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Cross-sectional return dispersion and the equity premium ☆

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ABSTRACT

In this paper, I examine whether stock return dispersion (*RD*) provides useful information about future stock returns. *RD* consistently forecasts a decline in the excess market return at multiple horizons, and compares favorably with alternative predictors used in the literature. The out-of-sample performance of *RD* tends to beat the alternative predictors, and is economically significant as indicated by the certainty equivalent gain associated with a trading investment strategy. *RD* has greater forecasting power for big and growth stocks compared to small and value stocks, respectively. I discuss a theoretical mechanism giving rise to the negative correlation between *RD* and the equity premium.

1. Introduction

In the finance and economics literature there has been an increasing interest in the study of equity return dispersion (cross-sectional variance of stock returns), which corresponds to the extent that the prices (returns) of different stocks move together over a given period. Bekaert and Harvey (1997) and Stivers (2003) analyze the impact of return dispersion on future stock market volatility. Connolly and Stivers (2003), Stivers and Sun (2010), and Bhootra (2011) look at the interaction between return

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dispersion and both value and momentum payoffs. Loungani, Rush, and Tave (1990) analyze the effect of return dispersion on the unemployment rate. Jiang (2010) assesses whether return dispersion is a priced risk factor in the cross-section of stock returns. Stock return dispersion has also earned the attention of analysts in the financial industry.[1] In this paper, I examine whether return dispersion provides useful information about future excess stock returns, both at the aggregate and portfolio levels.

I use two measures of return dispersion (*RD* and *RD**) that correspond to the cross-sectional standard deviations of the returns on 100 and 25 portfolios sorted on both size and book-to-market, respectively, as in Stivers and Sun (2010). The results from in-sample single long-horizon regressions show that both *RD* and *RD** consistently forecast a decrease in the excess return of the stock index at multiple forecasting horizons. The performance of return dispersion is compared to a set of popular predictors in the literature: the aggregate dividend-to-price ratio, the earnings-to-price ratio, the slope of the yield curve, the default spread, the realized stock market variance, and the change in the federal funds rate. Return dispersion compares favorably with these alternative predictors in forecasting the equity premium at several horizons. In bivariate and multiple predictive regressions, *RD** remains a significant predictor of excess market returns conditional on the alternative predictors, at most forecasting horizons. The bivariate regressions also show that both return dispersion and stock market variance are valid joint forecasters of the excess market return, with opposite signs: stock market variance forecasts an increase in the equity premium while return dispersion forecasts a decline.

I conduct a series of robustness checks to the main in-sample predictability results. Among others, I compute predictive regressions for the market return (instead of the equity premium), conduct forecasting regressions based on quarterly data, compare the forecasting role of return dispersion with a second set of alternative predictors employed in the literature, use an alternative measure of return dispersion based on a larger cross-section of portfolio returns, and also assess the forecasting role of return dispersion in comparison to two alternative stock volatility variables. Overall, the results are qualitatively similar to the benchmark results: Return dispersion helps to forecast the excess market return at multiple horizons, alone or conditional on the other variables, and also outperforms the alternative predictors.

To complement the in-sample predictability, I analyze the out-of-sample forecasting power associated with return dispersion. The results from predictive regressions in expanding samples show that return dispersion outperforms in most cases the alternative variables in forecasting the excess market return. This forecasting power although modest at the one-period horizon, increases significantly for longer horizons (6 and 12 months). The economic significance of the out-of-sample forecasting power from return dispersion is evaluated by constructing market-timing strategies based on the recursive regressions. Such forecasting power at the one-month horizon, although being modest as shown in the last section, still generates economically significant profits in market-timing strategies for a risk-averse investor. Moreover, the strategies based on return dispersion outperform the strategies corresponding to all the other predictors.

I analyze the forecasting power of stock return dispersion for the excess returns of decile portfolios sorted on size and book-to-market ratio. The results from both in-sample and out-of-sample predictive regressions show that return dispersion has greater forecasting power for large capitalization stocks and growth stocks compared to small and value stocks, respectively. Moreover, the economic gains associated with the trading strategy based on return dispersion for the market portfolio are mainly driven by big and growth stocks. Therefore, what drives the return predictability of return dispersion for the market portfolio is return predictability for either large or growth stocks.

The negative correlation between return dispersion and future excess stock returns is consistent with the model containing heterogeneous beliefs presented in Scheinkman and Xiong (2003). In this model, there are some agents with overoptimistic beliefs about future asset cash flows, which combined with a short-sale constraint leads to a current stock price that is above the fair value, generating a lower equity premium. If return dispersion is a proxy for the level of disagreement

[1] See, for example, MSCI Barra Research.