

The Cross-Section of Risk and Return

Data Description

Kent Daniel Lira Mota Simon Rottke Tano Santos

November 6, 2019

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}) value-weighted portfolios from a $3 \times 3 \times 3$ sort on size (ME), characteristic (book-to-market (BEME)), operating profitability (OP), investment (INV) and pre-formation loading. Portfolios are rebalanced once a year on June 30th. Details about the estimation of pre-formation loadings can be found in Section 3.1 and Appendix D.2 of the paper.

- h_{HML}

1. Stocks are sorted into 3×3 portfolios based on ME and BEME. For these sorts NYSE breakpoints are used.
2. Within each of the 9 resulting portfolios, stocks are sorted into 3 pre-formation HML-loading (\hat{b}_{HML}) portfolios.
3. For each of the 9×3 portfolios, portfolio returns are value-weighted (by market capitalization).
4. h_{HML} is the return of buying, with equal weights, the 9 low \hat{b}_{HML} portfolios and selling the 9 high \hat{b}_{HML} portfolios.

- h_{RMW}

1. Stocks are sorted into 3×3 portfolios based on ME and OP. For these sorts NYSE breakpoints are used.
2. Within each of the 9 resulting portfolios, stocks are sorted into 3 pre-formation RMW-loading (\hat{b}_{RMW}) portfolios.
3. For each of the 9×3 portfolios, portfolio returns are value-weighted (by market capitalization).
4. h_{RMW} is the return of buying, with equal weights, the 9 low \hat{b}_{RMW} portfolios and selling the 9 high \hat{b}_{RMW} portfolios.

- h_{CMA}

1. Stocks are sorted into 3×3 portfolios based on ME and INV. For these sorts NYSE breakpoints are used.
2. Within each of the 9 resulting portfolios, stocks are sorted into 3 pre-formation CMA-loading (\hat{b}_{CMA}) portfolios.

3. For each of the 9×3 portfolios, portfolio returns are value-weighted (by market capitalization).
 4. h_{CMA} is the return of buying, with equal weights, the 9 low \hat{b}_{CMA} portfolios and selling the 9 high \hat{b}_{CMA} portfolios.
- h_{SMB}
 1. Stocks are independently sorted into 3×3 portfolios based on: 1. ME and BEME; 2. ME and OP and; 3. ME and INV. For these sorts NYSE breakpoints are used.
 2. Within each of the 27 resulting portfolios, stocks are sorted into 3 pre-formation SMB-loading (\hat{b}_{SMB}) portfolios.
 3. For each of the 27×3 portfolios, portfolio returns are value-weighted (by market capitalization).
 4. h_{SMB} is the return of buying, with equal weights, the 27 low \hat{b}_{SMB} portfolios and selling the 27 high \hat{b}_{SMB} portfolios.
 - h_{MktRF}
 1. Stocks are independently sorted into 3×3 portfolios based on: 1. ME and BEME; 2. ME and OP and; 3. ME and INV. For these sorts NYSE breakpoints are used.
 2. Within each of the 27 resulting portfolios, stocks are sorted into 3 pre-formation MktRF-loading (\hat{b}_{MktRF}) portfolios.
 3. For each of the 27×3 portfolios, portfolio returns are value-weighted (by market capitalization).
 4. h_{MktRF} is the return of buying, with equal weights, the 27 low \hat{b}_{MktRF} portfolios and selling the 27 high \hat{b}_{MktRF} portfolios.

2 DMRS Factors

dmrs_factor_portfolios_daily.txt

dmrs_factor_portfolios_monthly.txt

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

$$R_{k,t}^* = R_{k,t}^c - \hat{\gamma}'_{k,t-1} \mathbf{h}_t$$

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

Details about the estimation of the pre-formation hedge ratio $\hat{\gamma}_{k,t-1}$ can be found in Section 4.4.2 of the paper.

References

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