Appendix A.

A.1 Stocks-Specific Features

Table 1: Stock-specific Features

Feature	Acronym	Reference
Firm age	age	Jiang Lee and Zhang (2005)
Liquidity of book assets	aliq_at	Ortiz-Molina and Phillips (2014)
Liquidity of market assets	aliq_mat	Ortiz-Molina and Phillips (2014)
Amihud Measure	ami_126d	Amihud (2002)
Book leverage	at_be	Fama and French (1992)
Asset Growth	at_gr1	Cooper Gulen and Schill (2008)
Assets-to-market	at_me	Fama and French (1992)
Capital turnover	at_turnover	Haugen and Baker (1996)
Change in common equity	be_gr1a	Richardson et al. (2005)
Book-to-market equity	be_me	Rosenberg Reid and Lanstein (1985)
Market Beta	beta_60m	Fama and MacBeth (1973)
Dimson beta	beta_dimson_21d	Dimson (1979)
Frazzini-Pedersen market beta	betabab_1260d	Frazzini and Pedersen (2014)
Downside beta	betadown_252d	Ang Chen and Xing (2006)
Book-to-market enterprise value	bev_mev	Penman Richardson and Tuna (2007)
The high-low bid-ask spread	bidaskhl_21d	Corwin and Schultz (2012)
Abnormal corporate investment	capex_abn	Titman Wei and Xie (2004)
CAPEX growth (1 year)	capx_gr1	Xie (2001)
CAPEX growth (2 years)	capx_gr2	Anderson and Garcia-Feijoo (2006)
CAPEX growth (3 years)	capx_gr3	Anderson and Garcia-Feijoo (2006)
Cash-to-assets	cash_at	Palazzo (2012)
Net stock issues	chcsho_12m	Pontiff and Woodgate (2008)
Change in current operating assets	coa_gr1a	Richardson et al. (2005)
Change in current operating liabilities	col_gr1a	Richardson et al. (2005)
Cash-based operating profits-to-book assets	cop_at	
Cash-based operating profits-to-lagged book assets	cop_atl1	Ball et al. (2016)
Market correlation	corr_1260d	Assness, Frazzini, Gormsen, Pedersen (2020)
Coskewness	coskew_21d	Harvey and Siddique (2000)
Change in current operating working capital	cowc_gr1a	Richardson et al. (2005)
Net debt issuance	dbnetis_at	Bradshaw Richardson and Sloan (2006)
Growth in book debt (3 years)	debt_gr3	Lyandres Sun and Zhang (2008)
Debt-to-market	debt_me	Bhandari (1988)
Change gross margin minus change sales	dgp_dsale	Abarbanell and Bushee (1998)
Dividend yield	div12m_me	Litzenberger and Ramaswamy (1979)
Dollar trading volume	dolvol_126d	Brennan Chordia and Subrahmanyam (1998)
Coefficient of variation for dollar trading volume	dolvol_var_126d	Chordia Subrahmanyam and Anshuman (2001)
Change sales minus change Inventory	dsale_dinv	Abarbanell and Bushee (1998)
Change sales minus change receivables	dsale_drec	Abarbanell and Bushee (1998)
Change sales minus change SG&A	dsale_dsga	Abarbanell and Bushee (1998)
Earnings variability	earnings_variability	Francis et al. (2004)
Return on net operating assets	ebit_bev	Soliman (2008)
Profit margin	ebit_sale	Soliman (2008)
Ebitda-to-market enterprise value	ebitda_mev	Loughran and Wellman (2011)
Hiring rate	emp_gr1	Belo Lin and Bazdresch (2014)

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Feature	Acronym	Reference
Equity duration	eq_dur	Dechow Sloan and Soliman (2004)
Net equity issuance	eqnetis_at	Bradshaw Richardson and Sloan (2006)
Equity net payout	eqnpo_12m	Daniel and Titman (2006)
Net payout yield	eqnpo_me	Boudoukh et al. (2007)
Payout yield	eqpo_me	Boudoukh et al. (2007)
Pitroski F-score	f_score	Piotroski (2000)
Free cash flow-to-price	fcf_me	Lakonishok Shleifer and Vishny (1994)
Change in financial liabilities	fnl_gr1a	Richardson et al. (2005)
Gross profits-to-assets	gp_at	Novy-Marx (2013)
Gross profits-to-lagged assets	gp_atl1	
Intrinsic value-to-market	intrinsic_value	Frankel and Lee (1998)
Inventory growth	inv_gr1	Belo and Lin (2011)
Inventory change	inv_gr1a	Thomas and Zhang (2002)
Idiosyncratic skewness from the CAPM	iskew_capm_21d	
Idiosyncratic skewness from the Fama-French 3-factor model	iskew_ff3_21d	Bali Engle and Murray (2016)
Idiosyncratic skewness from the q-factor model	iskew_hxz4_21d	
Idiosyncratic volatility from the CAPM (21 days)	ivol_capm_21d	
Idiosyncratic volatility from the CAPM (252 days)	ivol_capm_252d	Ali Hwang and Trombley (2003)
Idiosyncratic volatility from the Fama-French 3-factor model	ivol_ff3_21d	Ang et al. (2006)
Idiosyncratic volatility from the q-factor model	ivol_hxz4_21d	
Kaplan-Zingales index	kz_index	Lamont Polk and Saa-Requejo (2001)
Change in long-term net operating assets	lnoa_gr1a	Fairfield Whisenant and Yohn (2003)
Change in long-term investments	lti_gr1a	Richardson et al. (2005)
Market Equity	market_equity	Banz (1981)
Mispricing factor: Management	mispricing_mgmt	Stambaugh and Yuan (2016)
Mispricing factor: Performance	mispricing_perf	Stambaugh and Yuan (2016)
Change in noncurrent operating assets	ncoa_gr1a	Richardson et al. (2005)
Change in noncurrent operating liabilities	ncol_gr1a	Richardson et al. (2005)
Net debt-to-price	netdebt_me	Penman Richardson and Tuna (2007)
Net total issuance	netis_at	Bradshaw Richardson and Sloan (2006)
Change in net financial assets	nfna_gr1a	Richardson et al. (2005)
Earnings persistence	ni_ar1	Francis et al. (2004)
Return on equity	ni_be	Haugen and Baker (1996)
Number of consecutive quarters with earnings increases	ni_inc8q	Barth Elliott and Finn (1999)
Earnings volatility	ni_ivol	Francis et al. (2004)
Earnings-to-price	ni_me	Basu (1983)
Quarterly return on assets	niq_at	Balakrishnan Bartov and Faurel (2010)
Change in quarterly return on assets	niq_at_chg1	
Quarterly return on equity	niq_be	Hou Xue and Zhang (2015)
Change in quarterly return on equity	niq_be_chg1	
Standardized earnings surprise	niq_su	Foster Olsen and Shevlin (1984)
Change in net noncurrent operating assets	nncoa_gr1a	Richardson et al. (2005)
Net operating assets	noa_at	Hirshleifer et al. (2004)
Change in net operating assets	noa_gr1a	Hirshleifer et al. (2004)
Ohlson O-score	o_score	Dichev (1998)
Operating accruals	oaccruals_at	Sloan (1996)
Percent operating accruals	oaccruals_ni	Hafzalla Lundholm and Van Winkle (2011)
Operating cash flow to assets	ocf_at	Bouchard, Krüger, Landier and Thesmar (2019)
Change in operating cash flow to assets	ocf_at_chg1	Bouchard, Krüger, Landier and Thesmar (2019)

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Feature	Acronym	Reference
Asset tangibility	tangibility	Hahn and Lee (2009)
Tax expense surprise	tax_gr1a	Thomas and Zhang (2011)
Share turnover	turnover_126d	Datar Naik and Radcliffe (1998)
Coefficient of variation for share turnover	turnover_var_126d	Chordia Subrahmanyam and Anshuman (2001)
Altman Z-score	z_score	Dichev (1998)
Number of zero trades with turnover as tiebreaker (6 months)	zero_trades_126d	Liu (2006)
Number of zero trades with turnover as tiebreaker (1 month)	zero_trades_21d	Liu (2006)
Number of zero trades with turnover as tiebreaker (12 months)	zero_trades_252d	Liu (2006)

Appendix B.

Country/Region	Exchange Name	Code
Austria	Vienna Stock Exchange	AUT
Australia	Australian Securities Exchange	AUS
Belgium	Brussels Stock Exchange	BEL
China	Shanghai Stock Exchange	CHN
Canada	Toronto Stock Exchange	CAN
Denmark	Copenhagen Stock Exchange	DNK
Finland	Helsinki Stock Exchange	FIN
France	Paris Stock Exchange	FRA
Germany	Börse Frankfurt	DEU
Hong Kong	Hong Kong Stock Exchange	HKG
Ireland	Dublin Stock Exchange	IRL
Italy	Borsa Italiana	ITA
Israel	Tel Aviv Stock Exchange	ISL
Japan	Tokyo Stock Exchange	JPN
South Korea	Korea Exchange	KOR
United Kingdom	London Stock Exchange	GBR
Luxembourg	Luxembourg Stock Exchange	LUX
Mexico	Bolsa Mexicana de Valores	MEX
Netherlands	Amsterdam Stock Exchange	NLD
New Zealand	New Zealand's Exchange	NZL
Norway	Oslo Stock Exchange	NOR
Portugal	Lisbon Stock Exchange	PRT
Spain	Bolsa de Madrid	ESP
Singapore	Singapore Exchange	SGP
Sweden	Stockholm Stock Exchange	SWE
Taiwan	Taiwan Stock Exchange	TWN
United States	New York Stock Exchange/NASDAQ	USA
Switzerland	SIX Swiss Exchange	CHE