# Executive Summary

More and more investors are aware of the environment and the ecological impact of their investments. The demand of financial investments that account for good environmental, social and governance characteristics increased. In particular, a strategy that is based on the social responsiveness of an investment is called socially responsible investing (SRI). In fact, while in 1995 only USD 639 billion assets were managed according to socially responsible strategies, the assets increased to USD 3.07 trillion in 2010 (SIF, 2010). This growth accounts for more than 380% whereas traditional assets under professional management only grew 260% in the same time. There is rather little literature dealing with the question if socially responsible investments are also attractive from a financial point of view. Existing research presents very different outcomes when investigating the financial performance of SRI Especially the combination of such strategies with other well-known, established strategies is a rather unexplored field. The present thesis examines an SRI strategy as well as a combination of SRI with momentum and size strategies in order to investigate their financial performance.

As a measure of the socially responsible performance of a company the ESG score is used. This is the best known one and enables the investigation on company-level and not only on fund-level. The ESG score used is provided by MSCI Research LLC exclusively for this thesis. As investment universe, historical constituents of the S&P 500 Index are used. A first portfolio formation is based solely on the ESG score. For this, all the stocks in the sample are checked if an ESG score is assigned in a first step. Then, at the beginning of each months the stocks in the screened sample are ranked according to their ESG scores and assigned to one of ten decile portfolios. The formed portfolios are value-weighted and remain the same until the monthly assessment of the scores make it necessary to restructure the composition. In addition, rated-only (RO) portfolio is constructed that includes all the stocks that have an ESG score assigned. Furthermore, I construct a self-financing (SF) zero-beta portfolio based on the stocks' ESG scores. In order to do that, simple portfolios are built that are long high-rated stocks and shortsell low-rated stocks according to their ESG score. The stocks are ranked correspondingly to the method used to form decile portfolio but are only assigned to one of two portfolios: the high-score and the low-score portfolio. Within a portfolio the stocks have

descending weights according to their rank. That means, high rated stocks have larger weights than low rated ones in the high-score portfolio and low rated stocks have larger weights than high rated stocks in the low-score portfolio. A second portfolio formation is exhibited using a linear regression. I consider the SF portfolio returns of the first step as ESG factor returns and combine momentum and size factor returns. Thus, a regression is performed on the three factors ESG, MOM and SMB. Then, I rank the stocks according to the expected returns based on the regression and assign them to one of ten decile portfolios. Correspondingly, a self-financing zero-beta portfolio is constructed on the basis of the expected returns. Here, stocks that have a high expected return receive larger weights in the long portfolio and stocks with low expected returns receive larger weights in the short portfolio. Again, a RO portfolio is built that only consists of stocks which have an ESG score assigned.The performance of all the portfolios is measured using average monthly returns, Sharpe ratio and three- and four-factor alphas.

The results of this study support the hypothesis that SRI neither leads to superior performance nor destroys any value over the sample period ranging from January 2007 to March 2019. Decile portfolios based on the ESG score only have returns that seem randomly distributed. However, the SF portfolio shows positive abnormal returns of 0.04% per month. Although, these returns are statistically insignificant. Besides that, the major part of the overperformance stems from the period of 2015 to 2019 and indicate that the results are not stable over time. More interestingly is the performance of the RO portfolio which outperforms its benchmark, the S&P 500 with a cumulative return that is almost twice as big. In addition, the RO portfolio reports a statistically significant alpha of 0.51% per month. The combination of socially responsible investing with momentum and size strategies provides further significant results. Decile portfolios formed on the basis of a stock's expected return show abnormal returns of up to 2.07% per month for the top portfolio. The results of the screening method based on the regression support the hypothesis, that abnormal returns generated by traditional investment strategies are not destroyed due to sustainable investment characteristics. Additionally, the SF zero-beta portfolio is able to produce abnormal returns that account for 1.30% per month. Thus, risk-free returns, according to the beta of zero, are obtainable using an SF portfolio that combines SRI with momentum and size strategies. On top of that, the SF portfolio contribute to an overperformance over its benchmark by comparing cumulative returns. Although,

most of the positive performance stems from the period from 2015 to 2019 as well.

The ESG factor used in the regression stems from the first SRI approach which results in an insignificant positive alpha. It is therefore unknown to what extent the SRI influences the portfolio performance of the regression approach. Furthermore, the results are limited to availability of an appropriate ESG score and in this thesis the results are dependent on the MSCI ESG rating methodology. The financial performance of SRI remains unclear for the sample stocks and time horizon used in this study. I therefore suggest to further investigate performance of socially responsible portfolios by using a broader investment universe and considering longer timer horizons. In addition, future research should also focus on the combination of socially responsible investing with other investment strategies. This should ensure results that could have practical implications due to the rise of the environmental consciousness of mankind.