

RELEASE NOTES FOR APRIL 2024 UPDATE

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In this release, we extend the sample period for testing portfolios data through the end of 2023. We also expand testing portfolios from 193 to 195 anomalies, which are grouped into six categories: momentum (42), value-growth (32), investment (32), profitability (48), intangibles (31), and frictions (10). The main sample period is from January 1967 to December 2023.

Anomaly Selection

The anomalies are a subset of the 452 anomalies in Hou, Xue, and Zhang (2020).² We first include the 158 anomalies that are significant ($|t| \geq 1.96$) in their original sample from January 1967 to December 2016. We then add anomalies that have become significant in subsequent sample extensions, including 11 anomalies for the period through December 2018 (Hou, Mo, Xue, and Zhang 2021), one through December 2019 (R&D capital-to-assets, Rca), two through December 2020 (supplier industry momentum with 12-month holding period, Sim12, and quarterly taxable income-to-book income with 6-month holding period, Tbiq6), one through December 2021 (return on assets with 6-month holding period, Roa6), five through December 2022 (customer momentum with 6-month holding period, Cm6, quarterly investment-to-assets with 1-month holding period, Iaql, change in long-term investments, dLti, net external financing, Nxf, and disparity between long- and short-term earnings growth forecasts with 1-month holding period, Dls1), and two through December 2023 (quarterly return on net operating assets with 12-month holding period, Rnaq12, and quarterly profit margin with 1-month holding period, Pmq1).³ We also include

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² Hou, Kewei, Chen Xue, and Lu Zhang, 2020, Replicating anomalies, *Review of Financial Studies* 33, 2019-2133.

³ Hou, Kewei, Haitao Mo, Chen Xue, and Lu Zhang, 2021, An augmented q-factor model with expected growth, *Review of Finance* 25, 1-41. The 11 anomalies from the December 2018 extension are prior 11-month returns with 12-month holding period (R11_12), 52-week high with 12-month holding period (52w12), segment momentum with 12-month holding period (Sm12), asset turnover (Ato), capital turnover (Cto), quarterly O-score with 1-month holding period (Oq1), quarterly taxable income-to-book income with 12-month holding period (Tbiq12), quarterly

expected growth from the expected growth factor of Hou, Mo, Xue, and Zhang (2021), with 1-, 6-, and 12-month holding periods.

We include 12 anomalies that, albeit insignificant, are prominent in the empirical asset pricing literature, including standardized unexpected earnings (6-month holding period, Sue6), long-term reversal (1-month holding period, Rev1), dividend yield (Dp), payout yield (Op), total accruals (Ta), operating profits-to-equity (Ope), market equity (Me), idiosyncratic volatility per the Fama-French 3-factor model (1-month holding period, Ivff1), idiosyncratic volatility per the Hou-Xue-Zhang q -factor model (1-month holding period, Ivq1), total volatility (1-month holding period, Tv1), market beta (1-month holding period, $\beta 1$), and short-term reversal (Srev).

Finally, for anomalies that have become insignificant over time since the first release of our data library, we continue their coverage to maintain backward compatibility with prior releases.

The Number of Significant Anomalies

Among the 452 anomalies in Hou, Xue, and Zhang (2020), the number of significant anomalies at the 5% level declined over time as shown in Table A. In particular, the number of significant anomalies in the value-versus-growth category dropped from 29 to as low as 5 though it rebounded to 12 in the latest period. The number of significant anomalies is more stable for other categories.

Table A: Number of Significant Anomalies							
Period	Mom (57)	V-G (69)	Inv (38)	Prof (79)	Intan (103)	Fric (106)	Total (452)
1967-2016	36	29	28	35	26	4	158
1967-2018	39	15	26	40	27	3	150
1967-2019	39	13	24	38	26	2	142
1967-2020	39	5	26	35	30	3	138
1967-2021	37	10	25	39	28	2	141
1967-2022	39	15	30	41	26	3	154
1967-2023	37	12	25	40	26	2	142

sales growth with 1-month holding period (Sgq1), quarterly R&D expense-to-sales with 6- and 12-month holding periods (Rdsq6 and Rdsq12), as well as the nonannual component of year 1-lagged return (R1n).

Technical Document

We have updated the Technical Document that details the construction of our testing portfolios data. Notably, we added the descriptions for testing portfolios related to two anomalies (Rnaq12 and Pmq1) that have become significant in the latest sample period.

Next Update

We plan to update our data in March 2025, with the sample extended through December 2024.