Internet Appendix for Return Anomalies, Disagreement and Trading Volume

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IA.1 Definition of Anomalies

Table IA.1 gives the list of thirty-nine anomalies. Except for the momentum category, which are from McLean and Pontiff (2016), all other anomalies are from Linnainmaa and Roberts (2018). I also mention the original study and its findings, construction using CRSP/COMPUSTAT variables.

Table IA.1: Anomalies List

List of 39 anomalies used to construct the disagreement measure. Thirty-four anomalies are from Linnainmaa and Roberts (2018) and five momentum anomalies from McLean and Pontiff (2016). The predicted relationship and the main table of findings is from the original study. Sixth column gives anomaly construction using CRSP/COMPUSTAT variables. Unless stated otherwise, t captures time in years.

Category / S.No.	Anomaly	Source	Predicted Relationship	Main Table	Construction
Profitability					
1	Gross Profitability	Novy-Marx (2013)	Positive	Table 1	$GrProf = (revt_t - cogs_t)/at_t$
2	Operating Profitability	Fama and French (2015)	Positive	Table 1 Panel B	$OpProf = (revt_t - cogs_t - xint_t - xsga_t)/BE_t$
3	Return on Assets	Haugen and Baker (1996)	Positive	Table 3	$RoA = ib_t/at_t$
4	Return on Equity	Haugen and Baker (1996)	Positive	Table 3	$RoE = ib_t/BE_t$
5	Profit Margin	Soliman (2008)	Positive	Table 4	$PfMg = oiadp_t/revt_t$
6	Change in Asset Turnover	Soliman (2008)	Positive	Table 4	$ChgAssTurn = \Delta(revt_t/at_t)$
Earnings Quality					
7	Accruals	Sloan (1996)	Negative	Table 6 and 7	$Accr = \frac{(\Delta act_t - \Delta che_t) - (\Delta lct_t - \Delta dlc_t - \Delta txp_t) - dp_t}{at_t}$
8	Net Operating Assets	Hirshleifer, Hou, Teoh, and Zhang (2004)	Negative	Table 5	$NOA = \frac{(at_t - che_t) - (at_t - dlc_t - dltt_t - BE_t)}{at_{t-1}}$
9	Changes in Net Working Capital	Soliman (2008)	Negative	Table 7	$ChgNWC = \frac{\Delta(act_t - che_t) - \Delta(lct_t - dlc_t)}{at_t}$
Valuation					
10	Book to market	Fama and French (1992)	Positive	Table 6	$BTM = BE_t/ME_t$
11	Cash flow to price	Lakonishok, Shleifer, and Vishny (1994)	Positive	Table 4	$CFP = (ib_t + dp_t)/ME_t$

Table IA.1: Anomalies List *(continued)*

Category / S.No.	Anomaly	Source	Predicted Relationship	Main Table	Construction
12	Earnings to Price	Basu (1977)	Positive	Table 4	$EP_t = ib_t/ME_t$
13	Enterprise Multiple	Loughran and Wellman (2011)	Negative	Table 2	$EntMult = (ME_t + dlc_t + dltt_t + pstkrv_t - che_t)/oibdp_t$
14	Sales to price	Barbee Jr, Mukherji, and Raines (1996)	Positive	Table 2	$SP = revt_t/ME_t$
Momentum					
15	Short term momentum	Jegadeesh and Titman (1993)	Positive	Table 7	$ret.6t2$, where t is the current month
16	Lagged Momentum	Novy-Marx (2012)	Positive	Table 1	$ret.12t7$, where t is the current month
17	Short-term reversal	Jegadeesh and Titman (1993)	Negative	Table 7	$ret.1t1$, where t is the current month
18	Medium-term reversal	Jegadeesh and Titman (1993)	Negative	Table 7	$ret.18t13$, where t is the current month
19	Long-term reversal	De Bondt and Thaler (1985)	Negative		$ret.60t13$, where t is the current month
Investment					
20	Asset Growth	Cooper, Gulen, and Schill (2008)	Negative	Table III	$AssGr = \Delta at_t/at_{t-1}$
21	Inventory Growth	Thomas and Zhang (2002)	Negative	Table 1	$ChgInvt = \Delta invt_t/\overline{at_t}$
22	Sales Growth	Lakonishok, Shleifer, and Vishny (1994)	Negative	Table 4	$SalesGr = 5r_t + 4r_{t-1} + 3r_{t-2} + 2r_{t-3} + r_{t-4}$, where r_t is the sales rank in year t
23	Sustainable Growth	Lockwood and Prombutr (2010)	Negative	Table 6	$SustGr = \Delta BE_t/BE_{t-1}$
24	CAPX Growth	Abarbanell and Bushee (1998)	Negative	Table 2 Panel B	$CapxGr = (capx_t - \overline{capx_{t-1}})/\overline{capx_{t-1}}$

Table IA.1: Anomalies List *(continued)*

Category / S.No.	Anomaly	Source	Predicted Relationship	Main Table	Construction
25	Growth in Sales minus growth in Inventory	Abarbanell and Bushee (1998)	Positive	Table 2 Panel B	$SalesGr\_InvtGr = \left(\frac{revt_t - \overline{revt_{t-1}}}{\overline{revt_{t-1}}}\right) / \left(\frac{invt_t - \overline{invt_{t-1}}}{invt_{t-1}}\right)$
26	Investment Growth	Xing (2007)	Negative	Table 4	$InvstGr = \Delta capx_t / capx_{t-1}$
27	Abnormal CAPX	Titman, Wei, and Xie (2004)	Negative	Table 6	$AbCapInvst = \left(\frac{capx_t/revt_t}{\frac{1}{3} \cdot \sum_{s=t-3}^{s=t-1} capx_s/rev_s}\right)$
28	Investment to Capital Ratio	Xing (2007)	Negative	Table 4	$IK = capx_t / ppent_{t-1}$
29	Investment to Asset Ratio	Lyandres, Sun, and Zhang (2007)	Negative	Section 4	$IA = (\Delta ppent_t + \Delta invt_t) / at_{t-1}$
Financing					
30	Increase in Debt Issuance	Spiess and Affleck-Graves (1999)	Negative		$DebtIssueInd = (\Delta dlc_t + \Delta dltt_t) / at_t$
31	Leverage	Bhandari (1988)	Positive	Table 2 Panel A	$LEV = dltt_t / ME_t$
32	One year Share Issuance	Pontiff and Woodgate (2008)	Negative	Table 3	$ShIssue\_1 = (shrout_t \cdot cfacshr_t) / (shrout_{t-1} \cdot cfacshr_{t-1})$
33	Five year Share Issuance	Daniel and Titman (2006)	Negative	Table 3	$ShIssue\_1 = (shrout_t \cdot cfacshr_t) / (shrout_{t-5} \cdot cfacshr_{t-5})$
34	External Financing – I	Bradshaw, Richardson, and Sloan (2006)	Negative	Table 5	$ExtFin = \frac{(ShIssue\_1_t - 1) \cdot ME_t + \Delta dlc_t + \Delta dltt_t - dvc_t}{at_t}$
35	External Financing – II	Bradshaw, Richardson, and Sloan (2006)	Negative	Table 5	$ExtFin2 = \frac{sstk_t - prstkc_t + dltis_t - dltr_t + dlcch_t - dv_t}{at_t}$
Distress					

Table IA.1: Anomalies List *(continued)*

Category / S.No.	Anomaly	Source	Predicted Relationship	Main Table	Construction
36	O-Score	Dichev (1998)	Negative	Table 4	$O\_Score = -1.32 - 0.407 \cdot \log(\frac{at_t}{cpiind_t}) + 6.03 \cdot \frac{lt_t}{at_t} - 1.43 \cdot \frac{act_t - lct_t}{at_t} + 0.076 \cdot \frac{lct_t}{act_t} - 1.72 \cdot 1_{lt_t - at_t > 0} - 2.37 \cdot \frac{ib_t}{at_t} - 1.83 \cdot \frac{oiadp_t}{lt_t} + 0.285 \cdot 1_{ib_t < 0,\ ib_{t-1} < 0} - 0.521 \cdot \frac{\Delta ib_t}{\lvert ib_t \rvert + \lvert ib_{t-1} \rvert}$
37	Z-Score	Dichev (1998)	Positive	Table 3	$Z\_Score = 1.2 \cdot \frac{act_t - lct_t}{at_t} + 1.4 \cdot \frac{re_t}{at_t} + 3.3 \cdot \frac{ni_t + xint_t + txp_t}{at_t} + 0.6 \cdot \frac{ME_t}{lt_t} + 1.0 \cdot \frac{revt_t}{at_t}$
38	Distress Risk	Campbell, Hilscher, and Szilagyi (2008)	Negative	Table 6	12-month horizon regression from Table 6
Miscellaneous					
39	Industry Concentration	Hou and Robinson (2006)	Negative	Table 3	three-year simple average of the Herfindahl index computed on three-digit SIC codes and sales

IA.2 Robustness Checks

In this section I report several robustness regressions to strengthen the trading volume results reported in Section 6.2.

IA.2.1 Regressions with size included

Evidence from Panel B of Table 3 suggests that the largest correlations occur between L_PRC, L_ME, and $NUMEST$; hence I chose to exclude size (L_ME) from regressions. Table IA.2 below presents regressions specifications by augmenting logarithm of market size to the base specification from Table 4.

The inclusion of L_ME has a minute impact on STD_DEV coefficient and R^2 (columns 1 and 3). Most noticeably, the coefficients on BTM and $EVOL$ become insignificant. This could be explained by a size being in the denominator of these variables, and its inclusion takes away any mechanical correlation of these variables with turnover. The coefficients of L_PRC and $NUMEST$ also decline substantially, proving the multi-collinearity concern evident from correlations. Interestingly, the exclusion of L_PRC in columns 4 and 6 make FDISP insignificant while increasing the coefficient on L_ME. The coefficient of disagreement also reduces slightly owing to the price being in the denominator of several anomalies. The relative stability of the disagreement coefficient strengthens the case of anomaly-driven disagreement, causing trading volume. Additionally, the instability of FDISP casts doubts on its applicability as a measure of disagreement. The negative correlation between $FDISP$ and L_PRC (Table 3 Panel B) may be driving the positive association with turnover.

IA.2.2 Financial Firms

Table IA.3 shows regression results for all firms, financial firms ,and non-financial firms. Results indicate that the disagreement-volume relationship is significant both statistically and economically, irrespective of whether financial firms are included in the sample. Interestingly, in the smaller sample of just financial firms (columns 3 and 4), the coefficients on $NASDAQ$, LEV, BTM, $FAGE$, and $FDISP$ lose significance.

IA.2.3 S&P 500 Membership

Evidence from Table IA.4 suggests that the disagreement-volume relationship is stronger for non S&P-500 firms.

IA.2.4 Book to market splits

Investment using accounting fundamentals and related ratios is popular among value investors. Several books on value investing give prominence to price to book ratio as an indicator of value firms[1]. Value investment attempts to estimate the intrinsic value of a stock using information

[1] Lower P/B ratio (or high book to market) signifies that a firm's market price does not accurately reflect its book value and is undervalued. Graham (2006) is a popular investing book following value investing tenets.

Table IA.2: Monthly cross-sectional regression: Including Firm Size

Log turnover regressed on different set of explanatory variables and size: $L\_TURN_{i,t} = \beta \cdot STD\_DEV_{i,t-1} + \theta \cdot L\_ME_{i,t-1} + \alpha \cdot CONTROLS_{i,t-1} + \gamma \cdot DUMMIES_{i,t-1} + \epsilon_{i,t}$. All independent variables are one-month lagged variables. Definitions of all the variables appear in Appendix A.2. All regression specifications have industry and year fixed effects. % R^2 explained is the percent of unexplained variation explained by including disagreement in the regression. Standard errors are double clustered by firm and year-month. Statistical significance of 10%, 5%, and 1% are indicated by *, **, and *** respectively.

	L_TURN_t					
	(1)	(2)	(3)	(4)	(5)	(6)
STD_DEV_{t-1}	1.575***		1.586***	1.421***	1.650***	1.503***
	(0.062)		(0.061)	(0.060)	(0.062)	(0.061)
$FDISP_{t-1}$	0.010	0.030***	0.012*	−0.003	0.011*	−0.002
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
L_ME_{t-1}		0.103***	0.105***	0.169***	0.192***	0.235***
		(0.011)	(0.011)	(0.010)	(0.008)	(0.007)
$NASDAQ$	0.125***	0.186***	0.168***	0.176***	0.182***	0.187***
	(0.022)	(0.022)	(0.021)	(0.021)	(0.022)	(0.022)
RET^{+}_{t-1}	1.554***	1.733***	1.551***	1.535***	1.528***	1.517***
	(0.062)	(0.068)	(0.062)	(0.063)	(0.061)	(0.062)
RET^{-}_{t-1}	−2.232***	−2.464***	−2.231***	−2.052***	−2.277***	−2.120***
	(0.075)	(0.082)	(0.076)	(0.076)	(0.076)	(0.077)
LEV_{t-1}	0.061***	0.072***	0.058***	0.054***	0.057***	0.053***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
$CAPM\_\beta_{t-1}$	0.089***	0.081**	0.084***	0.084***	0.081***	0.081***
	(0.030)	(0.032)	(0.030)	(0.030)	(0.030)	(0.030)
BTM_{t-1}	0.022*	0.023*	0.045***	0.038***	0.063***	0.055***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
L_PRC_{t-1}	0.231***	0.113***	0.150***		0.123***	
	(0.012)	(0.013)	(0.013)		(0.013)	
L_FAGE_{t-1}	−0.128***	−0.174***	−0.149***	−0.150***	−0.152***	−0.153***
	(0.012)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
$ESURP_{t-1}$	0.248***	0.277***	0.234***	0.197***	0.236***	0.204***
	(0.031)	(0.035)	(0.032)	(0.032)	(0.033)	(0.032)
$EVOL_{t-1}$	0.001	0.126***	0.004	−0.098**	0.012	−0.075
	(0.044)	(0.045)	(0.044)	(0.047)	(0.044)	(0.047)
$NUMEST_{t-1}$	0.034***	0.023***	0.021***	0.018***		
	(0.001)	(0.002)	(0.002)	(0.002)		
Adj. R^2	0.406	0.396	0.412	0.406	0.404	0.399
% R^2 Explained	4.550		4.960	4.170	5.500	4.690
Observations	954,029	954,029	954,029	954,029	954,029	954,029

Table IA.3: Monthly cross-sectional regression: Financial Firms

Log turnover regressed on different set of explanatory variables: $L\_TURN_{i,t} = \beta \cdot STD\_DEV_{i,t-1} + \alpha \cdot CONTROLS_{i,t-1} + \gamma \cdot DUMMIES_{i,t-1} + \epsilon_{i,t}$ for financial and non-financial firms. Financial firms are identified with starting SIC code of 6. All independent variables are one-month lagged variables. Definitions of all the variables appear in Appendix A.2. All regression specifications have industry and year fixed effects. % R^2 explained is the percent of unexplained variation explained by including disagreement in the regression. Standard errors are double clustered by firm and year-month. Statistical significance of 10%, 5%, and 1% are indicated by *, **, and *** respectively.

	L_TURN_t					
	All firms		Financial Firms		Non-financial Firms	
	(1)	(2)	(3)	(4)	(5)	(6)
STD_DEV_{t-1}		1.575***		1.445***		1.551***
		(0.062)		(0.161)		(0.065)
$FDISP_{t-1}$	0.029***	0.010	0.042**	0.028	0.025***	0.007
	(0.006)	(0.006)	(0.019)	(0.018)	(0.007)	(0.007)
$NASDAQ$	0.143***	0.125***	−0.041	−0.032	0.195***	0.171***
	(0.022)	(0.022)	(0.043)	(0.042)	(0.024)	(0.024)
RET^{+}_{t-1}	1.735***	1.554***	2.013***	1.845***	1.661***	1.488***
	(0.068)	(0.062)	(0.109)	(0.100)	(0.067)	(0.061)
RET^{-}_{t-1}	−2.463***	−2.232***	−2.940***	−2.737***	−2.372***	−2.150***
	(0.082)	(0.075)	(0.162)	(0.152)	(0.079)	(0.072)
LEV_{t-1}	0.075***	0.061***	0.055***	0.046***	0.080***	0.066***
	(0.007)	(0.007)	(0.013)	(0.013)	(0.008)	(0.008)
$CAPM\_\beta_{t-1}$	0.086***	0.089***	0.140***	0.146***	0.078**	0.082***
	(0.031)	(0.030)	(0.044)	(0.044)	(0.032)	(0.030)
BTM_{t-1}	0.001	0.022*	−0.020	−0.014	0.001	0.022*
	(0.012)	(0.012)	(0.024)	(0.023)	(0.013)	(0.013)
L_PRC_{t-1}	0.193***	0.231***	0.075***	0.106***	0.218***	0.257***
	(0.012)	(0.012)	(0.027)	(0.028)	(0.013)	(0.013)
L_FAGE_{t-1}	−0.153***	−0.128***	−0.061*	−0.054*	−0.158***	−0.133***
	(0.013)	(0.012)	(0.032)	(0.031)	(0.014)	(0.013)
$ESURP_{t-1}$	0.290***	0.248***	0.210***	0.193***	0.310***	0.265***
	(0.035)	(0.031)	(0.061)	(0.060)	(0.036)	(0.033)
$EVOL_{t-1}$	0.122***	0.001	0.120	0.002	0.121**	0.006
	(0.045)	(0.044)	(0.119)	(0.117)	(0.048)	(0.047)
$NUMEST_{t-1}$	0.035***	0.034***	0.049***	0.048***	0.032***	0.031***
	(0.001)	(0.001)	(0.003)	(0.003)	(0.002)	(0.002)
Adj. R^2	0.391	0.406	0.351	0.362	0.388	0.404
% R^2 Explained		4.550		3.770		4.580
Observations	954,029	954,029	154,065	154,065	799,964	799,964

Table IA.4: Monthly cross-sectional regression: S&P 500 Membership

Log turnover regressed on different set of explanatory variables and size: $L\_TURN_{i,t} = \beta \cdot STD\_DEV_{i,t-1} + \theta \cdot L\_ME_{i,t-1} + \alpha \cdot CONTROLS_{i,t-1} + \gamma \cdot DUMMIES_{i,t-1} + \epsilon_{i,t}$. Also included is a dummy for S&P 500 membership. All independent variables are one-month lagged variables. Definitions of all the variables appear in Appendix A.2. All regression specifications have industry and year fixed effects. % R^2 explained is the percent of unexplained variation explained by including disagreement in the regression. Standard errors are double clustered by firm and year-month. Statistical significance of 10%, 5%, and 1% are indicated by *, **, and *** respectively.

	L_TURN_t							
	S&P 500 firms		Non S&P 500 firms		All firms			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
STD_DEV_{t-1}		0.935***		1.641***		1.575***	1.574***	1.672***
		(0.098)		(0.064)		(0.062)	(0.062)	(0.068)
$FDISP_{t-1}$	0.045***	0.028**	0.032***	0.015**	0.029***	0.010	0.011*	−0.005
	(0.012)	(0.012)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)
$SP500$							−0.083***	0.238**
							(0.023)	(0.106)
$STD\_DEV_{t-1} \times SP500$								−0.485***
								(0.149)
$FDISP_{t-1} \times SP500$								0.166***
								(0.019)
$NASDAQ$	0.279***	0.253***	0.169***	0.153***	0.143***	0.125***	0.121***	0.121***
	(0.040)	(0.039)	(0.023)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
RET^+_{t-1}	1.533***	1.404***	1.703***	1.524***	1.735***	1.554***	1.549***	1.543***
	(0.078)	(0.074)	(0.067)	(0.062)	(0.068)	(0.062)	(0.062)	(0.061)
RET^-_{t-1}	−1.989***	−1.840***	−2.389***	−2.158***	−2.463***	−2.232***	−2.226***	−2.220***
	(0.144)	(0.138)	(0.075)	(0.069)	(0.082)	(0.075)	(0.075)	(0.074)
LEV_{t-1}	0.072***	0.058***	0.064***	0.052***	0.075***	0.061***	0.061***	0.061***
	(0.012)	(0.011)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
$CAPM\_\beta_{t-1}$	0.044	0.040	0.086***	0.091***	0.086***	0.089***	0.089***	0.088***
	(0.044)	(0.043)	(0.032)	(0.030)	(0.031)	(0.030)	(0.030)	(0.030)
BTM_{t-1}	0.149***	0.159***	−0.022*	0.000	0.001	0.022*	0.023*	0.023*
	(0.018)	(0.018)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
L_PRC_{t-1}	−0.026	−0.020	0.194***	0.237***	0.193***	0.231***	0.233***	0.235***
	(0.018)	(0.018)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
L_FAGE_{t-1}	−0.143***	−0.127***	−0.116***	−0.092***	−0.153***	−0.128***	−0.117***	−0.118***
	(0.024)	(0.023)	(0.013)	(0.013)	(0.013)	(0.012)	(0.012)	(0.012)
$ESURP_{t-1}$	0.143*	0.122*	0.316***	0.272***	0.290***	0.248***	0.249***	0.245***
	(0.078)	(0.071)	(0.034)	(0.031)	(0.035)	(0.031)	(0.032)	(0.032)
$EVOL_{t-1}$	0.024	−0.095	0.216***	0.093**	0.122***	0.001	0.004	0.000
	(0.113)	(0.105)	(0.046)	(0.044)	(0.045)	(0.044)	(0.044)	(0.044)
$NUMEST_{t-1}$	0.005***	0.005***	0.064***	0.062***	0.035***	0.034***	0.036***	0.037***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
Adj. R^2	0.628	0.635	0.404	0.419	0.391	0.406	0.407	0.408
Observations	202,257	202,257	751,772	751,772	954,029	954,029	954,029	954,029

from the balance sheet and profit and loss statements. The intrinsic value is then compared to the current stock price, and a buy (sell) trade is initiated when the intrinsic value is smaller than the current price. Price to book ratio is also a proxy for visibility where a firm with high valuations, i.e., growth firms, is often talked about in media and followed more by analysts[2]. Thus the information environment of value firms is limited, and hence the use of anomalies would be higher. We should expect the disagreement-volume relation to be stronger for the high book to market firms since these firms fall into the category of value firms and are more likely to be evaluated using return anomalies originating from accounting fundamentals.

Table IA.5 gives the regression results for BTM terciles. The coefficient on STD_DEV is highest for high BTM stocks, i.e., value stocks. Across the three terciles, a one SD change in STD_DEV predicts 4.9%, 8.9%, and 12.5% higher turnover in the next month, respectively. Thus, disagreement arising from fundamental anomalies has more explanatory power for value stocks. This also provides evidence in favor of the hypothesis that investors in value stocks primarily use return anomalies for their trading decisions, and hence disagreement among the anomalies strongly predicts next month's trading volume.

IA.2.5 NASDAQ stocks

NASDAQ stocks are structurally different from NYSE/AMEX stocks. The exchange was constituted in 1971 with the electronic stock market. The stocks at the NASDAQ exchange tend to be young and small technology firms. As of December 2018, the average NYSE/AMEX firm is 2.6 times bigger and nine years older than the average NASDAQ firm. Results from Table 7 suggest that small and young stocks have a bigger disagreement coefficient. Since NASDAQ stocks generally have both these characteristics, we should expect to see larger coefficients than base regression (column (2) of Table 4). Table IA.6 below gives the regression summary for NASDAQ stocks.

IA.2.6 Portfolio sorts

In Table IA.7, Panel A gives the changes in average turnover over deciles made on different disagreement measures. Panel B presents portfolio averages of different turnover measures with portfolios sorted on STD_DEV. Turnover is measured at time t while portfolios are made at time $t-1$.

[2] Number of analyst following and book to market ratio has a rank correlation of -0.12.

Table IA.5: Monthly cross-sectional regression: BTM terciles

Log turnover regressed on set of controls and several measures of disagreement across three BTM terciles made on 70/30 BTM splits. All independent variables are one-month lagged variables. Definitions of all the variables appear in Appendix A.2. All regression specifications have industry and year fixed effects. % R^2 explained is the percent of unexplained variation explained by including disagreement in the regression. Standard errors are double clustered by firm and year-month. Statistical significance of 10%, 5%, and 1% are indicated by *, **, and *** respectively.

	L_TURN_t					
	BTM-1		*BTM-2*		*BTM-3*	
	(1)	(2)	(3)	(4)	(5)	(6)
STD_DEV_{t-1}		1.320***		1.284***		1.678***
		(0.101)		(0.065)		(0.096)
$FDISP_{t-1}$	−0.003	−0.013	0.020**	0.004	0.038***	0.025***
	(0.013)	(0.012)	(0.009)	(0.009)	(0.007)	(0.007)
$NASDAQ$	0.322***	0.296***	0.124***	0.116***	−0.010	−0.005
	(0.029)	(0.029)	(0.023)	(0.023)	(0.032)	(0.031)
RET^+_{t-1}	1.515***	1.419***	1.700***	1.564***	1.427***	1.287***
	(0.061)	(0.057)	(0.066)	(0.062)	(0.090)	(0.082)
RET^-_{t-1}	−2.223***	−2.062***	−2.546***	−2.330***	−2.144***	−2.003***
	(0.080)	(0.076)	(0.093)	(0.087)	(0.087)	(0.083)
LEV_{t-1}	0.010	0.023**	0.119***	0.104***	0.050***	0.042***
	(0.011)	(0.011)	(0.014)	(0.014)	(0.008)	(0.007)
$CAPM\_\beta_{t-1}$	0.110***	0.113***	0.057*	0.060*	0.126***	0.121***
	(0.036)	(0.036)	(0.034)	(0.033)	(0.043)	(0.040)
BTM_{t-1}	−0.152***	−0.029	−0.265***	−0.174***	0.096***	0.093***
	(0.049)	(0.050)	(0.035)	(0.035)	(0.016)	(0.015)
L_PRC_{t-1}	0.194***	0.218***	0.148***	0.192***	0.209***	0.267***
	(0.016)	(0.016)	(0.013)	(0.014)	(0.018)	(0.019)
L_FAGE_{t-1}	−0.174***	−0.157***	−0.134***	−0.118***	−0.109***	−0.100***
	(0.017)	(0.017)	(0.014)	(0.014)	(0.020)	(0.019)
$ESURP_{t-1}$	0.371***	0.339***	0.547***	0.473***	0.186***	0.172***
	(0.051)	(0.050)	(0.062)	(0.058)	(0.039)	(0.035)
$EVOL_{t-1}$	−0.044	−0.075	0.215**	0.041	0.219***	0.118**
	(0.079)	(0.078)	(0.084)	(0.082)	(0.050)	(0.049)
$NUMEST_{t-1}$	0.018***	0.018***	0.038***	0.037***	0.053***	0.052***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Adj. R^2	0.396	0.404	0.427	0.437	0.378	0.391
% R^2 Explained		1.320		1.770		2.030
Observations	256,327	256,327	423,944	423,944	273,585	273,585

Table IA.6: Monthly cross-sectional regression: Subsamples by exchange

Log turnover regressed on different subsamples based on the stock exchange. All independent variables are one-month lagged variables. Definitions of all the variables appear in Appendix A.2. All regression specifications have industry and year fixed effects. % R^2 explained is the percent of unexplained variation explained by including disagreement in the regression. Standard errors are double clustered by firm and year-month. Statistical significance of 10%, 5%, and 1% are indicated by *, **, and *** respectively.

	L_TURN_t					
	ALL		*NYSE/AMEX*		*NASDAQ*	
	(1)	(2)	(3)	(4)	(5)	(6)
STD_DEV_{t-1}		1.607***		1.332***		1.510***
		(0.063)		(0.077)		(0.084)
$FDISP_{t-1}$	0.029***	0.010	0.031***	0.013	0.021***	0.006
	(0.006)	(0.006)	(0.009)	(0.009)	(0.008)	(0.008)
RET^{+}_{t-1}	1.751***	1.564***	1.620***	1.458***	1.629***	1.482***
	(0.068)	(0.062)	(0.079)	(0.072)	(0.069)	(0.064)
RET^{-}_{t-1}	−2.476***	−2.239***	−2.253***	−2.061***	−2.353***	−2.148***
	(0.083)	(0.076)	(0.110)	(0.103)	(0.072)	(0.068)
LEV_{t-1}	0.069***	0.056***	0.071***	0.060***	0.046***	0.036***
	(0.007)	(0.007)	(0.009)	(0.009)	(0.009)	(0.009)
$CAPM\_\beta_{t-1}$	0.087***	0.090***	0.131***	0.128***	0.051	0.061*
	(0.032)	(0.030)	(0.035)	(0.035)	(0.035)	(0.033)
BTM_{t-1}	−0.000	0.021*	0.061***	0.072***	−0.080***	−0.051***
	(0.012)	(0.012)	(0.015)	(0.014)	(0.018)	(0.017)
L_PRC_{t-1}	0.183***	0.224***	0.152***	0.184***	0.183***	0.218***
	(0.012)	(0.012)	(0.016)	(0.016)	(0.014)	(0.014)
L_FAGE_{t-1}	−0.190***	−0.160***	−0.061***	−0.040**	−0.143***	−0.109***
	(0.012)	(0.012)	(0.016)	(0.016)	(0.020)	(0.020)
$ESURP_{t-1}$	0.287***	0.244***	0.214***	0.180***	0.348***	0.306***
	(0.034)	(0.031)	(0.038)	(0.036)	(0.042)	(0.040)
$EVOL_{t-1}$	0.113**	−0.010	0.048	−0.057	0.223***	0.101*
	(0.045)	(0.044)	(0.062)	(0.060)	(0.058)	(0.058)
$NUMEST_{t-1}$	0.034***	0.033***	0.028***	0.027***	0.054***	0.052***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)	(0.003)
Adj. R^2	0.388	0.404	0.478	0.490	0.377	0.390
% R^2 Explained		2.630		2.250		2.060
Observations	954,029	954,029	514,282	514,282	439,747	439,747

Table IA.7: Univariate Sorts: Different disagreement and turnover measures

Panel A: Disagreement Measures

	L_TURN_t									
	D_1	$D_2 - D_1$	$D_3 - D_2$	$D_4 - D_3$	$D_5 - D_4$	$D_6 - D_5$	$D_7 - D_6$	$D_8 - D_7$	$D_9 - D_8$	$D_{10} - D_9$
STD_DEV_{t-1}	-2.897	0.015**	0.041**	0.070**	0.074**	0.077**	0.068**	0.039**	0.053**	0.085**
ABS_DEV_{t-1}	-2.912	0.022**	0.052**	0.065**	0.080**	0.086**	0.057**	0.044**	0.064**	0.083**
$CONT\_DEV_{t-1}$	-3.008	0.061**	0.031**	0.047**	0.072**	0.082**	0.097**	0.070**	0.048**	0.080**

Panel B: Turnover Measures

	Deciles made on STD_DEV_{t-1}									
	D_1	$D_2 - D_1$	$D_3 - D_2$	$D_4 - D_3$	$D_5 - D_4$	$D_6 - D_5$	$D_7 - D_6$	$D_8 - D_7$	$D_9 - D_8$	$D_{10} - D_9$
$L\_TURN\_1d_t$	-6.169	0.003	0.036**	0.050**	0.061**	0.063**	0.044**	0.022**	0.036**	0.069**
$L\_TURN\_5d_t$	-4.463	-0.003	0.031**	0.065**	0.072**	0.067**	0.061**	0.032**	0.044**	0.085**
L_TURN_t	-2.897	0.015**	0.041**	0.070**	0.074**	0.077**	0.068**	0.039**	0.053**	0.085**
$L\_TURN\_GRT_t$	-3.000	0.022**	0.048**	0.078**	0.082**	0.090**	0.075**	0.064**	0.052**	0.086**
$L\_TURN\_D_t$	-0.039	0.007**	0.016**	0.014**	0.010**	0.007**	0.008**	-0.002	0.003	0.007*
$L\_TURN\_ILLIQ_t$	-0.083	0.013**	0.015**	0.018**	0.015**	0.020**	0.026**	0.021**	0.022**	0.023**
$VW\_L\_TURN_t$	-0.057	0.015**	0.015**	0.013**	0.008**	0.008**	0.009**	-0.001	0.004	0.011**
$EW\_L\_TURN_t$	-0.028	0.009**	0.013**	0.012**	0.007**	0.006**	0.008**	-0.002	0.002	0.014**

In Panel A, average log turnover is measured over univariate portfolio decile sorts of several measures of lagged disagreement. In Panel B, different measures of turnover are averaged over univariate decile sorts of STD_DEV_{t-1}. At each month, the cross-section of stocks is assigned to 10 portfolios based on the sorting variable. This procedure is repeated for each month. In Panel A, D_i is the average turnover in i^{th} disagreement decile, $D_j - D_i$ is the difference of average L_TURN in D_j and D_i. For Panel B, in the fourth row for instance, D_i is avergae GRT adjusted log turnover in the i^{th} STD_DEV_{t-1} decile, $D_j - D_i$ is the difference of average L_TURN_GRT in D_j and D_i. Corresponding signficance levels are from a t-test of sample means across corresponding decile pairs. Statistical significance of 5% and 1% are indicated by * and ** respectively

IA.3 Disagreement and Returns

Table IA.8 shows average portfolio returns with respect to two measures of disagreement: forecast dispersion ($FDISP$) and anomaly disagreement (STD_DEV). I follow Diether, Malloy, and Scherbina (2002) in constructing portfolios where I first sort the sample into five quintiles based on size (ME) and then each of the size quintiles are sorted based on disagreement ($FDISP$ in panel A and STD_DEV in panel B). I also include regression alpha from 3-factor return regressions on market return, SMB and HML factors (Fama and French (1992)). Overall, the results for both $FDISP$ and STD_DEV are consitent with a negative association between disagreement and future returns.

Table IA.8: Returns and Disagreement

Stocks are divided each month into five size quintiles. Each quintile is then further subdivided into five portfolio deciles based on disagreement ($FDISP$ in panel A and STD_DEV in panel B). First five rows of columns 1 through 5 show the equal-weighted returns for the 25 portfolios in each panel. Column 6 gives the return difference between fifth and first disagreement portfolio for each size quintile. Column 7 gives the corresponding t-statistic. The last two rows ($FF3 - ALPHA$ and $t.stat$) gives portfolio level regression alpha and t-statistic from regressing returns on the three Fama and French (1992) portfolios.

Panel A: Forecast Dispersion

	$FDISP-1$	$FDISP-2$	$FDISP-3$	$FDISP-4$	$FDISP-5$	$FDISP-(5-1)$	$t.stat$
$SIZE-1$	2.62	2.67	2.78	3.04	3.05	0.43	2.19
$SIZE-2$	1.55	1.38	1.33	1.28	1.36	−0.19	−1.60
$SIZE-3$	1.36	1.15	1.08	0.89	0.85	−0.51	−5.32
$SIZE-4$	1.27	1.03	1.01	0.96	0.77	−0.50	−6.08
$SIZE-5$	1.18	0.92	0.97	0.92	0.89	−0.29	−4.63
$FF3\_ALPHA$	0.26	0.07	−0.02	−0.14	−0.27		
$t.stat$	3.72	1.05	−0.25	−1.86	−2.72		

Panel B: Anomaly Disagreement

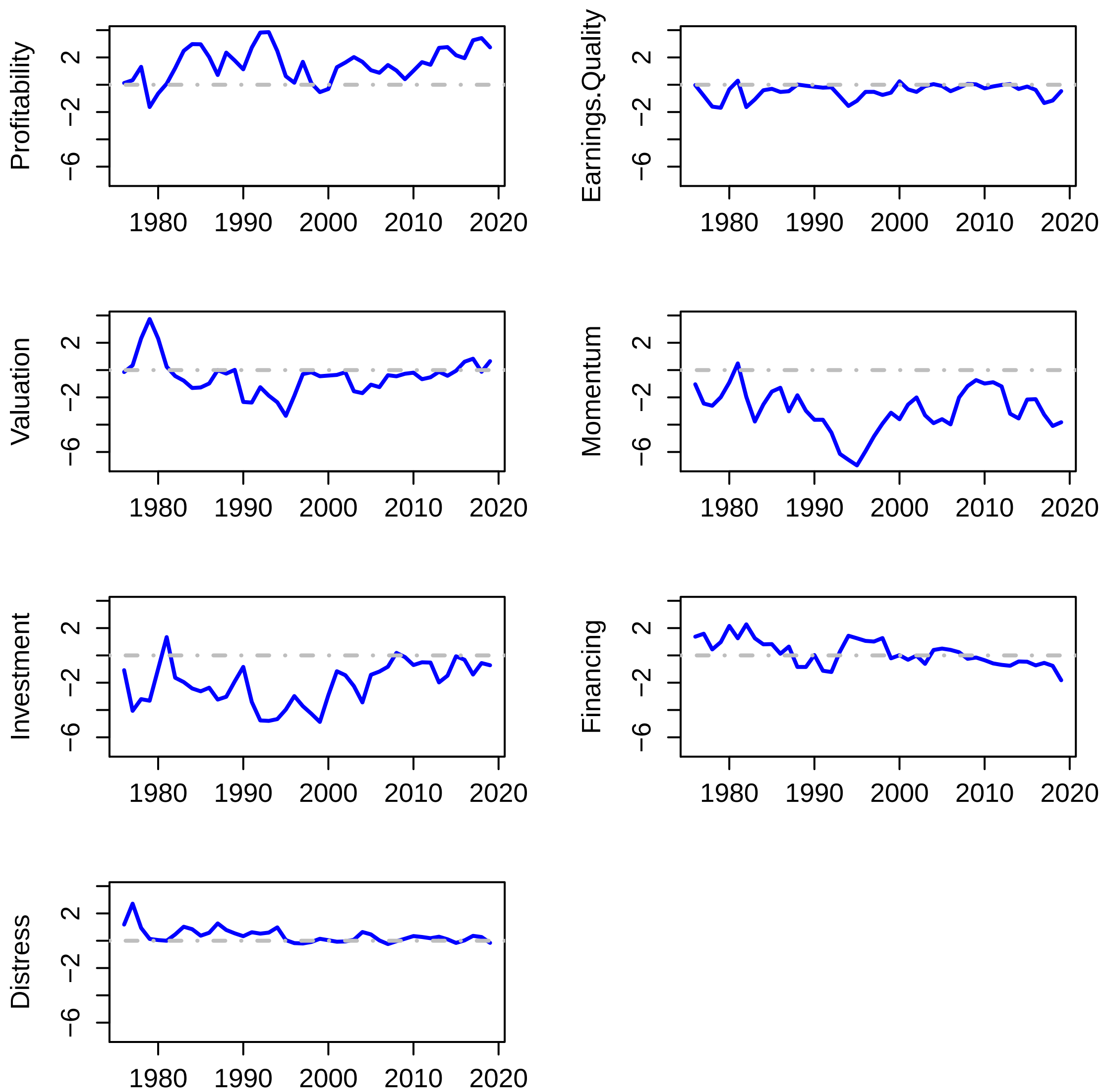
	STD_DEV- 1	STD_DEV- 2	STD_DEV- 3	STD_DEV- 4	STD_DEV- 5	STD_DEV- $(5-1)$	$t.stat$
$SIZE-1$	1.40	1.69	2.09	2.63	3.09	1.69	14.97
$SIZE-2$	1.25	1.13	1.22	1.30	1.33	0.08	0.84
$SIZE-3$	1.23	1.19	1.10	1.07	1.05	−0.18	−2.07
$SIZE-4$	1.22	1.17	1.04	1.13	1.00	−0.22	−2.79
$SIZE-5$	1.13	1.03	1.04	0.97	0.98	−0.15	−2.27
$FF3\_ALPHA$	0.19	0.13	0.10	0.10	0.06		
$t.stat$	3.51	2.59	1.57	1.14	0.52		

IA.4 Turnover R^2 and Anomaly Groups

Which anomalies are most used by investors? To answer this question, I drop one anomaly group from the set of anomalies and compare the R^2 from the reduced-set disagreement and full-set disagreement. A sharp reduction in R^2 corroborates with higher usage of that anomaly group and sheds light on investor behavior with respect to anomaly-driven investment strategies. Figure IA.1 shows the result for seven broad anomaly categories. Out of these, the momentum and investment groups show substantial dips in regression R^2. Surprisingly, for profitability anomaly the effect is opposite, i.e., removing profitability anomalies while constructing disagreement, increases the R^2.

Figure IA.1: Turnover regression R^2 and Anomaly Groups

R^2 from turnover regressions (specification (2) from Table 4) where one gorup of anomalies is skipped in computing disagreement (STD_DEV). The plot shows percentage change in R^2 by skipping one anomaly group for each year. Industry Concentration anomaly is excluded for this test.



IA.5 Turnover and Anomaly Deciles

Average turnover ranks for each anomaly decile are presented in figures IA.2 and IA.3.

Figure IA.2: Turnover Ranks and Anomaly Deciles (Part-A)

Portfolio deciles (x-axis) are constructed each month with respect to each anomaly and average turnover ranks (y-axis) are plotted.

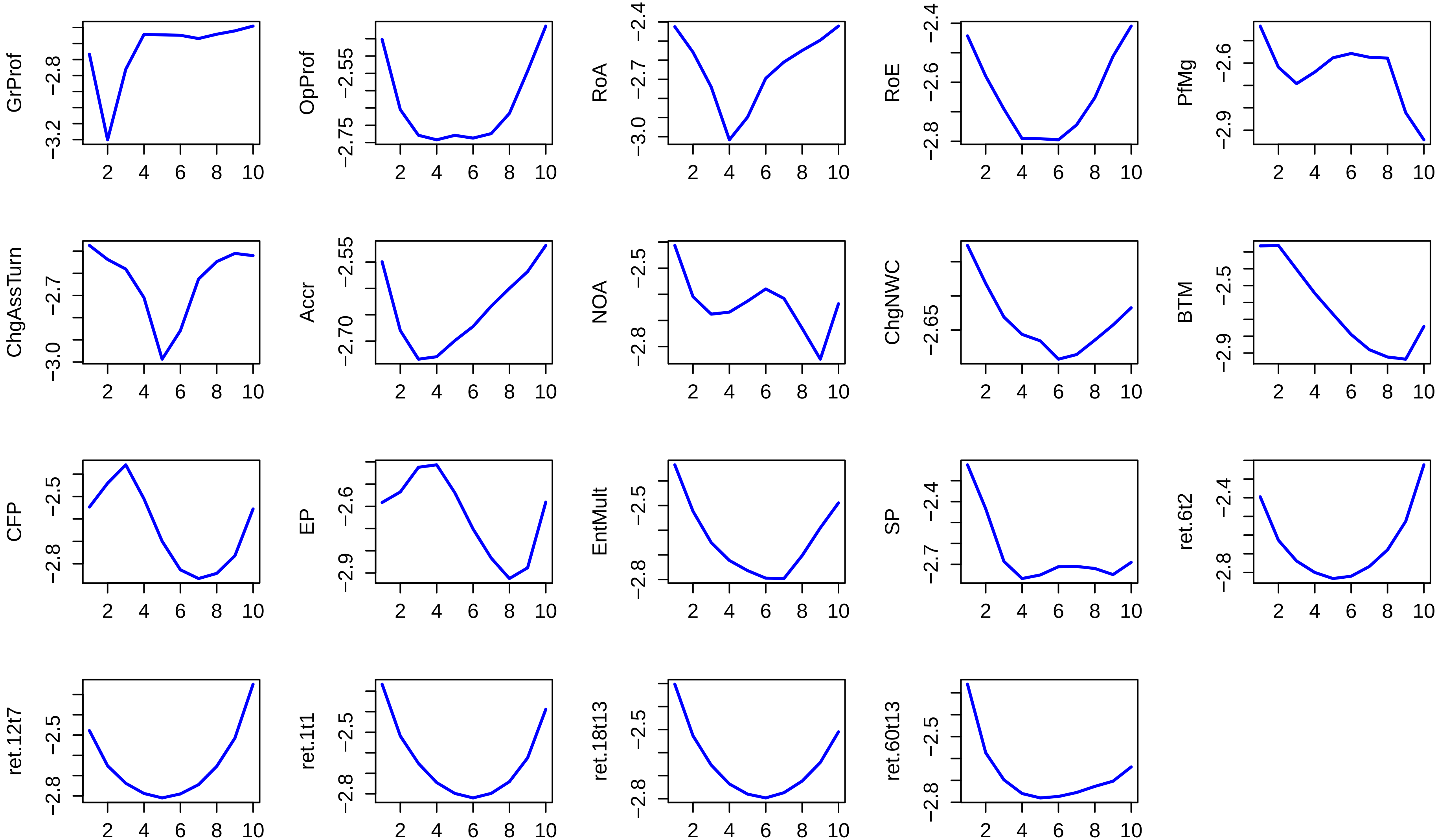
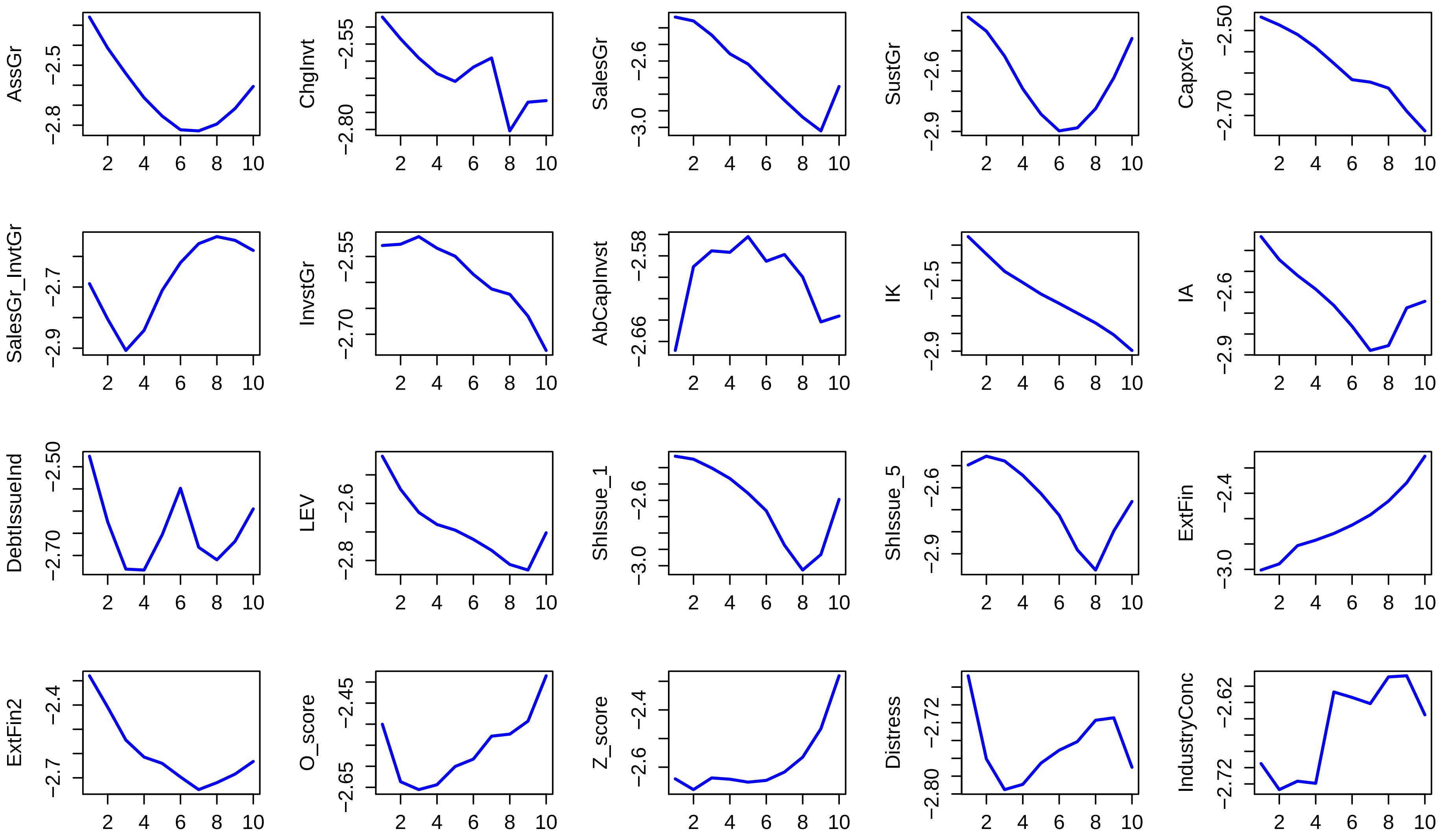


Figure IA.3: Turnover Ranks and Anomaly Deciles (Part-B)

Portfolio deciles (x-axis) are constructed each month with respect to each anomaly and average turnover ranks (y-axis) are plotted.



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