

Executive Summary

Dividend Growth Models (DGM) are widely used in fundamental stock analysis. The "standard" Dividend Growth Model (sDGM) relies on a constant dividend growth rate and is derived from the basic Dividend Discount Model (DDM), which calculates the present value of all future dividend payments of a stock. The sDGM remains a often used tool, even if there are some critics on the model. Over time various models have been developed to enhance the explanatory power of the sDGM, for example multy period models, different approaches in Cash flow valuation and much more complex models. A major criticism of the sDGM is its assumption of a constant everlasting growth rate, which implies exponential dividend growth. Balschun and Schindler (2015) introduce a "modified" Dividend Growth Model (mDGM) that assumes a more moderate growth pattern of a stock's dividends as they mention to be careful when implementing an exponential growth rate. This thesis show how the sDGM got derived, while focusing on the difference between the sDGM with exponential growth and the mDGM with linear growth. The primary objective of the thesis is to empirically test whether the systematic use of the sDGM or mDGM can add value to the portfolio management process in terms of risk-adjusted excess returns for the European stock market. The empirical section includes an introduction to the historical data used and a detailed presentation and analysis of the empirical results. Additionally, implications for portfolio management are discussed, and potential limitations of this empirical analysis are addressed. This empirical study relies on a sample of 595 companies that were part of the EUROSTOXXX600 (SXPXP) index from 2007 to 2022. The purpose is to assess the potential value of dividends when applied in two portfolio building methods, namely sDGM and mDGM. To evaluate the portfolios, the deviation measure, as proposed by Sorensen and Williamson in 1985, is used, which compares the calculated intrinsic value (V_0) to the share price (P_0). The portfolio construction is done annually, with the last day of each year assumed as the portfolio construction day. For both sDGM and mDGM models, four types of portfolios are constructed on a yearly basis: two equally weighted portfolios and two market value weighted portfolios. These portfolios include shares with the highest deviation measures (high-deviation portfolio), shares with the lowest deviation measures (low-deviation portfolio).

The primary goal is to determine whether abnormal portfolio return alphas can be generated using the deviation measures from sDGM and mDGM. To achieve this, three benchmark models are employed for comparison: the Capital Asset Pricing Model (CAPM) with the market premium factor developed by Sharpe (1964) and Lintner (1965), a three-factor model (market premium, size, and value factors) by Fama and French (1993), and a four-factor model (market premium, size, value, and momentum factors) introduced by Carhart (1997). The portfolios, particularly after the crisis, didn't underperform as bad. Although the benchmark outperformed them, the high deviation s1 portfolio showed a promising mean excess average return of 4.03% per year after the crisis, along with an overall average dividend yield of 4.87% per year. Similarly, the high deviation m1 portfolio achieved an annual return of 2.18% and dividend yields of 5.95% per year. These findings demonstrate that the portfolios can generate value during favourable market conditions through returns and dividends, and they also offer some level of protection during challenging periods by offsetting losses with dividends received. While the portfolios didn't deliver exceptional returns, certain ones effectively provided stable combined income when considering both returns and dividend yields. The thesis suggests that future research could shift its focus from excess returns to excess combined gains to optimize value for investors. Exploring the construction of high deviation portfolios and overall portfolios containing high dividend stocks could be advantageous in this regard.