0.000300)
dy	-0.000307*** (6.35e-05)	dy	-0.000248*** (1.35e-05)
leverage	1.67e-07 (5.13e-07)	Leverage	3.73e-08 (3.78e-08)
roa	0.00423*** (0.000535)	Roa	0.000561 (0.000502)
rtrn_exuk	-0.602*** (0.0104)	book_to_market	-5.40e-07*** (6.08e-08)
book_to_market	-3.10e-07*** (8.40e-08)	ln_mv	
firm_size	4.23e-05 (7.48e-05)	firm_size	-1.67e-06 (1.97e-05)
Constant	-0.000768 (0.00171)	Constant	0.00104*** (0.000389)
Observations	66,913	Observations	322,638
R-squared	0.050	R-squared	0.002

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

7. Conclusion

This thesis paper aims to analyze the impact of the British elections' results on the stock markets, and in particular if there is a positive relationship between the win of the Labour Party at the elections and the returns from the companies that belong to the British Health Care industry. First of all, using event study's methodology, on a sample of firms belonging to the British Health Care industry, I find that there is indeed a positive relationship between the win of the Labour Party and the returns of the firms. More specifically, the cumulative abnormal returns are positive in event windows of two and three days, after the win of the Labour Party in the elections of 1997, 2001 and 2005, and negative after the win of the Conservatives at the 2010 elections. Also, in order to have a clearer picture on whether there is a partisan effect between both parties and the health industry, I implement seventy-four polls in my research, and according to the results, the percentage of positive polls is higher for the Labour party.

To continue, I construct a model to in order to determine the effect of political regime on the stock returns of the British health care industry, but also to examine the effect on a more general sample, like the firms including at the FTSE100 index. The findings indicate a positive relationship between the daily excess return and a dummy that equals to one if the Labour Party is in power.

A limitation of the research is that, I focus only on a very specific industry for a specific country to see the effect of the elections, and it would be a nice suggestion for further research, to examine the effect on more industries and more countries. For example, it is possible that a win of the Labour Party would have also a positive effect on the pharmaceutical industry. In general, a research in more European countries will give a clear picture of the effect of a win of centre-left/ left-wing party to the stock returns of the health care industry, pharmaceutical industry and other. Furthermore, it is crucial to examine which industries have positive relationship with a win of a centre-right/right-wing party.

Moreover, it would be an interesting idea to expand the research in the perspective of volatility. More specifically, a research on the cumulative abnormal volatility, that is caused after the elections will give interesting findings about the volatility of stock returns in several industries and how they are related to the win of either a centre-left/left-wing party or a right-wing/centre-right.

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Appendix

Variables included in the regressions

excess	Excess return	The daily return of the company minus the return of the index.
market_value	The market value of the firm	It is the consolidated market value of a company displayed in millions of units of local currency.
firm_size	Firms size	Natural logarithm of total assets
leverage	Leverage ratio	(Long Term Debt + Short Term Debt & Current Portion of Long Term Debt) / Common Equity * 100
roa	Returns on Assets	Ratio of net income to total assets
book_to_market	Book to market ratio	common shareholders' equity / market capitalization

rtrn_exuk	Return of the index of FTSE Europe health care excluding UK	The natural logarithm of the ratio of the stock price to the index price of the previous day.
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Variables of the event studies

ret	The daily return of each of the health care companies	The natural logarithm of the ratio of the stock price to the stock price of the previous day.
marketret	The daily return of the of the FTSE2150 health care index	The natural logarithm of the ratio of the stock price to the index price of the previous day.

UK health care services and equipment companies

(The list includes all the companies that were active during the period of the event studies)

1ST DENTAL LABS	IDMOS
1ST DENTAL LABS. (BER)	IDMOS (BER)
A.GEN	IMMUD.SYSTEM HDG.
AAH	IMMUD.SYSTEM HDG. (FRA)
ACC GROUP	IMMUD.SYSTEM HDG. (OTC)
ADL (BER)	IMMUD.SYSTEM HDG. (XET)
ADL	INDITHERM (BER)
ADVANCED MED.SLTN. (FRA) GP.	INION
ADVANCED MED.SLTN. (OTC)	INSPIRATION HLTHCR.GP.
ADVANCED MED.SLTN. (XET) GP.	INTERGRATED DIAGNOSTICS HOLDINGS
ADVANCED MED.SLTN.GP.	INTL.MEDICAL DEVC. (BER)
ADVANCED ONCOTHERAPY	INTL.MEDICAL DEVICES
ADVD.ONCOTHERAPY (BER)	ISLE OF WGHT.PRIV.HOSP.
ADVD.ONCOTHERAPY (OTC)	ISOTRON
AMERSHAM	ISOTRON (BER)
AMERSHAM	JOURDAN
AMERSHAM (FRA)	JOURDAN (BER)
AMERSHAM (OSL)	JS PATHOLOGY
ANS	KROMEK GROUP
AORTECH INTER.TIO.L	LIDCO GROUP
AORTECH INTL. (FRA)	LIDCO GROUP (FRA)
AORTECH INTL. (OTC)	LIDCO GROUP (OTC)
AORTECH INTL. (XET)	LIFE SCIENCES
APTA HEALTHCARE	LOMBARD MED.TECHS. (BER)

ASHBOURNE	LOMBARD MED.TECHS. (OTC)
ASTEK GROUP	LOMBARD MEDICAL
ASTEK GROUP (BER)	LOMBARD MEDICAL TECHS.
BARBICAN HEALTHCARE	LONDON INTL.GP.
BIOCOMPATIBLES	LOOX
BIOCOMPATIBLES (FRA)	MAYPOLE GROUP
BIOCOMPATIBLES (XET)	MAYPOLE GROUP (BER)
BIONOSTICS	MEDAPHOR GROUP
BIOQUELL	MEDICAL HOUSE
BIOQUELL (OTC)	MEDICAL HOUSE (BER)
BIOTRACE INTL.	MEDICLINIC INTER.TIO.L
BIOTRACE INTL. (FRA)	MEDICLINIC INTL. (FRA)
BIOTRACE INTL. (XET)	MEDIWATCH
CAMBDG.COGNITION HDG.	MEDIWATCH (BER)
CAMBIAN GROUP	MEDX
CAMBIAN GROUP (FRA)	MEDX (XET) D
CAMBIAN GROUP (OTC)	MOBILE DOCTORS GROUP
CARDIOMAG IMAGING (BER)	NESTOR HEALTHCARE
CARDIOMAG IMAGING REG S	NESTOR HEALTHCARE (BER)
CARE UK	NESTOR HLTHCR.GP. (OTC)
CAREFORCE GROUP	NETSCIENTIFIC
CAREFORCE GROUP (BER)	NETSCIENTIFIC (FRA)
CARETECH HOLDINGS	NMC HEALTH
CARETECH HOLDINGS (BER)	NMC HEALTH (FRA)
CELLEXUS BIOSYSTEMS	NMT GROUP
CELSIS INTL.	NMT GROUP (BER)
CELSIS INTL. (FRA)	NONINVASIVE MED. (XET) TECHS.
CELSIS INTL. (OTC)	NONINVASIVE MED.TECHS.
CELSIS INTL. (XET)	NYCOM.AMSH.(NV)
CHAMBERLAIN PHIPPS	NYCOMED AMERSHAM
CHROMOGENEX	OASIS HEALTHCARE
CIRCLE HOLDINGS	OASIS HEALTHCARE (BER)
CLAIMAR CARE GROUP	OMEGA DIAG.GROUP (BER)
CLAIMAR CARE GROUP (BER)	OMEGA DIAGNOSTICS GROUP
CLEARSTREAM TECHS. (BER)	OMNICARE
CLEARSTREAM TECHS.GP.	OPTOS
CLINPHONE	OPTOS (OTC)
CLINPHONE (OTC)	OSMETECH
CLOUDTAG (DI)	OSMETECH (FRA)
COLLAGEN SOLUTIONS	PERSO.L SCREENING
COMPANY HEALTH GROUP	PERSO.L SCREENING (BER)
CONCATENO	PETSOME

CONCATENO (BER)	PHYSIOMICS
CONCEPTA	PHYSIOMICS (BER)
CONSORT MEDICAL	PREMIER HLTH.GP.
CONSORT MEDICAL (OTC)	QUALITY CARE HOMES
CONSTELLATION HLTHCR. TECHS.	REALM THERAPEUTICS
CORIN GROUP	REX BIONICS
CORIN GROUP	SCHOLL
CORIN GROUP (FRA)	SCIENTIFIC DIGITAL (BER) IMAG.
CORIN GROUP (OTC)	SCIENTIFIC DIGITAL IMAG.
CORIN GROUP (XET) D	SHEPPARDS SMITH BAL. PRTF.AC.
COURT CVNDSH.GP.	SHILOH
COZART	SINCLAIR MONTROSE HEALTHCARE
COZART (BER)	SKIN HEALTH SPA
CRESTACARE	SMITH & NEPHEW
CRESTACARE NEW ORD.	SMITH & NEPHEW (BER)
CROWN EYEGLASS	SMITH & NEPHEW (FRA)
CUSTOMVIS	SMITH & NEPHEW (OTC)
CUSTOMVIS (BER)	SMITH & NEPHEW (VTX)
CUSTOMVIS (OTC)	SMITH & NEPHEW (XET)
DELTEX MED.GP. (EAS)	SMITH & NEPHEW NEW
DELTEX MEDICAL GP. (FRA)	SPECIAL EYES
DELTEX MEDICAL GP. (OTC)	SPECIALTY SCANNERS
DELTEX MEDICAL GROUP	SPHERE MED.HLDG. (OTC)
DHAIS	SPHERE MEDICAL HOLDING
DOCTORS DIRECT	SPIRE HEALTHCARE (FRA) GP.
EKF DIAG.HOLDINGS (OTC)	SPIRE HEALTHCARE GP.
EKF DIAGNOSTICS (BER) HDG.	SURGICAL INNOVATIONS GP.
EKF DIAGNOSTICS HOLDINGS	SURGICAL INNVNS.GP.(BER)
ELECTRICAL GEODESICS	SYNERGY HEALTH
ELECTRICAL GEODESICS(DI)	SYNERGY HEALTH (BER)
ENHANCE TECHNOLOGY	SYNERGY HEALTH (OTC)
EYECARE PRDS.	SYNERGY HEALTHCARE NEW
FERRARIS GROUP NEW	TISSUE SCI.LABS. (BER)
FRONTIER RES.INTL. (OTC)	TISSUE SCIENCE LABS.
GENERAL MEDICAL CLINICS	TOTALLY
GENETIX GROUP	TOTALLY (BER)
GENETIX GROUP (FRA)	TRISTEL
GENETIX GROUP (XET)	TRISTEL (OTC)
GENOSIS	VENN LIFE SCIENCES HDG.
GENOSIS (BER)	VIVOMEDICA
GEORGIA HEALTHCARE GP.	VIVOMEDICA (BER)
GOLDBGH.HLTHCR.	WESTHOUSE MED.SVS. (XET)

GREE.CRE GP.	WESTHOUSE MEDICAL SVS.
GYRUS GROUP	WESTON MEDICAL
GYRUS GROUP (FRA)	WHATMAN
HEALTHCALL	WHATMAN (BER)
HEALTHCARE ENTS.GP.(FRA)	WREN EXTRA CARE GP.(BER)
HEALTHCARE ENTS.GROUP	WREN EXTRA CARE GROUP
HEALTHCARE HDG.	XCOUNTER
HEALTHCARE HOLDINGS	XCOUNTER (BER)
HEPHAESTUS HOLDINGS	XCOUNTER (OME)
HEPHAESTUS HOLDINGS(BER)	
HIDDEN HEARING	
HUNTLEIGH TECH.	