

The Cross-Section of Risk and Return

Data Description

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1 DMRS Hedge Portfolio

dmrs_hedge_portfolios_daily.txt

dmrs_hedge_portfolios_monthly.txt

Hedge portfolios are constructed using 18 (h_{HML} , h_{RMW} , h_{CMA}) or 54 (h_{SMB} , h_{MktRF}) market capitalization weight portfolios from a $3 \times 3 \times 3$ sort on size, characteristic and pre-formation loading. Portfolios are rebalanced once a year on June 30th. Details about the estimation of pre-formation loading can be found in Section 4.3. In detail,

- h_{HML}
 1. Stocks are sorted into 3×3 portfolios based on Size and industry adjusted BEME. For all sorts NYSE breakpoints are used;
 2. Within each of the 9 resulting portfolios stocks are sorted into 3 pre-formation HML-beta portfolios;
 3. For each of the 9×3 portfolios, portfolio returns are market capitalization weighted;
 4. h_{HML} is the return of buying, with equal weights, the 9 low beta portfolios and selling the 9 high beta portfolios.
- h_{RMW}
 1. Stocks are sorted into 3×3 portfolios based on Size and industry adjusted OP. For all sorts NYSE breakpoints are used;
 2. Within each of the 9 resulting portfolios stocks are sorted into 3 pre-formation RMW-beta portfolios;
 3. For each of the 9×3 portfolios, portfolio returns are market capitalization weighted;
 4. h_{RMW} is the return of buying, with equal weights, the 9 low beta portfolios and selling the 9 high beta portfolios.
- h_{CMA}
 1. Stocks are sorted into 3×3 portfolios based on Size and industry adjusted INV. For all sorts NYSE breakpoints are used;
 2. Within each of the 9 resulting portfolios stocks are sorted into 3 pre-formation CMA-beta portfolios;
 3. For each of the 9×3 portfolios, portfolio returns are market capitalization weighted;
 4. h_{CMA} is the return of buying, with equal weights, the 9 low beta portfolios and selling the 9 high beta portfolios.

- h_{SMB}
 1. Stocks are independently sorted into 3×3 portfolios based on: 1. Size and industry adjusted BEME; 2. Size and industry adjusted OP and; 3. Size and industry adjusted INV. For all sorts NYSE breakpoints are used;
 2. Within each of the 27 resulting portfolios stocks are sorted into 3 pre-formation SMB-beta portfolios;
 3. For each of the 27×3 portfolios, portfolio returns are market capitalization weighted;
 4. h_{SMB} is the return of buying, with equal weights, the 27 low beta portfolios and selling the 27 high beta portfolios.
- h_{MktRF}
 1. Stocks are independently sorted into 3×3 portfolios based on: 1. Size and industry adjusted BEME; 2. Size and industry adjusted OP and; 3. Size and industry adjusted INV. For all sorts NYSE breakpoints are used;
 2. Within each of the 27 resulting portfolios stocks are sorted into 3 pre-formation MktRF-beta portfolios;
 3. For each of the 27×3 portfolios, portfolio returns are market capitalization weighted;
 4. h_{MktRF} is the return of buying, with equal weights, the 27 low beta portfolios and selling the 27 high beta portfolios.

2 DMRS Factors

dmrs_factors_daily.txt

dmrs_factors_monthly.txt

DMRS 5 factors are a combination of each of the Fama and French (2015) factors with the 5 hedge portfolios. The hedge ratio is calculated each June 30th, as the best forecast of the multivariate regression coefficient $\gamma_{k,t-1}$:

$$f_{k,t}^{(2)} = f_{k,t}^{(1)} - \hat{\gamma}'_{k,t-1} \mathbf{h}_t$$

where $k \in \{HML, RMW, CMA, SMB, MktRF\}$

Details for the estimation of pre-formation hedge ratio $\gamma_{k,t-1}$ can be found in Section 5.2.

References

Fama, Eugene F., and Kenneth R. French, 2015, A five-factor asset pricing model, *Journal of Financial Economics* 116, 1–22.