This thesis researches the problem of stock market efficiency and market anomalies. Specifically, we look on European stock markets and possible presence of four seasonal effects - January, Halloween, Turn-of-the-month and Monday effects. These seasonal anomalies imply that returns for specific period are unusually higher or lower than returns for the rest of the time, which presents a challenge for the Efficient Market Hypothesis. The empirical side of this problem is the possible opportunity for excessive profit from trading on stock markets that could be based on the seasonal anomalies. Firstly, we summarize previous research in the field and attempts of explanation of individual effects. Further, we present the tools needed for our analysis - Ordinary Least Squares regression with dummy variables and few extensions. Data used for the analysis consists of 32 European stock indices. The actual analysis is performed as a comparison of returns on stock for certain specified periods. The evidence on January and Monday effects is found not strong enough to confirm the presence of such anomalies. On the other side, there is enough significant evidence on the presence of Halloween and Turn-of-the-month effects. Moreover, we are unable to explain the Halloween effect as manifestation of January effect.