Description of Fama/French 5 Factors (2x3)

Monthly Returns: July 1963 - September 2025

Annual Returns: 1964 - 2024

Construction: The Fama/French 5 factors (2x3) are constructed using the 6 value-weight portfolios formed on size and book-to-market, the 6 value-weight portfolios formed on size and operating profitability, and the 6 value-weight portfolios formed on size and investment. (See the description of the 6 size/book-to-market, size/operating profitability, size/investment portfolios.)

SMB (Small Minus Big) is the average return on the nine small stock portfolios minus the average return on the nine big stock portfolios,

$SMB_{(B/M)}$ = 1/3 (Small Value + Small Neutral + Small Growth)
　　　 - 1/3 (Big Value + Big Neutral + Big Growth).

$SMB_{(OP)}$ = 1/3 (Small Robust + Small Neutral + Small Weak)
　　　 - 1/3 (Big Robust + Big Neutral + Big Weak).

$SMB_{(INV)}$ = 1/3 (Small Conservative + Small Neutral + Small Aggressive)
　　　 - 1/3 (Big Conservative + Big Neutral + Big Aggressive).

SMB =
　　　 1/3 ($SMB_{(B/M)}$ + $SMB_{(OP)}$ + $SMB_{(INV)}$).

HML (High Minus Low) is the average return on the two value portfolios minus the average return on the two growth portfolios,

HML = 　 1/2 (Small Value + Big Value)
　　　 - 1/2 (Small Growth + Big Growth).

RMW (Robust Minus Weak) is the average return on the two robust operating profitability portfolios minus the average return on the two weak operating profitability portfolios,

RMW = 　 1/2 (Small Robust + Big Robust)
　　　 - 1/2 (Small Weak + Big Weak).

CMA (Conservative Minus Aggressive) is the average return on the two conservative investment portfolios minus the average return on the two aggressive investment portfolios,

CMA = 　 1/2 (Small Conservative + Big Conservative)
　　　 - 1/2 (Small Aggressive + Big Aggressive).

R_m-R_f, the excess return on the market, value-weight return of all CRSP firms incorporated in the US and listed on the NYSE, AMEX, or NASDAQ that have a CRSP share code of 10 or 11 at

the beginning of month t, good shares and price data at the beginning of t, and good return data for t minus the one-month Treasury bill rate. The one-month Treasury bill rate data through May 2024 are from Ibbotson Associates. Starting from June 2024, the one-month Treasury bill rate is from ICE BofA US 1-Month Treasury Bill Index.

See Fama and French, 1993, "Common Risk Factors in the Returns on Stocks and Bonds," *Journal of Financial Economics*, and Fama and French, 2014, "A Five-Factor Asset Pricing Model" for a complete description of the factor returns.

Stocks: Rm-Rf includes all NYSE, AMEX, and NASDAQ firms. SMB, HML, RMW, and CMA for July of year t to June of t+1 include all NYSE, AMEX, and NASDAQ stocks for which we have market equity data for December of t-1 and June of t, (positive) book equity data for t-1 (for SMB, HML, and RMW), non-missing revenues and at least one of the following: cost of goods sold, selling, general and administrative expenses, or interest expense for t-1 (for SMB and RMW), and total assets data for t-2 and t-1 (for SMB and CMA).